

EVALUATION STUDIES OF EXISTING STRUCTURE & PREPARATION OF STRATEGIC PLAN FOR IKGPTU

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LEGEND

- District Boundary
- State Boundary
- International Bdy.

- District HQ
- State Capital

K = Kapurthala

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TABLE OF CONTENTS

PAGES

EXECUTIVE SUMMARY		i - xxviii
Chapter 1: INTRODUCTION		1 - 5
1.1	Background of the University	1-2
1.2	Background of the Project	2
1.3	Scope of Work	3-4
1.4	Approach and Methodology	4-5
Chapter 2: CURRENT STATUS OF I K GUJRAL PUNJAB TECHNICAL UNIVERSITY		6-16
2.1	Incorporation of The University	6
2.2	Affiliated Institutions	7
2.3	Distance Education	7-8
2.4	Constituent Institutes	8-13
2.5	Assessment of Existing Status	14-16
Chapter 3: VISION, MISSION, VALUES, OBJECTIVES AND ACADEMIC PHILOSOPHY		17-23
3.1	Vision	17
3.2	Mission	17
3.3	The Outcome	17-18
3.4	Core Values	18
3.5	Objectives	19-20
3.6	Academic Philosophy	20-23
Chapter 4: ACADEMIC PROGRAMMES		24-43
4.1	Types of Programmes	24-37
4.2	Projected Student Strength of The University	37-42
4.3	Basis of Admission	42-43
Chapter 5: ACADEMIC DIVISIONS		44-158
5.1	Preamble	44
5.2	Classification of Academic Divisions	44
5.3	Faculties of Study	45
5.4	Centre of Excellence	46
5.5	Regional Campuses	46
5.7	Primary Details of Academic Divisions	47
5.8	Faculty of Engineering & Technology	47
5.9	Faculty of Mathematical & Applied Sciences	55-60
5.10	Faculty of Management Studies	60-65
5.11	Faculty of Media & Mass Communication	66-70
5.12	Faculty of Hospitality, Tourism & Travel Management	70-75

5.13	Faculty of Lifestyle Design	75-80
5.14	Faculty of Architecture	80-84
5.15	Faculty of Social & Human Sciences	85-90
5.16	Faculty of Teacher Training And Education	91-97
5.17	Faculty of Pharmaceutical Sciences	98-101
5.18	International Resource Centre for Human Values & Professional Ethics	102-105
5.19	IKGPTU- Amritsar Campus	105-111
5.20	IKGPTU – Batala Campus	111-116
5.21	IKGPTU –Bhikiwind Campus	116-121
5.22	IKGPTU - Dinanagar Campus	121-126
5.23	IKGPTU - Hoshiarpur Campus	127-132
5.24	IKGPTU - Sultanpur Lodhi Campus	132-137
5.25	Central Workshop	137-139
5.26	Central Library (With E-Library)	140-142
5.27	Computer Centre	142-143
5.28	Virtual Learning Centre (with Videoconferencing Facility)	144-146
5.29	Continuing Education Centre	147-148
5.30	Technology Innovation-Cum-Incubation Centre	148-150
5.31	Central Instrumentation Facility	150-153
5.32	Central Classroom Complex	153-156
5.33	Auditorium-Cum-Conference Centre	156-158
5.34	Miscellaneous Matters	158
Chapter 6: GOVERNANCE AND EXECUTIVE MANAGEMENT 159-195		
6.1	Structure of Governance	159-195
6.2	System of Executive Management at the University Level	170-174
6.3	System of Management of The Faculties of Study / Regional Campuses	175-177
6.4	System of Management of Constituent Departments	178
6.5	System of Management of Non-Academic Student Affairs	179-180
6.6	Management Hierarchy	180-182
6.7	Coordinating Mechanism	183
6.8	Officers and Their Functions	183-195
Chapter 7: HUMAN RESOURCES 196-213		
7.1	Classification of Staff	196
7.2	Faculty Posts	197-201
7.3	Non-Faculty Academic Staff	201-202
7.4	Non-Faculty Posts	203-213
Chapter 8: INFRASTRUCTURE 214-313		
8.1	IKGPTU Main Campus Kapurthala	214-234
8.2	IKGPTU Amritsar Campus	235-247
8.3	IKGPTU Batala Campus	248-260

8.4	IKGPTU Bhikiwind	261-273
8.5	IKGPTU Dinanagar Campus	274-286
8.6	IKGPTU Hoshiarpur Campus	287-299
8.7	IKGPTU Sultanpur Lodhi Campus	300-311
8.8	Total Cost for IKGPTU Main Campus and other Regional Campuses	312-313
Chapter 9: FINANCE		314-368
9.1	Financial Requirement	314-316
9.2	Capital Expenditure of New Campus	317-318
9.3	9. Recurring Cost	319-360
9.3.1	Employees Remuneration and Benefits for on- Roll Staff	332-340
9.3.2	Employees Cost Towards Contractual Staff - Grade 4	341-344
9.3.3	Security Services Expenses	345-348
9.3.4	Electricity and Generator Backup Expenses	349
9.3.5	General and Administrative Expenses	350-357
9.3.6	Hostel Expenses	358-360
9.4	Revenue Generation	361-368

LIST OF TABLES

Pages

Table Ex. 1	Salient Details of Faculties of Study / Centres of Excellence	ix-x
Table Ex. 2	Salient Details for each of the Regional Campuses	xii
Table Ex. 3	Land Area of Main Campus and Regional Campuses	xvi
Table Ex. 4	The Total Capital Cost for all the campuses including Infrastructure, Equipment and Furniture	xxii
Table Ex. 5	The Total Cost of the Project for initial 10 years.	xxiv
Table Ex. 6	Breakup of Recurring Expenditure Against Different Heads for IKGPTU Main Campus and Regional Campuses	xxv
Table Ex. 7	Recurring Cost for IKGPTU Main Campus and other Regional Campuses are indicated hereunder:	xxvi
TABLE 2.1	Consolidated Academic Programmes on Offer at PIT/PIM Kapurthala	09
TABLE 2.2	Consolidated Academic Programmes on Offer at Regional PIT's	10-11
TABLE 2.3	Academic Activities of 'PTU Nalanda School of TQM& Entrepreneurship' Comprise of the Following	12-13
TABLE 4.1	Consolidated Statement for Academic Programmes to be offered at the Main Campus at Kapurthala	24-32
TABLE 4.2	Consolidated Statement for Academic Programmes to be Offered at the IKGPTU Regional Campuses	33-37
TABLE 4.3	Total Number of Category-Wise Full Time Students in Each Faculty of Study / Centre of Excellence on the Main Campus of IKGPTU	38
TABLE 4.4	Year-Wise Student Strength of Full Time Students for all Categories of Academic Programmes offered on the Main Campus of IKGPTU	38-40
TABLE 4.5	Total Number of Category-Wise Full Time Students in Each of the IKGPTU Regional Campuses	40
TABLE 4.6	Year-Wise Student Strength of full Time students for all Categories of Academic Programmes at Each of the IKGPTU Regional Campuses	41
TABLE 5.1	Year-Wise Faculty Strength of the Faculty Of Engineering & Technology	52
TABLE 5.2	Space & Support Staff Requirement for Faculty of Engineering & Technology	53-55
TABLE 5.3	Year-wise Faculty Strength of the Faculty of Mathematical & Applied Sciences	58
TABLE 5.4	Space & Support Staff Requirement for Faculty of Mathematical & Applied Sciences	59-60
TABLE 5.5	Year-wise Faculty Strength of the Faculty of	63

	Management Studies	
TABLE 5.6	Space & Support Staff Requirement for Faculty of Management Studies	65
TABLE 5.7	Year-wise Faculty Strength of the Faculty of Media & Mass Communication	68
TABLE 5.8	Space & Support Staff Requirement for Faculty of Media & Mass Communication	69-70
TABLE 5.9	Year-wise Faculty Strength of the Faculty of Hotel, Tourism & Travel Management	73
TABLE 5.10	Space & Support Staff Requirement for Faculty of Hotel, Tourism & Travel Management	74-75
TABLE 5.11	Year-wise Faculty Strength of the Faculty of Lifestyle Design	78
TABLE 5.12	Space & Support Staff Requirement for Faculty of Lifestyle Design	79-80
TABLE 5.13	Year-wise Faculty Strength of the Faculty of Architecture	82
TABLE 5.14	Space & Support Staff Requirement for Faculty of Architecture	84
TABLE 5.15	Year-wise Faculty Strength of the Faculty of Social & Human Sciences	89
TABLE 5.16	Space & Support Staff Requirement for Faculty of Social & Human Sciences	90
TABLE 5.17	Year-wise Faculty Strength of the Faculty of Teacher Training & Education	95
TABLE 5.18	Space & Support Staff Requirement for Faculty of Teacher Training & Education	96-97
TABLE 5.19	Year-wise Faculty Strength of the Faculty of Pharmaceutical Sciences	100
TABLE 5.20	Space & Support Staff Requirement for Faculty of Pharmaceutical Sciences	101
TABLE 5.21	Year-wise Faculty positions for the International Resource Centre for Human Values & Professional Ethics	104
TABLE 5.22	Space & Support Staff Requirement for International Resource Centre for Human Values & Professional Ethics	105
TABLE 5.23	Year-wise Faculty Strength of IKGPTU- Amritsar Campus	108
TABLE 5.24	Space & Non-Faculty Staff Requirement for IKGPTU- Amritsar Campus	109-111
TABLE 5.25	Year-wise Faculty Strength of IKGPTU- Batala Campus	113
TABLE 5.26	Space & Non-Faculty Staff Requirement for IKGPTU- Batala Campus	114-116
TABLE 5.27	Year-wise Faculty Strength of IKGPTU- Bhikiwind Campus	118
TABLE 5.28	Space & Non-Faculty Staff Requirement for IKGPTU-	119-121

	Bhikiwind Campus	
TABLE 5. 29	Year-wise Faculty Strength of IKGPTU- Dinanagar Campus	124
TABLE 5.30	Space & Non-Faculty Staff Requirement for IKGPTU- Dinanagar Campus	125-126
TABLE 5.31	Year-wise Faculty Strength of IKGPTU- Hoshiarpur Campus	129
TABLE 5.32	Space & Non-Faculty Staff Requirement for IKGPTU- Hoshiarpur Campus	130-132
TABLE 5.33	Year-wise Faculty Strength of the IKGPTU- Sultanpur Lodhi Campus	134
TABLE 5.34	Space & Non-Faculty Staff Requirement for IKGPTU- Sultanpur Lodhi	135-137
TABLE 5.35	Requirement of Space and Manpower for the Central Workshop	138-139
TABLE 5.36	Requirement of Manpower for the Central Library	142
TABLE 5.37	Requirement of Space and Manpower for the Computer Centre	143
TABLE 5.38	Requirement of Space and Manpower for the Virtual Learning Centre	146
TABLE 5.39	Space Requirement for Central Instrumentation Facility	152-153
TABLE 5.40	Summary of Space Requirement for Classroom Complex	156
TABLE 6.1	Line and Support Operations at IKGPTU	171
TABLE 6. 2	Role & Responsibilities of Key Officers	199
TABLE 7. 1(a)	Summary Of Cadre-Wise Requirement Of Teaching Faculty For The Faculties Of Study/ Centre of Excellence	200
Table 7.1(b)	Consolidated Year-Wise And Cadre-Wise Requirement of Faculty for the Main Campus of IKGPTU	200
TABLE 7. 2(a)	Summary of Cadre-Wise Requirement of Faculty for the IKGPTU Regional Campuses	201
TABLE 7. 2(b)	Consolidated Year-Wise and Cadre-Wise requirement of Faculty for the IKGPTU Regional Campuses	201
TABLE 7. 3	Year-Wise Requirement Of Non-Teaching Academic Staff	202
TABLE 7. 4(a)	Summary of Non-Faculty Support Staff Requirement for Academic Units of the IKGPTU Main Campus	203-204
TABLE 7. 4(b)	Summary of Non-Faculty Support Staff Requirement for the IKGPTU Regional Campuses	204
TABLE 7. 5	Administrative Sections: Functions & Support Manpower	205-210
TABLE 7. 6	Consolidated Requirement of Tenured Support Manpower	211
TABLE 7.7	Year-wise Additions of Support Staff (Categories I-IV)	212
TABLE 7.8	Recommended Designations of Category I / II (A/B) / III	212-213

	(A/B) / IV (A/B) Support Staff Posts	
Table 8.1.1	IKGPTU Main Campus, Kapurthala - Land Allotment – Kapurthala	214
Table 8.1.2	IKGPTU Main Campus, Kapurthala - Area Requirement- Academic and Faculty Building	218
Table 8.1.3	IKGPTU Main Campus, Kapurthala - Area Requirement - Central Academic Service Facilities	219
Table 8.1.4	IKGPTU Main Campus, Kapurthala - Area Requirement - Administrative Section	220
Table 8.1.5	IKGPTU Main Campus, Kapurthala - Area Requirement - Residential Complex	224-225
Table 8.1.6	IKGPTU Main Campus, Kapurthala - Area Requirement – Sports Facilities	225
Table 8.1.7	IKGPTU Main Campus, Kapurthala - Area Analysis	229
Table 8.1.8	IKGPTU Main Campus, Kapurthala - Summary - Capital Cost	233
Table 8.2.1	IKGPTU Amritsar Campus - Land Allotment	235
Table 8.2.2	IKGPTU Amritsar Campus - Area Requirement: Administrative & Faculty Building	239
Table 8.2.3	IKGPTU Amritsar Campus - Area Requirement: Classroom & Laboratory Complex	240
Table 8.2.4	IKGPTU Amritsar Campus - Area Requirement - Central Academic Service Facilities	240
Table 8.2.5	IKGPTU Amritsar Campus - Area Requirement - Residential Complex	241
Table 8.2.6	IKGPTU Amritsar Campus - Summary - Area Analysis	243
Table 8.2.7	IKGPTU Amritsar Campus - Summary - Capital cost	246
Table 8.3.1	IKGPTU Batala Campus - Land Allotment	248
Table 8.3.2	IKGPTU Batala Campus - Area Requirement: Administrative & Faculty Building	252
Table 8.3.3	IKGPTU Batala Campus - Area Requirement: Classroom & Laboratory Complex	253
Table 8.3.4	IKGPTU Batala Campus - Area Requirement - Central Academic Service Facilities	253
Table 8.3.5	IKGPTU Batala Campus - Area Requirement - Residential Complex	254
Table 8.3.6	IKGPTU Batala Campus - Summary - Area Analysis	256
Table 8.3.7	IKGPTU Batala Campus - Summary - Capital cost	259
Table 8.4.1	IKGPTU Bhikiwind Campus - Land Allotment	261
Table 8.4.2	IKGPTU Bhikiwind Campus - Area Requirement: Administrative & Faculty Building	265
Table 8.4.3	IKGPTU Bhikiwind Campus - Area Requirement: Classroom & Laboratory Complex	266
Table 8.4.4	IKGPTU Bhikiwind Campus - Area Requirement - Central Academic Service Facilities	266

Table 8.4.5	IKGPTU Bhikiwind Campus - Area Requirement - Residential Complex	267
Table 8.4.6	IKGPTU Bhikiwind Campus - Summary - Area Analysis	269
Table 8.4.7	IKGPTU Bhikiwind Campus - Summary - Capital cost	272
Table 8.5.1	IKGPTU Dinanagar Campus - Land Allotment	274
Table 8.5.2	IKGPTU Dinanagar Campus - Area Requirement: Administrative & Faculty Building	278
Table 8.5.3	IKGPTU Dinanagar Campus - Area Requirement: Classroom & Laboratory Complex	279
Table 8.5.4	IKGPTU Dinanagar Campus - Area Requirement - Central Academic Service Facilities	279
Table 8.5.5	IKGPTU Dinanagar Campus - Area Requirement - Residential Complex	280
Table 8.5.6	IKGPTU Dinanagar Campus - Summary - Area Analysis	282
Table 8.5.7	IKGPTU Dinanagar Campus - Summary - Capital cost	285
Table 8.6.1	IKGPTU Hoshiarpur Campus - Land Allotment	287
Table 8.6.2	IKGPTU Hoshiarpur Campus - Area Requirement: Administrative & Faculty Building	291
Table 8.6.3	IKGPTU Hoshiarpur Campus - Area Requirement: Classroom & Laboratory Complex	292
Table 8.6.4	IKGPTU Hoshiarpur Campus - Area Requirement - Central Academic Service Facilities	292
Table 8.6.5	IKGPTU Hoshiarpur Campus - Area Requirement - Residential Complex	293
Table 8.6.6	IKGPTU Hoshiarpur Campus - Summary - Area Analysis	295
Table 8.6.7	IKGPTU Hoshiarpur Campus - Summary - Capital cost	298
Table 8.7.1	IKGPTU Sultanpur Lodhi Campus - Land Allotment	300
Table 8.7.2	IKGPTU Sultanpur Lodhi Campus - Area Requirement: Administrative & Faculty Building	303
Table 8.7.3	IKGPTU Sultanpur Lodhi Campus - Area Requirement: Classroom & Laboratory Complex	304
Table 8.7.4	IKGPTU Sultanpur Lodhi Campus - Area Requirement - Central Academic Service Facilities	305
Table 8.7.5	IKGPTU Sultanpur Lodhi Campus - Area Requirement - Residential Complex	306
Table 8.7.6	IKGPTU Sultanpur Lodhi Campus - Summary - Area Analysis	308
Table 8.7.7	IKGPTU Sultanpur Lodhi Campus - Summary - Capital cost	310
Table 8.8	Summary- Total Capital Cost	312
Table 9.1a	Project Cost Estimations for IKGPTU (Rs in crores)	315
Table 9.1b	Project Cost Estimations Year wise Plan for IKGPTU (Rs in crores)	316
Table 9.2	Capital Cost Inder Kumar Gujral Punjab Technical	318

	University (Rs in crores)	
Table 9.3a	Estimations of Recurring Cost of IKGPTU Campus/ Year wise (Rs in crores)	320
Table 9.3b	Estimations of Recurring Cost head wise/year wise of IKGPTU (Rs in crores)	322
Table 9.3b1	Estimations of Recurring Cost of IKGPTU Main Campus-Kapurthala (Rs in crores)	325
Table 9.3b2	Estimations of Recurring Cost of IKGPTU Regional Campus-Amritsar (Rs in crores)	326
Table 9.3b3	Estimations of Recurring Cost of IKGPTU Regional Campus-Batala (Rs in crores)	327
Table 9.3b4	Estimations of Recurring Cost of IKGPTU Regional Campus-Bhikiwind (Rs in crores)	328
Table 9.3b5	Estimations of Recurring Cost of IKGPTU Regional Campus-Dinanagar (Rs in crores)	329
Table 9.3b6	Estimations of Recurring Cost of IKGPTU Regional Campus-Hoshiarpur (Rs in crores)	330
Table 9.3b7	Estimations of Recurring Cost of IKGPTU Regional Campus-Sultanpur Lodhi (Rs in crores)	331
Table 9.3c	Estimations of Employees Cost on Roll of IKGPTU (Rs. crores)	333
Table 9.3c1	Estimations of Employees Cost on Roll of IKGPTU Main Campus-Kapurthala (Rs. in crores)	334
Table 9.3c2	Estimations of Employees Cost on Roll of IKGPTU Regional Campus-Amritsar (Rs. in crores)	335
Table 9.3c3	Estimations of Employees Cost on Roll of IKGPTU Regional Campus-Batala (Rs. in crores)	336
Table 9.3c4	Estimations of Employees Cost on Roll of IKGPTU Regional Campus-Bhikiwind (Rs. in crores)	337
Table 9.3c5	Estimations of Employees Cost on Roll of IKGPTU Regional Campus-Dinanagar(Rs. in crores)	338
Table 9.3c6	Estimations of Employees Cost on Roll of IKGPTU Regional Campus-Hoshiarpur (Rs. in crores)	339
Table 9.3c7	Estimations of Employees Cost on Roll of IKGPTU Regional Campus- Sultanpur Lodhi (Rs. in crores)	340
Table 9.3d	Estimations of Employees cost towards Contractual Staff of IKGPTU (Rs in crores)	342
Table 9.3d1	Estimations of Employees cost towards Contractual Staff of IKGPTU Main Campus-Kapurthala (Rs in crores)	342
Table 9.3d2	Estimations of Employees cost towards Contractual Staff of IKGPTU Main Campus-Amritsar (Rs in crores)	342
Table 9.3d3	Estimations of Employees cost towards Contractual Staff of IKGPTU Regional Campus-Batala (Rs in crores)	343
Table 9.3d4	Estimations of Employees cost towards Contractual Staff of IKGPTU Regional Campus- Bhikiwind (Rs in crores)	343
Table 9.3d5	Estimations of Employees cost towards Contractual Staff	343

	of IKGPTU Regional Campus- Dinanagar (Rs in crores)	
Table 9.3d6	Estimations of Employees cost towards Contractual Staff of IKGPTU Regional Campus-Hoshiarpur (Rs in crores)	344
Table 9.3d7	Estimations of Employees cost towards Contractual Staff of IKGPTU Regional Campus-Sultanpur Lodhi (Rs in crores)	344
Table 9.3e	Estimations of Cost Towards Security Services of IKGPTU (Rs in crores)	346
Table 9.3e1	Estimations of Cost Towards Security Services of IKGPTU Main Campus-Kapurthala (Rs in crores)	346
Table 9.3e2	Estimations of Cost Towards Security Services of IKGPTU Regional Campus-Amritsar (Rs in crores)	346
Table9.3e3	Estimations of Cost Towards Security Services of IKGPTU Regional Campus-Batala (Rs in crores)	347
Table 9.3e4	Estimations of Cost Towards Security Services of IKGPTU Regional Campus-Bhikiwind (Rs in crores)	347
Table 9.3e5	Estimations of Cost Towards Security Services of IKGPTU Regional Campus-Dinanagar (Rs in crores)	347
Table 9.3e6	Estimations of Cost Towards Security Services of IKGPTU Regional Campus-Hoshiarpur (Rs in crores)	348
Table 9.3e7	Estimations of Cost Towards Security Services of IKGPTU Regional Campus- Sultanpur Lodhi (Rs in crores)	348
Table 9.3f	Estimations of Electricity Expenses of IKGPTU (Rs in crores)	349
Table 9.3g	Estimations of Generator Expenses of IKGPTU (Rs in crores)	349
Table 9.3h	Estimations of General and Administrative Expenses of IKGPTU (Rs in crores)	350
Table 9.3h1	Estimations of General and Administrative Expenses of IKGPTU Main Campus-Kapurthala (Rs in crores)	351
Table 9.3h2	Estimations of General and Administrative Expenses of Regional Campus- Amritsar (Rs in crores)	352
Table 9.3h3	Estimations of General and Administrative Expenses of Regional Campus- Batala (Rs in crores)	353
Table 9.3h4	Estimations of General and Administrative Expenses of IKGPTU Regional Campus- Bhikiwind (Rs in crores)	354
Table 9.3h5	Estimations of General and Administrative Expenses of IKGPTU Regional Campus- Dinanagar (Rs in crores)	355
Table 9.3h6	Estimations of General and Administrative Expenses of IKGPTU Regional Campus-Hoshiarpur (Rs in crores)	356
Table 9.3h7	Estimations of General and Administrative Expenses of IKGPTU Regional Campus-Sultanpur Lodhi (Rs in crores)	357
Table 9.3i	Estimations of Hostel Expenses of IKGPTU (Rs in crores)	357

Table 9.3i1	Estimations of Hostel Expenses of IKGPTU Main Campus-Kapurthala (Rs in crores)	357
Table 9.3i2	Estimations of Hostel Expenses of IKGPTU Regional Campus-Amritsar(Rs in crores)	357
Table 9.3i3	Estimations of Hostel Expenses of IKGPTU Regional Campus-Batala (Rs in crores)	357
Table 9.3i4	Estimations of Hostel Expenses of Regional Campus-Bhikiwind (Rs in crores)	360
Table 9.3i5	Estimations of Hostel Expenses of Regional Campus-Dinanagar (Rs in crores)	360
Table 9.3i6	Estimations of Hostel Expenses of Regional Campus-Hoshiarpur (Rs in crores)	360
Table 9.3i7	Estimations of Hostel Expenses of Regional Campus-Sultanpur Lodhi (Rs in crores)	360
Table 9.4	Sources of Revenue of U.S. Institutions of Higher Education 2013-14	364

LIST OF FIGURS

Pages

Fig 2.1	Factors Impinging on Excellence & Impact Generation by Academic Institutions	16
Fig3.1	Core Value of IKGPTU	18
Fig6.1	Schematic of the Governance Structure of IKGPTU	169
Fig6.2	Academic Activities of IKGPTU	170
Fig6.3	Systems Framework for Executive Management: IKGPTU	174
Fig6.4	Management Hierarchy of Faculties of Study/Regional Campuses	181
Fig6.5	Reporting Hierarchy of IKGPTU	182
Fig 8.1.1	IKGPTU Main Campus, Kapurthala - Area Existing vs Area Proposed	230
Fig 8.1.2	IKGPTU Main Campus, Kapurthala - Infrastructure Cost Breakup	234
Fig 8.1.3	IKGPTU Main Campus, Kapurthala - Capital Cost Breakup	234
Fig 8.2.1	IKGPTU Amritsar Campus - Area Existing vs Area Proposed	244
Fig 8.2.2	IKGPTU Amritsar Campus - Infrastructure Cost Breakup	247
Fig 8.2.3	IKGPTU Amritsar Campus - Capital Cost Breakup	247
Fig 8.3.1	IKGPTU Batala Campus - Area Existing vs Area Proposed	257
Fig 8.3.2	IKGPTU Batala Campus - Infrastructure Cost Breakup	260
Fig 8.3.3	IKGPTU Batala Campus - Capital Cost Breakup	260
Fig 8.4.1	IKGPTU Bhikiwind Campus - Area Existing vs Area Proposed	269
Fig 8.4.2	IKGPTU Bhikiwind Campus - Infrastructure Cost Breakup	273
Fig 8.4.3	IKGPTU Bhikiwind Campus - Capital Cost Breakup	273
Fig 8.5.1	IKGPTU Dinanagar Campus - Area Existing vs Area Proposed	282
Fig 8.5.2	IKGPTU Dinanagar Campus - Infrastructure Cost Breakup	286
Fig 8.5.3	IKGPTU Dinanagar Campus - Capital Cost Breakup	286
Fig 8.6.1	IKGPTU Hoshiarpur Campus - Area Existing vs Area Proposed	296
Fig 8.6.2	IKGPTU Hoshiarpur Campus - Infrastructure Cost Breakup	299
Fig 8.6.3	IKGPTU Hoshiarpur Campus - Capital Cost Breakup	299
Fig 8.7.1	IKGPTU Sultanpur Lodhi Campus - Area Existing vs Area Proposed	308
Fig 8.7.2	IKGPTU Sultanpur Lodhi Campus - Infrastructure Cost Breakup	311
Fig 8.7.3	IKGPTU Sultanpur Lodhi Campus - Capital Cost Breakup	311
Fig 8.8.1	Total capital cost breakup	313
Fig.9.3a	Recurring Cost Share of Respective Campus in Total Recurring Cost of the IKGPTU estimated for initial ten academic years	321
Fig.9.3b	Head wise Components of Total Recurring Cost of the IKGPTU estimated for initial ten academic years	323
Fig.9.3c	Cost per Student of IKGPTU for initial ten academic years	324
Fig.9.4	Model for Revenue Generation	364

LIST OF DRAWINGS

Page

DRG 8.1.1	IKGPTU Main Campus, Kapurthala - Site Plan	215
DRG 8.2.1	IKGPTU Amritsar Campus - Site Plan	236
DRG 8.3.1	IKGPTU Batala Campus - Site Plan	248
DRG 8.4.1	IKGPTU Bhikiwind Campus - Site Plan	262
DRG 8.5.1	IKGPTU Dinanagar Campus - Site Plan	275
DRG 8.6.1	IKGPTU Hoshiarpur Campus - Site Plan	288
DRG 8.7.1	IKGPTU Sultanpur Lodhi Campus - Site Plan	301

SUPPORTING ANNEXURES

4.1	Teacher Training Integrated Modules ---General Remarks	369
-----	--	-----

4.2	Teacher Training Integrated Module--- Ttm 1	371
4.3	Teacher Training Integrated Module --- Ttm 2	373
8.1	IKGPTU Main Campus, Kapurthala - Existing Infrastructure	375
8.2	IKGPTU Main Campus, Kapurthala - Area Requirement - Engineering & Technology	376
8.3	IKGPTU Main Campus, Kapurthala - Reference to Labs - Engineering & Technology	378
8.4	IKGPTU Main Campus, Kapurthala - Area Requirement - Mathematical & Applied Sciences	382
8.5	IKGPTU Main Campus, Kapurthala - Reference to Labs - Mathematical & Applied Sciences	384
8.6	IKGPTU Main Campus, Kapurthala - Area Requirement - Management Studies	385
8.7	IKGPTU Main Campus, Kapurthala - Area Requirement - Media & Mass Communication	387
8.8	IKGPTU Main Campus, Kapurthala - Area Requirement - Hospitality, Tourism & Travel Management	389
8.9	IKGPTU Main Campus, Kapurthala - Area Requirement - Lifestyle Design	391
8.10	IKGPTU Main Campus, Kapurthala - Area Requirement - Architecture	393
8.11	IKGPTU Main Campus, Kapurthala - Area Requirement - Social & Human Sciences	395
8.12	IKGPTU Main Campus, Kapurthala - Area Requirement - Teacher Training & Education	397
8.13	IKGPTU Main Campus, Kapurthala - Area Requirement - Pharmaceutical Sciences	399
8.14	IKGPTU Main Campus, Kapurthala - Area Requirement - International Resource Centre for Human Values & Professional Ethics	401
8.15	IKGPTU Main Campus, Kapurthala - Area Requirement - Central Workshop	402
8.16	IKGPTU Main Campus, Kapurthala - Area Requirement - Central Instrumentation Centre	404
8.17	IKGPTU Main Campus, Kapurthala - Area Requirement - Computer Centre	405
8.18	IKGPTU Main Campus, Kapurthala - Area Requirement - Virtual Learning Centre (Including Videoconferencing)	406
8.19	IKGPTU Main Campus, Kapurthala - Area Requirement - Continuing Education Centre	407
8.20	IKGPTU Main Campus, Kapurthala - Area Requirement - Technology Innovation-Cum-Innovation Centre	407
8.21	IKGPTU Main Campus, Kapurthala - Area Requirement - Central	407

	Classroom Complex	
8.22	IKGPTU Main Campus, Kapurthala - Area Requirement - Auditorium-Cum-Conference Centre	408
8.23	IKGPTU Main Campus, Kapurthala - Area Requirement for Canteen	408
8.24	IKGPTU Main Campus, Kapurthala - Area Requirement - Administrative Section	409
8.25	IKGPTU Main Campus, Kapurthala - Residential, Hostel Requirement for Students	410
8.26	IKGPTU Main Campus, Kapurthala - Number of Students Per Department	410
8.27	IKGPTU Main Campus, Kapurthala - Residential, Hostel Requirement for Faculty	411
8.28	IKGPTU Main Campus, Kapurthala - Number of Faculty Per Department	412
8.29	IKGPTU Main Campus, Kapurthala - Detailed Area Program (Built Up Area)	413
8.30	IKGPTU Main Campus, Kapurthala - Detail Capital Cost	416
8.31	IKGPTU Main Campus, Kapurthala - Electrical Load Estimations for Kapurthala	424
8.32	IKGPTU Main Campus, Kapurthala - Areas to Be Provided with VRF System	424
8.33	IKGPTU Main Campus, Kapurthala - Areas to Be Provided with CCTV	424
8.34	IKGPTU Main Campus, Kapurthala - Areas to Be Provided with Access Control System	425
8.35	IKGPTU Main Campus, Kapurthala - For Laboratories Equipment Cost Calculation	425
8.36	IKGPTU Main Campus, Kapurthala - Occupancy for Water Consumption	426
8.37	IKGPTU Amritsar Campus - Existing Infrastructure	427
8.38	IKGPTU Amritsar Campus - Development of Site and Allied Provisions - Existing / Shared Between Polytechnic College and IKGPTU Amritsar Campus	428
8.39	IKGPTU Amritsar Campus - Detail Area Analysis	429
8.40	IKGPTU Amritsar Campus - Residential, Hostel Requirement for Students and Faculty	432
8.41	IKGPTU Amritsar Campus - Electrical Load Estimations	432
8.42	IKGPTU Amritsar Campus - Occupancy Load for Water Calculation	433
8.43	IKGPTU Amritsar Campus - For Laboratories Equipment Cost Calculation	433
8.44	IKGPTU Amritsar Campus - Detail Capital Cost	434
8.45	IKGPTU Batala Campus - Existing Infrastructure	439
8.46	IKGPTU Batala Campus - Development of Site and Allied	440

	Provisions - Existing / Shared Between Batala Polytechnic College and IKGPTU Batala Campus	
8.47	IKGPTU Batala Campus - Detail Area Analysis	441
8.48	IKGPTU Batala Campus - Residential, Hostel Requirement for Students and Faculty	444
8.49	IKGPTU Batala Campus - Electrical Load Estimations	444
8.50	IKGPTU Batala Campus - Occupancy Load for Water Calculation	445
8.51	IKGPTU Batala Campus - For Laboratories Equipment Cost Calculation	445
8.52	IKGPTU Batala Campus - Detail Capital Cost	456
8.53	IKGPTU Bhikiwind Campus - Existing Infrastructure	450
8.54	IKGPTU Bhikiwind Campus - Development of Site and Allied Provisions - Existing / Shared Between Bhikiwind Polytechnic College and IKGPTU Bhikiwind Campus	452
8.55	IKGPTU Bhikiwind Campus - Detail Area Analysis	453
8.56	IKGPTU Bhikiwind Campus - Residential, Hostel Requirement for Students and Faculty	455
8.57	IKGPTU Bhikiwind Campus - Electrical Load Estimations	456
8.58	IKGPTU Bhikiwind Campus - Occupancy Load for Water Calculation	456
8.59	IKGPTU Bhikiwind Campus - For Laboratories Equipment Cost Calculation	457
8.60	IKGPTU Bhikiwind Campus - Detail Capital Cost	457
8.61	IKGPTU Dinanagar Campus - Existing Infrastructure	463
8.62	IKGPTU Dinanagar Campus - Development of Site and Allied Provisions - Existing / Shared Between Dinanagar Polytechnic College and IKGPTU Dinanagar Campus	465
8.63	IKGPTU Dinanagar Campus - Detail Area Analysis	466
8.64	IKGPTU Dinanagar Campus - Residential, Hostel Requirement for Students and Faculty	469
8.65	IKGPTU Dinanagar Campus - Electrical Load Estimations	469
8.66	IKGPTU Dinanagar Campus - Occupancy Load for Water Calculation	470
8.67	IKGPTU Dinanagar Campus - For Laboratories Equipment Cost Calculation	470
8.68	IKGPTU Dinanagar Campus - Detail Capital Cost	471
8.69	IKGPTU Hoshiarpur Campus - Existing Infrastructure	476
8.70	IKGPTU Hoshiarpur Campus - Development of Site and Allied Provisions - Existing / Shared Between Hoshiarpur Polytechnic College and IKGPTU Hoshiarpur Campus	478
8.71	IKGPTU Hoshiarpur Campus - Detail Area Analysis	479
8.72	IKGPTU Hoshiarpur Campus - Residential, Hostel Requirement for Students and Faculty	482
8.73	IKGPTU Hoshiarpur Campus - Electrical Load Estimations	482
8.74	IKGPTU Hoshiarpur Campus - Occupancy Load for Water	483

	Calculation	
8.75	IKGPTU Hoshiarpur Campus - For Laboratories Equipment Cost Calculation	483
8.76	IKGPTU Hoshiarpur Campus - Detail Capital Cost	484
8.77	IKGPTU Sultanpur Lodhi Campus - Existing Infrastructure	489
8.78	IKGPTU Sultanpur Lodhi Campus - Residential, Hostel Requirement for Students and Faculty	490
8.79	IKGPTU Sultanpur Lodhi Campus - Electrical Load Estimations	490
8.80	IKGPTU Sultanpur Lodhi Campus - Occupancy Load for Water Calculation	491
8.81	IKGPTU Sultanpur Lodhi Campus - For Laboratories Equipment Cost Calculation	491
8.82	IKGPTU Sultanpur Lodhi Campus - Detail Capital Cost	492
8.83	-	
8.84	-	
8.85	-	
8.86	-	
8.87	-	
8.88	-	
8.89	-	
8.90	Summary of Buildings/ Infrastructure Cost Estimations	496
8.91	Academic cum Administrative Building	497
8.92	Lecture Hall Complex & Continuing Education Centre	498
8.93	Laboratory Complex & Technology Innovation-cum-Incubation Centre	499
8.94	Workshops	500
8.95	Computer Centre & Virtual Learning Centre	501
8.96	Conference Complex/ Auditorium	502
8.97	Student Activity Centre/ Sports Club/ Cafeteria	503
8.98	Library Building	504
8.99	Students Hostels with Common Facilities	505
8.10 0	Faculty Housing –Regional Campus	506
8.10 1	Faculty Housing - Main Campus	507
8.10 2	Guest House	508
8.10 3	Community Centre	509
8.10 4	Commercial Centre & Health Centre	510
8.10 5	Allied Provisions	511
8.10	Sports	513

6		
8.10 7	Development of Site	513
8.10 8	Equipment Cost for Other Regional Campuses	514
8.10 9	Equipment Cost for IKGPTU Main Camps, Kapurthala	514
8.110	IT Infrastructure (assumption as per IT Consultant)	515
8.111	Summary: Furniture Cost	516
8.112	Furniture Cost for Students: Hostel	516
8.113	Furniture Cost for Faculty	517
8.114	Furniture Cost for Guest House	517
8.115	Furniture Cost for Lecture Room	518
8.116	Furniture Cost for Tutorial Room & Drawing Halls	519
8.117	Faculty - Residential Accommodation Type	521
8.118	Cost Index from CPWD, 2012	522
9.1	Estimated Total Cost of Project- I K Gujral Punjab Technical University	
9.2	Recurring Expenditure Campus Wise -I K Gujral Punjab Technical University	
9.3	Recurring Expenditure -I K Gujral Punjab Technical University	
9.4	Fellowship For M.Tech & Ph.D Programme	
9.5	Year-Wise Requirement of ACADEMIC & Support Staff Post	
9.6	Year-Wise Cost to Company (CTC)of Academic & Support Staff Posts	
9.7	Calculation Sheet of General Administrative Expenses	
9.8	Campus Wise- Requirement of Contractual Staff And Cost	
9.9	Campus Wise-Calculation Sheet for Contractual Security Staff	
9.10	Calculation Sheet for Hostel Expenses - I K Gujral Punjab Technical University	
6.11	Administrative expenses per student and per Staff	
9.12	Calculation Sheet for Electricity Cost - IKGPTU -Main Campus Kapurthala	
9.13	Calculation Sheet for Electricity Cost - IKGPTU-Amrtisar Campus	
9.14	Calculation Sheet for Electricity Cost - IKGPTU-Batala Campus	
9.15	Calculation Sheet for Electricity Cost - IKGPTU- Bhikiwind Campus	
9.16	Calculation Sheet for Electricity Cost - IKGPTU-Dinanagar Campus	
9.17	Calculation Sheet for Electricity Cost - IKGPTU-Hoshirapur Campus	
9.18	Calculation Sheet for Electricity Cost -IKGPTU-Sultanpur Lodhi	

	Campus	
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EXECUTIVE SUMMARY

1. PREAMBLE

- 1.1 The IK Gujral Punjab Technical University (IKGPTU), formerly known as Punjab Technical University (PTU), was established and incorporated as a State University in January, 1997 through an Act of the State Legislature of Punjab with the aim of promoting technical, management and pharmaceutical education in the state of Punjab at the degree level and above. Till the Academic Year 2011-12, IKGPTU functioned as an affiliating university with its activities being confined to: (i) the imparting of technical education programmes encompassing the subjects of Engineering Technologies, the Sciences, Management, Humanities, Pharmacy, the Social Sciences and Architecture through affiliated colleges located within its area of jurisdiction; and (ii) the offering of Distance Learning Programmes in a variety of knowledge areas at a network of franchisee centres located across the country.
- 1.2 In the academic year 2011-12, the Board of Governors of IKGPTU took the decision to offer academic programmes at its own constituent colleges by converting IKGPTU into a teaching-cum-affiliating university. Accordingly it launched M. Tech. programmes in Electronics & Communication Engineering and Computer Science & Engineering under the aegis of the Punjab Institute of Technology, Kapurthala and a MBA programme in Management under the aegis of the Punjab Institute of Management (PIM), Kapurthala. Simultaneously an extensive on-campus building construction programme was initiated on the IKGPTU campus at Kapurthala.
- 1.3 Subsequently in the academic year 2013-14, IKGPTU launched the offering of undergraduate programmes at a network of constituent institutions, named Punjab Institutes of Technology (PIT'S), by leasing space at existing Government Polytechnics in various locations within its territorial jurisdiction. The objective of adding these new constituent colleges was to provide opportunities for higher technology education to rural

youth as well as to provide avenues for career advancement to **engineering diploma holders** through lateral entry to bachelor's degree programmes in various technology disciplines.

1.4 The set of new initiatives launched by IKGPTU, as referred to in sub-clauses 2 and 3 hereinabove, were mainly ad hoc in nature. With a view to initiate a process of planned development of the university into a teaching-cum-affiliating university, the Board of Governors of IKGPTU decided to avail the services of M/s Educational Consultants India Limited (an Enterprise of the Ministry of Human Resource Development of the Government of India) to:

- (i) Evaluate the existing status of IKGPTU as a teaching university;
- (ii) Prepare a strategic plan for the University detailing the Academic Activities including preparation of HR, Infrastructure and Financial Plans; and
- (iii) Prepare a Governance and Executive Management Plan in light of its changed role.

2. EVALUATION OF EXISTING STATUS OF THE UNIVERSITY

2.1 The existing status of IKGPTU as a teaching university was assessed through analysis of data on various aspects of the functioning of the university provided by the IKGPTU executive management and site visits by the consultants to the Main Campus of IKGPTU at Kapurthala and the network of six off-campus PIT's. It is observed from a critical examination of the enrolment figures for various programmes that the actual student enrolment for almost all academic programmes, both at the Baccalaureate and the Master's levels, offered at the two flagship PIT's on the Main Campus as well as at the six other PIT's is well below the sanctioned intake. Also in some cases the numbers dropped from a reasonably high intake at the start to a dismally low intake at present.

2.2 With regards to the construction of the built-up space on the main campus it is observed that while the construction is of a reasonably good quality, it has been taken up on an ad

hoc basis without any link to its eventual utilization. Thus there is considerable mismatch between the actual building lay-out and the proposed utilization of the built space. As regards the off-campus PIT's the built-up space is shared with functional Government Polytechnics with no clear cut demarcation with respect to space allocation. Likewise, there is no demarcation of open space for future construction. Furthermore, the buildings are in an abysmally poor state of maintenance and are well below the desired standards for institutions of excellence.

- 2.3 The possible reasons for the university's inability to attract students of the right calibre were examined. It was felt that the existence of such a sorry state of affairs with regards student numbers can be attributed to: (i) inadequacy in the competency and capability of the available faculty resources; (ii) inadequacy of the available physical resources including built-up space and laboratory infrastructure; (iii) lack of proper academic processes being in place; (iv) inadequacy in the degree of academic freedom enjoyed by the faculty; and (v) the style & system of day-to-day operations management.
- 2.4. Whilst the built up space currently under construction on the Main Campus is expected to meet around 50% of the quantitative requirement for the proposed academic activities, compact planning would be required in the building lay-outs to meet the planned requirements in available land area. Furthermore, as regards other regional campuses, there is a need to demarcate the built up and open space between the two sets of users as well as to refurbish the built up space. Also urgent attention needs to be paid in the immediate term towards affecting quantitative and qualitative improvements in the faculty resources and laboratory facilities for the Faculties of Study on the main campus as well as the regional campuses, and in the medium term to the translation of the university's physical and human capabilities into processes, the style & system of day-to-day operations management and its rules & regulations such that academic freedom, self-regulation and accountability are internalized as basic values of the university within the existing framework of the PTU Act. Furthermore, on culmination of the initial phase of development of the university as proposed hereunder in the Detailed Project Report (in

say a framework of 10 years or so) additional land would be needed at Kapurthala for further expansion.

- 2.5 The strategic plan for development of IKGPTU into a teaching-cum-affiliating university has been proposed keeping in view the perceived limitations outlined hereinabove.

3. CHARTER

3.1 It is envisaged that the charter of the university is to develop into an institution of excellence in the domain of higher technical education so as to serve as the fountainhead for nurturing the future leaders of technology and techno-innovation responsible for the techno-economic, social, cultural and environmental prosperity of the people of the State of Punjab, the Nation and the World.

3.2 In line with the above charter it is envisaged that IKGPTU shall provide seamless education through the use of **technology**, in partnership with **industry and society** with a view to promote **research, discovery and entrepreneurship** and to prepare its students to be responsible citizens of the world and the leaders of technology and techno-innovation of the 21st Century by developing in them the desirable **knowledge, skill and attitude** base for the world of work and by instilling in them a culture for **seamlessness in all facets of life**.

3.3 The expected outcome is the **DEVELOPMENT OF ITS STUDENTS INTO INDIVIDUALS WHO ARE:**

- Knowledgeable and skilful;
- Techno-Managers;
- Innovative & Entrepreneurial;
- Employable at responsible positions;
- Versatile, Down to Earth, Adaptable, Lifelong Learners;

- Good Citizens of the Country having respect for National & Human Values, an Ethos for Intellectual Honesty, a spirit of Community and a Concern for Fellow Beings and the Environment.

3.4 It is proposed that the philosophy of the education offered shall be to awaken the **“deepest potential”** of the students as holistic human beings by nurturing qualities of self-confidence, courage, integrity, maturity, versatility of mind as well as a capacity to face the challenges of tomorrow so as to enable them to serve humanity and its highest values in the best possible way. Thus the key features of its educational philosophy shall be offering of education which is globally-relevant, industry-linked, research-focused, technology-enabled and seamless. In view of the adoption of the concept of seamlessness and integrated learning connections within the curriculum will be made between major fields of study and other allied fields, between the curricula, the cross-curricular and the co-curricular aspects of education and between academic knowledge and practice.

3.5 It is proposed to adopt an engineering science based academic model akin to that in vogue in the IIT system. Keeping the above concepts in view it is envisaged that the course curriculum for various programmes of study shall be framed in a manner such that:

- Each student constructs a significant portions of his/her own curriculum as per his/her own choice;
- There is lateral integration of some portions of the curriculum across a variety of allied disciplines to enable the student to opt for a minor field of study besides the major field to which he has been admitted;
- Each student mandatorily participates in two co-curricular activities from amongst physical education, the performing arts, crafts, sports, etc. in each year of study;
- Each student mandatorily audits two period of community engagement each of one semester duration;

- Each student mandatorily audits several short duration cross-curricular capsule courses aimed at honing attributes such as creative thinking, problem-solving skills, communication skills, team-working ability, inter-personal skills, etc.;
- Each student mandatorily undergoes one period of industry internship on a thin sandwich pattern;
- Each student undertakes a course-end synthesizing project which shall constitute around 10% of the total graduation credit requirement. Also in order to hone the students problem-solving skills each course will have some activities in the project mode; and
- Each student mandatorily audits a course on research methodology and also attends a whole host of extra-mural lectures on contemporary issues organized by the University at periodic intervals throughout the academic year.

3.6 It is proposed that education delivery be through a blend of methodologies including face-to-face delivery in the usual class room mode, interactive learning and synchronous e- learning.

3.7 It is further proposed that the curriculum structure be framed in terms of the modular credit system based on the semester system wherein the academic year comprises of two semesters each of around 16 weeks duration (including a two week period for minor tests and semester-end examinations) plus a summer term of around eight to ten weeks. The curriculum may be developed on the basis of a Knowledge-Skill-Aptitude (KSA) matrix wherein normal classroom learning is supplemented by non-classroom learning, interactions and internships.

3.8 It is proposed that academic performance evaluation of students in individual courses be on the basis of a Comprehensive Continuous Evaluation (CCE) system with grades being awarded by the concerned Course Instructor based on student performance in pre-announced evaluation elements (such as quizzes, mid-term tests, an end-semester final

examination, term papers, projects, tutorial and laboratory sessions, etc.) throughout the period of teacher-student contact for the particular course.

- 3.9 It is proposed that admission of students to various categories of academic programmes be based on merit in either a national entrance test in the case of those programmes where so prescribed by the concerned National Regulatory Agency or merit in a IKGPTU Admission Test with weight age being given for previous academic performance.

4. STARATEGIC ACADEMIC PLAN FOR THE MAIN CAMPUS AT KAPURTHALA

- 4.1 It is envisaged that all academic programmes proposed to be offered at the main campus at Kapurthala shall be offered under the aegis of ten FACULTIES OF STUDY and one CENTRE OF EXCELLENCE as listed hereunder:

- Engineering & Technology;
- Mathematical & Applied Sciences;
- Management Studies;
- Media & Mass Communication;
- Hospitality, Tourism & Travel Management;
- Lifestyle Design;
- Architecture;
- Social & Human Sciences;
- Teacher Training & Education;
- Pharmaceutical Studies; and
- International Resource Centre for Human Values and Professional Ethics.

- 4.2 It is further envisaged that the existing PIT Kapurthala, PIM Kapurthala, PIT Mohali and PTTTI Jalandhar shall cease to exist as independent entities and that their respective academic activities would be merged with the corresponding Faculty of Study.
- 4.3 It is further proposed that each of the Faculties of Study shall have a number subunits classified as departments with conventional functions such as teaching, research, curriculum, learning resources and laboratory development in their respective areas. Salient details with regards to each Faculty of Study such as academic objectives, listing of departments, programmes to be offered with areas of focus, faculty requirement and space and support manpower requirement are given in Chapter 5.
- 4.4 It is proposed that the University shall offer a total of 77 academic programmes out of which 24 are Bachelor's Degree Programmes of 3/4/5 years duration with an annual intake of 30 / 45 students, 17 are PG Diploma Programmes of 1 year duration with an annual intake of 10 /20 students, 35 are Master's Degree Programmes of 2 years duration with an annual intake of 10 /20 students and 1 is a MBA Degree Programme of 2 years duration with an annual intake of 45 students at its Main Campus at Kapurthala. It is further envisaged that students would also be enrolled for the Doctoral Degree in all core disciplines of the university and that a sizable number of part time students and in-service staff shall register to take non-degree modular courses mainly for skills development. A consolidated list detailing, faculty-wise, the proposed academic programmes and their respective durations, annual student intake, year of start, eligibility criteria and mode of admission is given in Table 4.1.
- 4.5 It is proposed that the various programmes that are proposed to be offered on the Main Campus of IGKPTU at Kapurthala shall be phased over a period of 10 years starting from the academic year 2016-17 when the first set of programmes are expected to be offered.
- 4.6 It is envisaged that the on-campus population of full time students shall stabilize at a level of 4800 students at the start of the ninth year of the strategic plan (i.e., at the start of

academic year 2024-25) out of which 2890 shall be at the Baccalaureate level, 320 at the PG Diploma level, 1490 at the Master’s level and 100 at the Doctoral level.

- 4.7 Based on the UGC norms for faculty to student ratio for individual disciplines it is envisaged that the ultimate requirement of faculty for the Faculties of Study / Centres of Excellence shall be 379. The year-wise and cadre-wise strength of faculty for individual Faculties of Study / Centres of Excellence as well as for individual departments within each Faculty of Study have also been estimated and presented in Chapter 5.
- 4.8 The estimated requirement of space and support manpower for the faculty building and laboratories for each Faculty of Study has been indicated in Chapter 5. Some salient details for the Faculties of Study / Centres of Excellence are portrayed hereunder in Table Ex. 1:

Table Ex. 1: Salient Details of Faculties of Study / Centres of Excellence

Faculty / Centre of Excellence	Departments/Areas of Study	Student Strength	Faculty Strength
Engineering and Technology	Civil Engineering / Chemical Engineering / Computer Science & Engineering / Electrical Engineering / Electronics & Communication Engineering / Energy Engineering / Food Engineering / Industrial Design / Mechanical Engineering	1680	109
Mathematical and Applied Sciences	Actuarial Sciences / Biotechnology / Chemical Sciences / Ecology & Environmental Sciences / Mathematical Sciences / Physical Sciences	580	46
Management Studies	Commerce / Management (covering the areas of Finance & Accounting / Organizational Behaviour & Human Resource Management /Marketing /Systems & IT /Operations Management & Quantitative Techniques / Strategic Management /Business Policy)	535	49
Media and Mass Communication	Print & Electronic Journalism / Radio & TV Production / Development & Organizational Communication / Public Relations & Advertisement / Digital Media Art & Animation / Media Industry Management	295	25
Hospitality, Tourism and Travel Management	Hotel Management & Catering Technology / Tourism & Travel Management	320	26
Lifestyle Design	Apparel & Knitwear Design / Fashion Marketing, Merchandizing & Management / Fashion & Apparel Manufacturing Technology / Fashion Communication	480	33
Architecture	Planning / Architecture / Landscape Design	320	23

Faculty / Centre of Excellence	Departments/Areas of Study	Student Strength	Faculty Strength
Social & Human Sciences	Economics / Psychology / Sociology / English & Linguistics / French & German / World History & Culture / Fine Arts	160	22
Teacher Training and Education	----	140	21
Pharmaceutical Sciences	Pharmaceutics / Pharmacology / Pharmacognosy / Forensic Pharmacy / Medicinal Chemistry / Pharmaceutical Biotechnology.	160	12
International Resource Centre for Human Values & Professional Ethics	---	30	03
Vice Chancellor's Discretionary Central Pool (for Ph. D. Students)	----	100	10
Total of Students & Faculty for all Faculties of Study / Centres of Excellence	----	4800	379

5. STRATEGIC ACADEMIC PLAN FOR THE SIX REGIONAL CAMPUSES

5.1 It is envisaged that besides the academic programmes to be offered on the Main Campus at Kapurthala the University shall also courses at the six off-campus PIT's which henceforth would be known as Regional Campuses of IKGPTU as listed hereunder:

- IKGPTU --- Amritsar Campus;
- IKGPTU ---Dinanagar Campus;
- IKGPTU ---Batala Campus;
- IKGPTU ---Hoshiarpur Campus;
- IKGPTU --- Bhikiwind Campus; and
- IKGPTU ---Sultanpur Lodhi Campus.

5.2 It is envisaged that each of the Regional Campuses shall have a number subunits classified as departments with conventional functions such as teaching, research,

curriculum, learning resources and laboratory development in their respective areas. Salient details with regards to each of the Regional Campuses such as their respective academic objectives, listing of departments, programmes to be offered with areas of focus, faculty requirement and space and support manpower requirement are given in Chapter 5.

- 5.3 It is proposed to offer under the aegis of the six Regional Campuses a total of 17 academic programmes out of which 16 are Bachelor's Degree Programmes of 3/4 years duration with an annual intake of 30 / 45 / 60 students and 01 is a Master's Degree Programme of 2 years duration with an annual intake of 40 students. A consolidated list detailing the proposed academic programmes and their respective durations, annual student intake, year of start, eligibility criteria and mode of admission for the individual Regional Campuses is given in Table 4.2.
- 5.4 It is proposed that the programmes to be offered at the Regional Campuses shall be phased over a period of 10 years starting from the academic year 2016-17 when the first set of programmes are proposed to be offered.
- 5.5 It is envisaged that the full time student population at the six Regional Campuses taken together shall stabilize at a level of 2550 students at the start of the sixth year of the strategic plan (i.e., at the start of academic year 2021-22) out of which 2470 shall be at the Baccalaureate level and 80 at the Master's level.
- 5.6 Based on the UGC norms for faculty to student ratio and cadre distribution, the cadre-wise requirement for individual departments of each of the Regional Campuses has been worked out in Chapter 5. It is envisaged that the faculty strength for the individual Regional Campuses shall be as indicated hereunder in Table Ex. 2. Likewise, the estimated requirement of space and support manpower for the faculty building and laboratories for each Regional Campus has been worked out in Chapter 5. The salient

details for the individual Regional Campuses are indicated in Table Ex. 2 shown hereunder:

Table Ex. 2: Salient Details for each of the Regional Campuses

Name of Regional Campus	Departments / Units	Student Strength	Faculty Strength
IGKPTU --- Amritsar Campus	Computer Science & Engineering / Plastics Engineering & Technology / Engineering Sciences / Mathematical & Applied Sciences / Humanities & Social Sciences.	250	17
IGKPTU --- Batala Campus	Civil Engineering / Electrical Engineering / Mechanical Engineering / Mathematical & Applied Sciences / Humanities & Social Sciences	450	30
IGKPTU --- Bhikiwind Campus	Computer Science & Engineering / Mechanical Engineering / Engineering Sciences / Mathematical & Applied Sciences / Humanities & Social Sciences	300	20
IGKPTU --- Dinanagar Campus	Computer Science & Engineering / Civil Engineering / Mathematical & Applied Sciences / Humanities & Social Sciences.	480	32
IGKPTU --- Hoshiarpur Campus	Civil Engineering / Computer Science & Engineering / Mechanical Engineering / Engineering Sciences / Mathematical & Applied Sciences / Humanities & Social Sciences	600	40
IGKPTU --- Sutanpur Lodhi Campus	Computer Science & Engineering / Fashion Design / Pharmacy / Mathematical & Applied Sciences .Humanities & Social Sciences	470	32
Total of Students & Faculty strength for all Regional Campuses	----	2550	171

6. CENTRAL ACADEMIC SERVICE FACILITIES

6.1 It is envisaged that besides the ten Faculties of Study and one Centre of Excellence the following independent stand-alone Central Academic Service Facilities shall be provided on the main campus at Kapurthala for use by the faculty and registered students of the Faculties of Study / Centre of Excellence:

- The Central Workshop;
- The Central Library;
- The Computer Centre;

- The Virtual Learning Centre;
- The Continuing Education Centre,
- The Technology Innovation-cum-Incubation Centre;
- The Central Instrumentation Centre
- The Central Classroom Complex; and
- The Auditorium-cum-Conference Centre.

6.2 Salient details of the individual Central Academic Service Facilities are provided with representative photographs and explanations in Chapter 5.

7. GOVERNANCE

7.1 In view of the envisaged changes at IKGPTU as a consequence of the decision to henceforth operate as a teaching-cum-affiliating university by offering teaching and research programmes on-campus under the aegis of Faculties of Studies / Centres of Excellence as well as the establishment of Regional Campuses at various location within the territorial jurisdiction of IKGPTU it is proposed that the following additional bodies be constituted under the Regulations of the University and that they be declared as Authorities of the University vide clause 13(1)(v) of the PTU Act, 1997:

- Executive Board as a Standing Committee of the B o G for advising the B o G on all human resources matters;
- A Board of Planning as a Standing Committee of the B o G for advising the B o G on all planning matters;
- Faculty Boards for the executive management of each of the Faculties of Studies/ Centres of Excellence; and
- Councils of Executive Management for the executive management of each of the Regional Campuses.

- 7.2 The proposed composition and the powers and duties of each of the new Authorities are indicated in clause 7.1 in Chapter 6.
- 7.3 It is envisaged that the existing Regulation with regards the Board of Studies would need to be modified to constitute separate Boards of Studies for each of the Faculties of Study / Centres of Excellence and each of the Regional Campuses. Likewise, it is envisaged that the composition of the Board of Governors and the Academic Council would need to be modified to reflect the changed academic scenario at IKGPTU thereby requiring amendment of the PTU Act, 1997. The modified composition of the Board of Governors and Academic Council are proposed in clauses 6.1.4 (v) and 6.1.5 (i), respectively.

8. EXECUTIVE MANAGEMENT

- 8.1 A system of executive management of academic and administrative management has been designed based on the principles of management cybernetics with the Vice Chancellor, accountable to the Board of Governors of IKGPTU, functioning as the Chief Academic and Executive Officer being responsible for executive management. It is proposed that the Vice Chancellor shall be assisted in the executive management of the university by a team comprising of a set of six functional Deans, the Deans of Faculty, The Principals/Directors of the Regional Campuses, the Registrar, the Controller of Examinations and the Chief Finance Officer.
- 8.2 A system of management of the Faculties of Studies / the Centres of Excellence / the Regional Campuses and their respective departments has been proposed in Chapter 6. Likewise, a system of management of non-academic student affairs and a coordinating mechanism in view of the extensive decentralization has also been proposed and detailed in Chapter 6.
- 8.3 The role and responsibilities of the proposed key officers of the University has been delineated in Chapter 6.

- 8.4 It is envisaged that the executive management functions for administration of the University shall be grouped into sections / sub-sections with a view to provide administrative support to the Executive Managers in the discharge of their respective functions. The proposed administrative sections, their main functions and requirement of tenured support manpower for manning each of the recommended administrative sections are indicated hereunder in Table 7.5.
- 8.5 The tenured support staff is proposed to be classified under categories I, II A/B, III A/B, IV A/B and non-faculty academic staff. It is estimated that the total requirement of tenured support staff in Categories I- IV for the IKGPTU Main Campus is 361 out of which 113 shall man positions in the main administrative units and the remaining 248 shall be attached to various academic units. Also the requirement of non-faculty academic staff is estimated to be 11. The ratio between the tenured support staff plus the non-teaching academic staff to the number of core teaching faculty is 1.07 which is within the current UGC norm of 1:1.1 for faculty to support staff.
- 8.6 Recommended designation for individual support staff posts under the various categories I, II A/B, III A/B, IV A/B in conformance with the prescribed UGC designations is given in Table 7.8.
- 8.7 Besides the tenured support staff it is envisaged that additional manpower would be required to man services such as housekeeping & cleaning, horticulture, security, guest house and hostel catering which shall be handled through outsourced staff provided by contracting agencies.

9. INFRASTRUCTURE PLAN

Based on the strategic academic plan designed for IKGPTU, the infrastructure plan is proposed for the following:

- IKGPTU, Main Campus, Kapurthala
- Other Regional Campus –
 - IKGPTU Amritsar Campus
 - IKGPTU Batala Campus
 - IKGPTU Bhikiwind Campus
 - IKGPTU Dinanagar Campus
 - IKGPTU Hoshiarpur Campus
 - IKGPTU SultanpurLodhi Campus

9.1 Land Area

Table Ex.3 Land Area of Main Campus and Regional Campuses

S.no	Name	Total Land	IKGPTU Campus	Polytechnic College
		In Acres	In Acres	In Acres
1	IKGPTU, Main Campus, Kapurthala	73.00	-	-
2	IKGPTU Amritsar Campus	27.54	22.54	5.00
3	IKGPTU Batala Campus	24.64	19.64	5.00
4	IKGPTU Bhikiwind Campus	14.00	9.00	5.00
5	IKGPTU Dinanagar Campus	14.00	9.00	5.00
6	IKGPTU Hoshiarpur Campus	27.60	22.60	5.00
7	IKGPTU Sultanpur Lodhi Campus	14.90	9.90	5.00

9.2 Area Requirement and Analysis

The area requirement for these campuses are calculated according to AICTE, UGC Norms. For Faculty Residences, the area requirement is taken as per CPWD, New Plinth Area Norms - for General Pool Residential Accommodation (GPRA).

After reviewing the existing infrastructure available with the campus and their respective area requirements, the area analysis is indicated hereunder:

IKGPTU, Main Campus, Kapurthala – As per proposed academic plan for 10 Faculties of Study and 1 centre of excellence with an overall student strength of 4800.

	Area Requirement	Area Existing (No Cost Implication)	Area Existing (For Renovation Cost)	Area Proposed (For New Cost of Construction)
Academic Building	48861.40sqm	-	32607.39sqm	16254.01sqm
Administrative Building	6727.00sqm	-	18890.20sqm	-
Central Academic Service Facilities	25101.60sqm	10649.00sqm	5826.80sqm	8624.80sqm
Residential and Hostel Complex	88913.00sqm	28130.00sqm	258.00sqm	75597.50sqm
Total		96,361.39sqm		1,00,476.31sqm

IKGPTU Amritsar Campus – As per proposed academic plan for 5 courses with an overall student strength of 250.

	Area Requirement	Area Existing (For Renovation Cost)	Area Proposed (For New Cost of Construction)
Administrative & Faculty Building	4198.60sqm	5752.60sqm	-
Classroom & Laboratory Complex			
Central Academic Service Facilities	2940.00sqm	1260.00sqm	1680.00sqm
Residential and Hostel Complex	3634.00sqm	675.00sqm	2780.00sqm
Total		7687.60sqm	4460.00sqm

IKGPTU Batala Campus - As per proposed academic plan for 5 courses with an overall student strength of 450.

	Area Requirement	Area Existing (For Renovation Cost)	Area Proposed (For New Cost of Construction)
Administrative & Faculty Building	5779.20sqm	3922.80sqm	1856.40sqm
Classroom & Laboratory Complex			
Central Academic Service Facilities	2940.00sqm	1402.80sqm	2660.00sqm
Residential and Hostel Complex	6040.00sqm	2810.00 sqm	2137.00sqm
Total		8135.60sqm	6653.40sqm

IKGPTU Bhikiwind Campus - As per proposed academic plan for 5 courses with an overall student strength of 300.

	Area Requirement	Area Existing (For Renovation Cost)	Area Proposed (For New Cost of Construction)
Administrative & Faculty Building	4240.60sqm	3403.40sqm	837.20sqm
Classroom & Laboratory Complex			
Central Academic Service Facilities	2940.00sqm	-	2940.00sqm
Residential and Hostel Complex	4124.00sqm	1825.00 sqm	1878.00sqm
Total		5228.40sqm	5655.20sqm

IKGPTU Dinanagar Campus - As per proposed academic plan for 5 courses with an overall student strength of 480.

	Area Requirement	Area Existing (For Renovation Cost)	Area Proposed (For New Cost of Construction)
Administrative & Faculty Building	5336.80sqm	3553.20sqm	1783.60sqm
Classroom & Laboratory Complex			
Central Academic Service Facilities	2940.00sqm	-	2940.00sqm
Residential and Hostel Complex	6776.00sqm	3020.00 sqm	2368.00sqm
Total		6573.20sqm	7091.60sqm

IKGPTU Hoshiarpur Campus - As per proposed academic plan for 6 courses with an overall student strength of 600.

	Area Requirement	Area Existing (For Renovation Cost)	Area Proposed (For New Cost of Construction)
Administrative & Faculty Building	5871.60sqm	2732.80sqm	3138.80sqm
Classroom & Laboratory Complex			
Central Academic Service Facilities	2940.00sqm	1379.00 sqm	2023.00sqm
Residential and Hostel Complex	7170.00sqm	2750.00 sqm	2989.00sqm
Total		6861.80sqm	8150.80sqm

IKGPTU Sultanpur Lodhi Campus - As per proposed academic plan for 5 courses with an overall student strength of 470.

	Area Requirement	Area Existing (For Renovation Cost)	Area Proposed (For New Cost of Construction)
Administrative & Faculty Building	1316.00sqm	1735.30sqm	-
Classroom & Laboratory Complex	4306.40sqm	6150.20sqm	-
Central Academic Service Facilities	2940.00sqm	3401.30sqm	1960.00sqm
Residential and Hostel Complex	6250.00sqm	-	6250.00sqm
Total		11286.80sqm	8210.00sqm

Sports facilities are proposed for IKGPTU Main Campus, Kapurthala and IKGPTU SultanpurLodhi Campus. Other campuses already have the required sports infrastructure available for sharing with their respective Polytechnic Colleges.

9.3 Capital Cost

Capital cost calculations are based upon CPWD PAR 2012. For upgrading/renovation of the existing infrastructure, certain percentage cost of new construction is assumed considering the condition of the buildings and site.

Taxes are as per government regulations.

The cost of Equipment for Engineering Laboratory is considered as 20 Lakhs per Laboratory and for other courses Laboratories as 5 Lakhs per Laboratory. The cost of Workshop Equipment is taken as 5 Lakhs per Engineering Course. The cost for IT Infrastructure is assumed as 21 Crores for Main Campus, Kapurthala and 1.5 Crores for other regional campuses.

Furniture Cost is calculated as per Market rates.

The Total Capital Cost for IKGPTU Main Campus and Regional Campuses including Infrastructure, Equipment and Furniture is 806.72 crores.

Table Ex. 4 The Total Capital Cost for IKGPTU Main Campus and Regional Campuses Including Infrastructure, Equipment and Furniture (Rs in crores)

S. No	Name	Renovation Cost	New Structure Cost	Cost	Cost Index	$E=C*D/I$	Taxes	Infrastructure Cost	Equipment Cost	Furniture Cost	Capital Cost	Contingency	Total Capital Cost
		A	B	C=A+B	D	E=C*D/I	F	FG = E + F	H	J	K=G+H+J	KL=3%*of K	K+L
1	IKGPTU, Main Campus, Kapurthala	14.35	341.68	356.03	102	363.15	53.56	416.71	44.20	24.33	485.24	14.56	499.80
2	IKGPTU Amritsar Campus	5.25	19.49	24.74	107	26.47	3.64	30.11	3.95	2.53	36.58	1.10	37.68
3	IKGPTU Batala Campus	9.74	30.77	40.51	102	41.32	5.68	47.01	4.80	3.90	55.71	1.67	57.38
4	IKGPTU Bhikiwind Campus	6.40	25.15	31.55	107	33.76	4.64	38.40	3.95	2.75	45.11	1.35	46.46
5	IKGPTU Dinanagar Campus	10.60	31.66	42.25	102	43.10	5.93	49.02	3.50	3.98	56.50	1.69	58.19
6	IKGPTU Hoshiarpur Campus	5.66	31.89	37.55	102	38.30	5.27	43.57	4.85	3.94	52.36	1.57	53.93
7	Campus IKGPTU Sultanpur Lodhi	4.03	34.07	38.10	102	38.86	5.34	44.21	3.55	3.97	51.72	1.55	53.27
	Grand Total							669.03	68.80	45.39			806.72

10. FINANCIAL PLAN

10.1 The financial estimates have been categorized under two different categories namely:-

- Capital Cost Estimate
- Recurring cost Estimate

The total estimated cost for the Project is Rs. 2,660.00 crore when IKGPTU will be at full strength by the tenth year. The project cost for initial 10 academic years has been worked out by consolidating the cost of both the categories mentioned above. Total project cost as well as category/ year wise break-up has been shown in following Tables.

The Total Capital Cost for all the campuses including Infrastructure, Equipment and Furniture is 806.72 crores.

The Total Recurring cost for all the campuses is Rs. 1,853.28crores.

Table Ex. 5: The Total Cost of the Project for initial 10 years. (Rs. in Crores)

S.No	Particulars	TOTAL	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
1	<u>CAPITAL COST</u>											
	Cost of Renovation (A)	67.79	17.22	18.26	11.03	10.17	11.10	-	-	-	-	-
	-											
	Capital Cost of Additional Construction (B)	621.31	112.25	136.96	113.79	93.20	165.11	-	-	-	-	-
	Cost of Equipment & Furnishing (C)	117.62	21.68	26.63	20.02	19.08	24.27	3.95	1.41	0.42	0.16	-
	TOTAL CAPITAL COST (1= A+ B + C)	806.72	151.15	181.85	144.84	122.44	200.49	3.95	1.41	0.42	0.16	-
2	RECURRING EXPENDITURE OF THE UNIVERSITY	1,853.28	28.82	61.69	100.09	143.09	184.62	221.89	245.38	265.72	289.66	312.33
	GRAND TOTAL (1+2)	2,660.00	179.98	243.54	244.93	265.53	385.11	225.85	246.79	266.14	289.81	312.33

(Note:-For Calculation purpose Capital Cost of renovation and additional construction cost has been taken as 30% of the Total Cost for first year, 30% for the Second Year 15% for the Third year, 15% for the fourth year and 10% in fifth year whereas that for Equipment & furnishing on need basis of the particular academic year and hence spread over Nine academic years)

10.4 Total Recurring Cost

The Recurring Cost for the University's Main Campus and its Regional Campuses has been estimated for initially 10 years. The estimate includes salary of the teaching and non teaching staff including other benefits for tenured staffs, outsourced staff, administrative expenses, electricity expenses etc.

Table Ex 6: Year wise Breakup of Recurring Expenditure Against Different Heads for IKGPTU Main Campus and Regional Campuses (Rs in crores)

Particulars	Total	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
<u>EXPENDITURE</u>											
Employees Remuneration	1,039.32	16.66	33.80	56.06	79.61	103.12	124.85	137.82	149.72	162.35	175.34
Other Benefit to Employees	237.67	3.33	6.76	11.77	16.72	22.69	27.47	31.70	34.44	38.96	43.83
Electricity Expenses	181.28	2.16	6.12	10.56	15.60	19.58	22.86	24.58	25.78	26.83	27.22
Generator Running & Maint. Exp.	8.16	0.07	0.23	0.46	0.71	0.85	0.99	1.08	1.17	1.26	1.36
Gen. & Admn. Expenses	258.52	4.55	9.90	14.24	19.71	25.98	30.66	33.46	36.36	40.45	43.19
Hostel Charges	13.00	0.12	0.37	0.66	1.01	1.30	1.56	1.75	1.91	2.07	2.24
<u>Contractual Services</u>											
Staff Expenses	34.40	0.44	1.02	1.72	2.52	3.36	4.25	4.65	5.06	5.46	5.90
Security Expenses	80.93	1.48	3.50	4.62	7.21	7.74	9.26	10.34	11.29	12.26	13.24

Total	1,853.28	28.82	61.69	100.09	143.09	184.62	221.89	245.38	265.72	289.66	312.33
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Table Ex. 7: Recurring Cost for IKGPTU Main Campus and other Regional Campuses are indicated hereunder:

RECURRING EXPENDITURE CAMPUS WISE - I K GUJRAL PUNJAB TECHNICAL UNIVERSITY (Rs. in Crores)											
Name	Total	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
IKGPTU-MAIN CAMPUS KAPURTHALA	1,139.53	20.56	38.56	58.73	81.75	110.60	136.19	152.35	165.40	180.84	194.55
IKGPTU-AMRITSAR CAMPUS	85.66	1.12	2.45	4.22	6.58	8.44	10.67	11.58	12.47	13.52	14.61
IKGPTU-BATALA CAMPUS	126.23	1.42	4.36	7.60	11.58	13.19	14.92	16.20	17.47	18.96	20.52
IKGPTU-BHIKIWIND CAMPUS	97.17	1.27	3.38	5.86	8.72	10.08	11.49	12.48	13.46	14.61	15.82
IKGPTU-DINANAGAR CAMPUS	122.65	1.89	4.28	7.29	10.05	12.28	14.70	15.97	17.23	18.71	20.26
IKGPTU-HOSHIARPUR CAMPUS	150.31	1.70	5.23	9.25	13.86	15.75	17.70	19.22	20.73	22.50	24.37
IKGPTU-SULTANPUR LODHI CAMPUS	131.73	0.87	3.43	7.15	10.55	14.29	16.22	17.58	18.94	20.52	22.18
Grand Total	1,853.28	28.82	61.69	100.09	143.09	184.62	221.89	245.38	265.72	289.66	312.33

11. REVENUE GENERATION

Educational institutions, predominantly operating as ‘not-for-profit’ entities **sell education as a service** for a price in the form of tuition fees by making available academic infrastructure such as library and information resources, laboratory equipment, etc., expert manpower resources and other supplies. They are in reality a mix of non-profit entities --- basically distinguished by their revenue sources: **donative non-profits** and **commercial non-profits**. wherein a part of

their revenue comes from sale of services in the form of tuition and other fees and the rest from charitable contributions --- endowment income, gifts and government grants.

The burden of operating expenses of a University cannot be passed on to the students beyond a point. Hence IKGPTU would need to rely on governments grants by way of Plan and Non-Plan Funds to a very large extent. However, to become a self reliant Institution even this factor of revenue generation can not be relied on in a long run.

With a view to work towards making IKGPTU a self-reliant in funding, a mix model of revenue generation which includes both the traditional ways (Tuition Fees and Government Grants) as well as new innovative ways such as raising of an Endowment, Sponsorships, Gifts, Consultancies, Projects, Copyrights, Chairs, CEP, E- learning, etc. is being recommended.

One of the major components of the new ways of revenue generation world over has been identified through **Endowments**. Other Major Component of the University revenue generation can be achieved through Distance Learning Programs, E-MBA (Executive MBA) and CEP. Running of such programs are high in yield and will contribute a good chunk of revenue for the University activities. To achieve this it is proposed that IKGPTU puts together at an early stage a marketing team comprising of professional fund raisers supplemented by academics from each of its Faculties of Studies under the leadership of a full-time Dean for Resource Planning & Generation to plan a strategy for fund raising. In this connection it may be desirable to institute an IKGPTU Foundation as a registered trust to enable grant of tax relief to potential donors.

12. The Current Report presented herewith has the following Chapters.

CHAPTER 1	INTRODUCTION
CHAPTER 2	CURRENT STATUS OF IKGPTU
CHAPTER 3	VISION, MISSION, VALUES, OBJECTIVES AND ACADEMIC PHILOSOPHY
CHAPTER 4	ACADEMIC PROGRAMMES (with Annexures 4.1- 4.3)
CHAPTER 5	ACADEMIC DIVISIONS
CHAPTER 6	GOVERNANCE AND EXECUTIVE MANAGEMENT
CHAPTER 7	HUMAN RESOURCES
CHAPTER 8	PHYSICAL INFRASTRUCTURE PLAN (with Annexures 8.1 - 8.118)
CHAPTER 9	FINANCIAL PLAN (with Annexures 9.1 - 9.18)

Chapter 1

INTRODUCTION

1.1 BACKGROUND OF THE UNIVERSITY

- 1.1.1 The I.K. Gujral Punjab Technical University (IKGPTU), formerly known as Punjab Technical University (PTU), was established as a State University on 16th January 1997 by an Act of the State Legislature of Punjab and is located at Kapurthala on the Jalandhar – Kapurthala Highway. The objective for the establishment of the University was to promote technical education encompassing the subjects of engineering & technology, the sciences, management, humanities, pharmacy, social sciences and architecture in the state of Punjab at the degree level and above. As an education and research university it had the mandate to set-up centres of excellence in various emerging areas in the domain of the technology sector with a view to spawn highly skilled manpower and to undertake R&D in these areas.
- 1.1.2 With a view to fulfil its mandate the university has undertaken the task of educating and training students with a view to help in the development of skilled manpower for the technology sector through a network of affiliated institutions within its territorial jurisdiction and by offering education in the distance education mode through franchisee centres throughout the country. Presently the University has granted affiliation status to 288+ colleges out of which 3 are Autonomous Institutions.
- 1.1.3 In the year 2011-12, after operating exclusively as an affiliating university for a period of 15 years, the IKGPTU Board of Governors decided that the university henceforth operate as a teaching-cum-affiliating university. As an outcome of this decision academic programmes were launched at the postgraduate level at two campus based constituent colleges at Kapurthala. In addition programmes at the undergraduate level were launched at Regional Centres located at Amritsar, Batala, Dinanagar, Hoshiarpur, Bhikiwind and Mohali. Simultaneously construction activity

was started at Kapurthala to develop a 73 acres main campus of the university and a Regional Campus at Sultanpur Lodhi.

- 1.1.4 Unfortunately the actual student intake has been abysmally poor in a majority of the programmes that have been recently launched by the University as can be gauged from the figures indicated hereunder:

A.Y. 2014-15		A.Y. 2015-16	
Sanctioned Intake	Actual Admission	Sanctioned Intake	Actual Admission
1081	532	1416	462

1.2 BACKGROUND OF THE PROJECT

- 1.2.1 Under the provisions of the PTU Act the University is not restricted to promotion of technical education through affiliated colleges but is also mandated to set up centres of excellence as its constituent units in various emerging areas of technology and to promote education, research and development at these constituent units. Keeping the above mandate in mind the intention of the University is to impart world class technical education through various Faculties of Study and Centres of Excellence on the main campus at Kapurthala and at its Regional Campuses. Furthermore, at present the University is recognized under clause 2(F) of the UGC Act, 1956 but is desirous of also seeking recognition under clause 12 (B) of UGC Act, 1956 as well as being accredited by NAAC and other Government agencies with a view to participate in the National Institutional Ranking Framework (NIRF) that has been recently initiated by MHRD/UGC under which all Indian Universities will be ranked. In this context Ed.CIL (India) Limited was approached by the Dean (Research, Innovation and Industrial Consultancy) of IKGPTU in June 2015 to submit a proposal for preparation of a Detailed Project Report for the strategic development of the university covering academic, infrastructure, financial and governance aspects. In response to the above request by the IKGPTU a proposal entitled “Evaluation Studies of Existing Structure & Preparation of a Strategic Plan and Updated DPR for IKG-PTU Main Campus and

its Constituent Colleges” was submitted by Ed.CIL. As a consequence to the Ed. CIL proposal a Work Order was issued by IKGPTU in December 2015.

1.3 SCOPE OF WORK

1.3.1 The scope of work of this assignment is to evaluate the existing status of the university, and to prepare a strategic plan for the development of the University including its Regional Campuses as a teaching university. The specific TERMS OF REFERENCE (TOR) for the assignment are as indicated hereunder:

- (a) The terms of reference includes field visit to the main campus of the University at Kapurthala and the Regional Campuses with a view to interact with all the stakeholders relevant to the project and to collect primary data useful for assessment of the current status of the university as well as for preparation of the DPR and the financial estimate. In case primary data was not available, secondary data was to be used to complete the estimation process.
- (b) The specific terms of reference for the study being undertaken include:
 - Carrying out a survey of the existing facilities and academic programmes;
 - Analysis of the outcome of the survey; and
 - Preparation of a Strategic Plan for the University comprising of:
 - (i) **Academic Plan & A Human Resource Plan**
 - Preparation of Academic plan of the University as per requirement;
 - Perspective of proposed courses and yearly student intake in each course;
 - Preparation of academic programmes to be offered at the Main Campus at Kapurthala and at its Regional Campuses;
 - Determine the optimum number of student intake per academic year for each of the academic programmes with respect to the number of branches of study.

- Finalization of the requirement of Faculty and Non – Faculty Support Staff.

(ii) Infrastructure Plan

- Review the existing physical resources available and propose the new infrastructure requirement for the University (administrative / academic / residential block);
- Review the existing Academic Infrastructure and detail out the additional Infrastructural requirement including the number of classrooms, staff rooms, teaching & training aids, requirement of laboratories & related equipment, workshops and central facilities like library and computer centre, auditorium, playgrounds, indoor and outdoor facilities, boundary, fencing, gates and campus development etc.;
- Review the existing Residential infrastructure and detail out the additional infrastructure requirement for student hostel and faculty house including dining hall, kitchen, canteen, common room, corridors, lobbies, common facilities etc.

(iii) Financial Plan

- Estimate of Capital expenditure after review of the existing Infrastructure;
- Recurring expenditures on salaries, maintenance, upkeep, water and electricity, etc.
- Estimates for equipment in laboratories, workshops, computer centre, equipments and library etc.

1.4 APPROACH AND METHODOLOGY

1.4.1 For execution of the project, Ed. CIL constituted a Project Implementation Team (PIT) comprising the following experts:

- Prof. R. C. Malhotra, University Governance and Academic & Human Resource Planning;
- Prof. K. L. Kumar, Education Technology Planning;
- Shri Vicky Sumbly, Education Finance Planning;
- Ms. Ranju Singhi, Infrastructure & Architect Planning; and
- Ms. Urmila Singh, Project Manager & Coordinator.

1.4.2 The PIT adopted the following methodology has:

- Consulted the background documents prepared by PTU in this respect and the key officials of IKGPTU with the objective to understand the long-term perspective of the IKGPTU.
- Visited the University site and its constituent colleges for understanding the basic amenities, topography, characteristic of the area etc.
- Surveyed the existing facilities and academic programmes.
- Analysed the outcome of the survey.
- Based on the analysis, suggesting broad curriculum framework and associated academic and infrastructure requirements.
- Proposing the capital and recurring expenditure.

1.4.3 The Ed. CIL Project Implementation Team had several rounds of in house meetings as well as meetings with the client for preparing the report for the IKGPTU Main Campus and the Regional Centres.

Chapter 2

CURRENT STATUS OF I K GUJRAL PUNJAB TECHNICAL UNIVERSITY

2.1 INCORPORATION OF THE UNIVERSITY

- 2.1.1 The Punjab Technical University, located at Kapurthala, was incorporated as a State University under the Punjab Technical University Act, 1996 enacted by the Legislature of the State of Punjab as Punjab Act No. 1 of 1997. It came into existence on 16th January, 1997 on issue of Punjab Government Gazette Notification No. 1-Leg/97 dated 16th of January, 1997. Subsequently in November 2013, PTU was renamed as the IK Gujral Punjab Technical University by the Government of Punjab as a tribute to the late Shri Inder Kumar Gujral, the erstwhile Prime Minister of India, in recognition of the enormous contribution made by him towards the overall development and prosperity of the State of Punjab.
- 2.1.2 In accordance with the provisions of the PTU Act, the University is charged with the responsibility for advancement of technical education encompassing education in the subjects of Engineering Technologies, Sciences, Management, Humanities, Pharmacy, Social Sciences and Architecture in the State of Punjab. In terms of the PTU Act with effect from the date of notification of the establishment of PTU all existing colleges imparting technical education situated within the area of jurisdiction of PTU that were till then affiliated to other Universities in the State of Punjab, namely, Punjab University, Chandigarh / Punjabi University, Patiala / Guru Nanak Dev University, Amritsar, were automatically affiliated to the newly established PTU. Likewise, all colleges for imparting technical education that may be established in the future located within the territorial jurisdiction of PTU would mandatorily have to seek affiliation with PTU.

2.2 AFFILIATED INSTITUTIONS

2.2.1 Although the PTU Act provided for IKGPTU to function as a teaching-cum-affiliating University it has over the years since its inception mostly functioned as an affiliating university and that too predominantly confined to education at the baccalaureate level. IKGPTU began its journey as a University with nine affiliated engineering colleges and a few management colleges. However, as a result of the massive expansion of technical education through private initiatives both within the State of Punjab and in the country at large, the number of affiliated colleges within the folds of IKGPTU grew at a rapid rate so much so that by the year 2010 the number of colleges affiliated to IKPTU had gone up to around 400. However, in February 2015 the Government of Punjab decided to incorporate a second technical university named as the Maharaja Ranjit Singh State Technical University located at Bhatinda. This new technical university was given territorial jurisdiction over 11 districts of the State of Punjab resulting in the transfer of 103 technical education colleges located in these districts, which till then were affiliated with IKGPTU, to the newly incorporated state technical university thereby reducing the number of affiliated colleges attached to IKGPTU to around 288(+)

--- 107 engineering institutions, 140 management and computer application institutions, 33 pharmacy institutions, 06 hotel management institutions and 08 architecture institutes. Besides these 288+ institutions IKGPTU also has affiliated to it 21 Regional Centres for providing education at the M. Tech. and Ph. D. degree levels in various areas in the domain of engineering and management and 01 Regional Centre for M. Pharmacy.

2.3 DISTANCE EDUCATION

2.3.1 Keeping in mind the extremely high demand for higher education in the country and a lack of capacity of the higher education system to cope up with this massive demand, IKGPTU launched a distance education programme so as to offer professional education in the distance learning mode in the knowledge areas of Information Technology / Management / Commerce / Journalism & Mass Communication / Paramedical Technology in addition to the education being offered through its

affiliated colleges. In this connection IKGPTU established an extensive network of around 2100 franchisee learning centres located throughout the country and abroad. However, the UGC considered the PTU Distance Education Programme to be in violation of the UGC prescribed guidelines of August 2014 with respect to: (i) territorial jurisdiction of the learning centres; (ii) restrictions regarding operations through franchisees; and (iii) types of programme acceptable for offerings in the distance learning mode. The UGC agreed to allow IKGPTU to continue offering programmes in the distance learning mode from the academic year 2015-16 onwards subject to IKGPTU giving an undertaking that corrective action would be taken to conform to the prescribed guidelines. Accordingly with effect from the academic year 2015-16 the IKGPTU Distance Learning Programme is now being offered only through captive study centres located at the affiliated / constituent colleges of IKGPTU. Furthermore, the educational offerings have been reduced to the offering of 11 academic programmes at the Baccalaureate, PG Diploma and Master's level in the areas of Information Technology / Computer Applications / Management / Commerce / Journalism & Mass Communication.

2.4 CONSTITUENT INSTITUTES

- 2.4.1 Till the Academic Year 2011-12 the activities of IKGPTU were confined to the offering of technical education in the State of Punjab through its affiliated colleges and through its Distance Learning Programme. No academic activity had been initiated on the campus itself to a very large extent due to inadequacy of built space on the campus. With a view to offer campus-based education programmes the Board of Governors of IKGPTU decided to launch an extensive construction programme on the 73 acre IKGPTU campus at Kapurthala and to simultaneously initiate the offering of programmes at the Postgraduate level in select areas of engineering & technology and management with effect from the academic year 2011-12 under the aegis of two campus-based constituent institutes named as Punjab Institute of Technology (PIT), Kapurthala and Punjab Institute of Management (PIM), Kapurthala as indicated in the table hereunder.

**TABLE 2.1: CONSOLIDATED ACADEMIC PROGRAMMES ON OFFER AT
PIT/PIM KAPURTHALA**

Programme	Year of Start	Sanctioned Intake	Students Admitted 2011-12	Students Admitted 2012-13	Students Admitted 2013-14	Students Admitted 2014-15	Students Admitted 2015-16
PIT, KAPURTHALA							
M. Tech. CSE	2011-12	25	22	36	21	18	06
M. Tech. ECE	2011-12	25	14	23	12	Nil	05
M. Tech. Food Technology	2012-13	25	---	Nil	07	05	01
M. Tech. Power Systems	2014-15	25	---	---	---	06	Nil
M. Tech. ME	2015-16	25	---	---	---	---	Nil
M. Sc. Mass Communication	2014-15	30	---	---	---	07	08
M. Sc. Physics	2014-15	30	---	---	---	Nil	04
M. Sc. Chemistry	2014-15	30	---	---	---	Nil	06
M. Sc. Mathematics	2014-15	30	---	---	---	Nil	Nil
M. Sc. Environmental Science	2015-15	30	---	---	---	---	Nil
M. Phil. Mass Communication & Journalism	2012-13	05	---	05	10	05	05
M. Phil. Chemistry	2012-13	05	---	Nil	01	Nil	Nil
M. Phil. Physics	2012-13	05	---	Nil	01	Nil	Nil
M. Phil. Mathematics	2012-13	05	---	Nil	02	Nil	Nil
M. Phil. EVS	2012-13	05	---	Nil	Nil	Nil	Nil
PIM, KAPURTHALA							
MBA	2012-13	60	---	25	33	25	15

2.4.2 In order to provide avenues for career advancement to Engineering Diploma holders of various technical disciplines as well as to spread the benefits of technical education in the remote regions of the state, the Board of Governors of IKGPTU, on the initiation of the Government of Punjab, decided in the Academic Year 2013-14 to

establish a network of Constituent Colleges, to be known as Punjab Institutes of Technology (PIT'S), at existing Government Polytechnics located in various parts of Punjab within its territorial jurisdiction. A summary of academic programmes on offer at each of these PIT's is as indicated in the table hereunder:

TABLE 2.2: CONSOLIDATED ACADEMIC PROGRAMMES ON OFFER AT THE REGIONAL PIT's

Programme	Year of Start	Sanctioned Intake	Students Admitted 2013-14	Students Admitted 2014-15	Students Admitted 2015-16
PIT AMRITSAR					
B. Tech. (CSE) --- lateral entry: 3 year programme	2014-15	60	---	31	26
B. Tech. (CSE) --- regular entry: 4 year programme	2015-16	40	---	---	Nil
PIT BATALA					
B. Tech. (EE) --- lateral entry: 3 year programme	2013-14	60	28	30	11
B. Tech. (ME) --- lateral entry: 3 year programme	2014-15	60	---	32	12
B. Tech. (CE) --- lateral entry: 3 year programme	2014-15	60	---	29	17
B. Tech. (EE) --- regular entry: 4 year programme	2015-16	40	---	---	03
B. Tech. (ME) --- regular entry: 4 year programme	2015-16	40	---	---	06
B. Tech. (CE) --- regular entry: 4 year programme	2015-16	40	---	---	09
PIT BHIKIWIND					
B. Tech. (ME) --- lateral entry: 3 year programme	2014-15	60	---	14	23
B. Tech. (CSE) --- lateral entry: 3 year programme	2014-15	60	---	14	16
B. Tech. (ME) --- regular entry: 4 year programme	2015-16	40	---	---	06
B. Tech. (CSE) --- regular entry: 4 year programme	2015-16	40	---	---	03
PIT DINANAGAR					
B. Tech. (CSE) --- lateral entry: 3 year programme	2014-15	60	---	28	15
B. Tech. (CSE) --- regular	2015-16	40	---	---	Nil

Programme	Year of Start	Sanctioned Intake	Students Admitted 2013-14	Students Admitted 2014-15	Students Admitted 2015-16
entry: 4 year programme					
BCA	2014-15	60	---	44	60
PIT HOSHIARPUR					
B. Tech. (CSE) --- lateral entry: 3 year programme	2013-14	60	60	58	63
B. Tech. (CE) --- lateral entry: 3 year programme	2013-14	60	60	62	63
B. Tech. (ME) --- lateral entry: 3 year programme	2013-14	60	76	62	63
PIT MOHALI					
B. Arch.	2014-15	40	---	26	14
M. Arch. (Architecture Education & Research)	2014-15	40	---	04	02
M. Arch. (Built Environment)	2014-15	20	---	---	Nil
M. Tech. Civil (Transportation)	2014-15	18	---	06	Nil
M. Tech. Civil (Structures)	2014-15	18	---	Nil	Nil
PIT SULTANPUR LODHI					
	---	---	---	---	---
PIT JALANDHAR					
	---	---	---	---	---

2.4.3 Besides the ten newly constituent institutes of IKGPTU that have been detailed in sub-clauses 2.4.1 and 2.4.2 hereinabove the university has within its fold the two Centre of Excellence, namely, the **‘IKGPTU Nalanda School of TQM & Entrepreneurship’** located at the IKGPTU Mohali Campus and the International Resource Centre for Human Values & Professional Ethics located at the University’s Main Campus at Kapurthala.

2.4.4 The **‘IKGPTU Nalanda School of TQM & Entrepreneurship’** was initially launched in December 2003 as the Gian Jyoti School of TQM & Entrepreneurship. It is IKGPTU’s first Centre of Excellence having a vision “to be a world-class centre for application-focussed learning in quality management and entrepreneurship”. It enjoys complete academic, administrative and financial autonomy with its own Governing Council while continuing to remain as a constituent institute of the IKGPTU for

purpose of grant of degrees to its students. The major academic activities of the IKGPTU Nalanda School comprise of the following:

TABLE 2.3: ACADEMIC ACTIVITIES OF ‘IKGPTU NALANDA SCHOOL OF TQM & ENTREPRENEURSHIP’ COMPRISE OF THE FOLLOWING

Programme	Specialisation	Target Group	Duration
B. Tech. --- Industrial Engineering & Management	TQM	Technical Diploma from an Institution approved by the Board of Technical Education of any State OR Bachelor’s Degree in Science (with Mathematics plus 2 years working experience as on date of enrolment	4 years (part-time)
MBA (Executive)	<ul style="list-style-type: none"> • Operations; • HR; • IT; • Marketing; and • Finance. 	Graduate in any field from a recognised university plus 2 years work experience	2 years (weekend classes); admission twice a year in January / July
Entrepreneur Development Programme	Practice Based Modules in: <ul style="list-style-type: none"> • Generating Ideas; • Identifying Opportunities; • Communication & Presentation Skills; • Problem Solving Skills; • Market Feasibility; • Business Plan & Project Finance; • Managing --- Planning, Marketing & Organizing; and • Statutory 	Students of any Affiliated / Constituent College of IKGPTU	One Semester (in lieu of Industrial Training)

Programme	Specialisation	Target Group	Duration
	Requirements		
Executive Development & Certification Programme	<ul style="list-style-type: none"> • Lean Manufacturing; • Six Sigma; • 3D CAD/CAE; • TQM; • Industrial Engineering; • Mobile Apps with Android; • . Net Technologies; • PHP Programming; • Advanced JAVA; • Essentials of Digital Marketing with specialization in Social Media Marketing or Search Engine Marketing or Web Analytics • Business Communication & Soft Skills; and • Innovation & Problem Solving Skills. 	Working Professionals and Entrepreneurs	Flexible (6 months / weeks)
Consultancy Services	<p>Integrated Business Solutions for Business Transformation focussing on:</p> <ul style="list-style-type: none"> • Total Supply Chain from product conceptualization to product development to manufacturing and delivery; • Building excellence in operations & 	Manufacturing Industry	Flexible (As per TOR for each consultancy assignment)

Programme	Specialisation	Target Group	Duration
	services through improvement in quality, cost and delivery.		

2.4.5 The International Resource Centre for Human Values & Professional Ethics offers two postgraduate programmes, namely, a one year PG Diploma in Human Values & Ethics and a two year M. Tech. in Holistic Development --- Systems & Technologies each with an annual intake of 10 students for Graduates of Any Discipline.

2.5 ASSESSMENT OF EXISTING STATUS

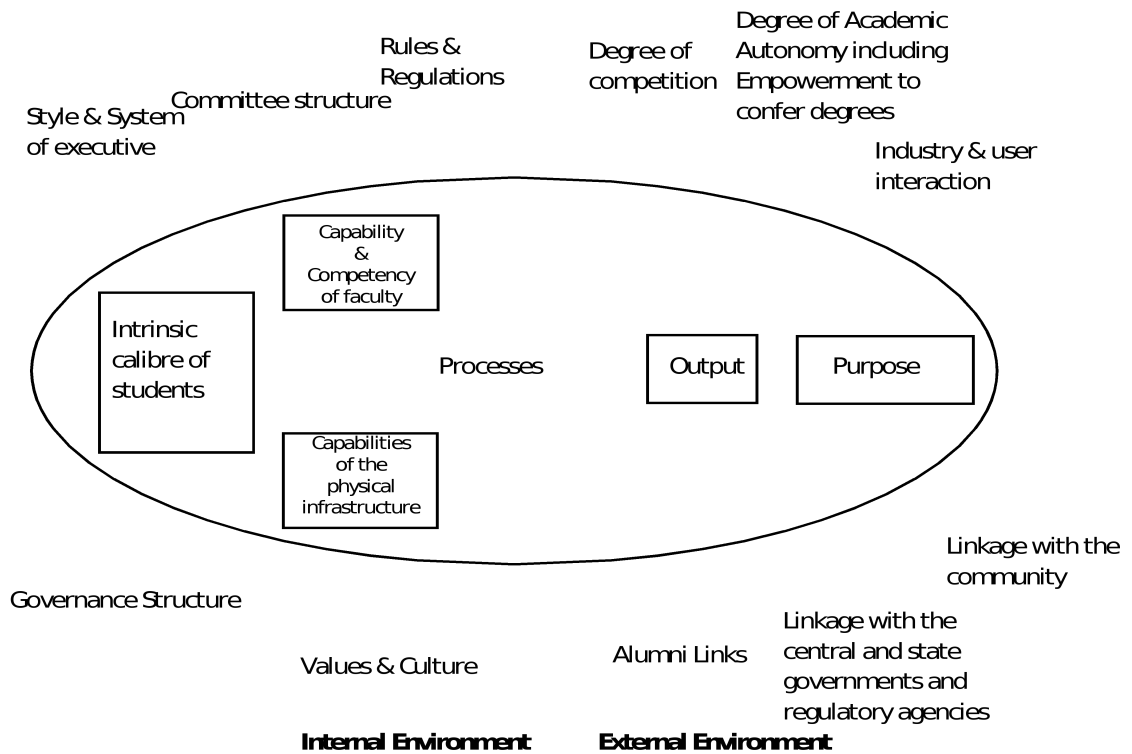
2.5.1 It may be observed from an examination of the figures projected in sub-clauses 2.4.1 and 2.4.2 that the actual student enrolment for almost all academic programmes, be they at the Baccalaureate or the Master's levels, offered at the Main Campus at Kapurthala as well as the Regional PIT's is well below the sanctioned intake. In fact in the case of PIT and PIM Kapurthala, the two flagship institutions of IKGPTU which are located on the university main campus, no students have been admitted in eight streams both in 2014-2015 and 2015-2016. Even in the two M Tech programmes --- M. Tech CSE and ECE --- listed on top of the table, the enrolment has dropped from a reasonably high numbers to dismally low numbers.

2.5.2 The many factors that impinge on the nurturing of excellence and impact generation by academic institutions are diagrammatically indicated in Fig. 2.1 hereunder. In the case of both the PIT / PIM on the Main Campus & Regional PIT's their inability to attract students of the right calibre can be attributed to several of the factors portrayed in Fig. 2.1 including: (i) inadequacy in the competency and capability of the faculty resources; (ii) inadequacy of the available physical resources including built-up space and laboratory infrastructure; (iii) lack of proper academic processes; (iv) inadequacy in the degree of autonomy enjoyed by the faculty and administrators ; and (v) the style & system of executive management. While the built up space currently under construction on the main campus is expected to meet both the quantitative and qualitative requirement for an institution of excellence, there is a crying need to

refurbish the built up space in all the Regional PIT's. Likewise, attention needs to be paid in the immediate term towards affecting both quantitative and qualitative improvements in the faculty resources as well as laboratory facilities and in the medium term to lay down processes, systems and structures of governance and executive management that enable the faculty and administrators to have a greater say about the directions to be taken and a control over the circumstances under which they work without necessarily altering the existing framework of the PTU Act.

- 2.5.2 A clear exception to the general trend in IKGPTU can be discerned in the IKGPTU Nalanda School of TQM & Entrepreneurship. To a very large extent it has been possible for the IKGPTU Nalanda School to build a niche for itself and to develop a brand equity in its core domain of TQM & Entrepreneurship Development is because of its autonomous status with the resultant academic freedom providing a positive impetus to both its faculty and administrators to regard themselves as owners of the institute and its programmes. Experience world-wide including in the IIT's and the IIM's in India clearly bring out the fact that the greater the extent of faculty and administrative autonomy the greater the chances for achieving excellence. It must therefore be borne in mind that in the quest for academic excellence at IKGPTU the case for grant of autonomy and academic freedom to its faculty and administrators cannot be overstated.

Fig. 2.1
Factors Impinging on Excellence & Impact Generation by Academic Institutions



Chapter 3

VISION, MISSION, VALUES, OBJECTIVES AND ACADEMIC PHILOSOPHY

3.1 VISION

To be an institution of excellence in the domain of higher technical education that serves as the fountainhead for nurturing the future leaders of technology and techno-innovation responsible for the techno-economic, social, cultural and environmental prosperity of the people of the State of Punjab, the Nation and the World.

3.2 MISSION

To provide seamless education through the pioneering use of **technology**, in partnership with industry and society with a view to promote **research, discovery and entrepreneurship** and to prepare its students to be responsible citizens of the world and the leaders of technology and techno-innovation of the 21st Century by developing in them the desirable **knowledge, skill and attitudes** base for the world of work and by instilling in them a culture for **seamlessness in all facets of life**.

3.3 THE OUTCOME

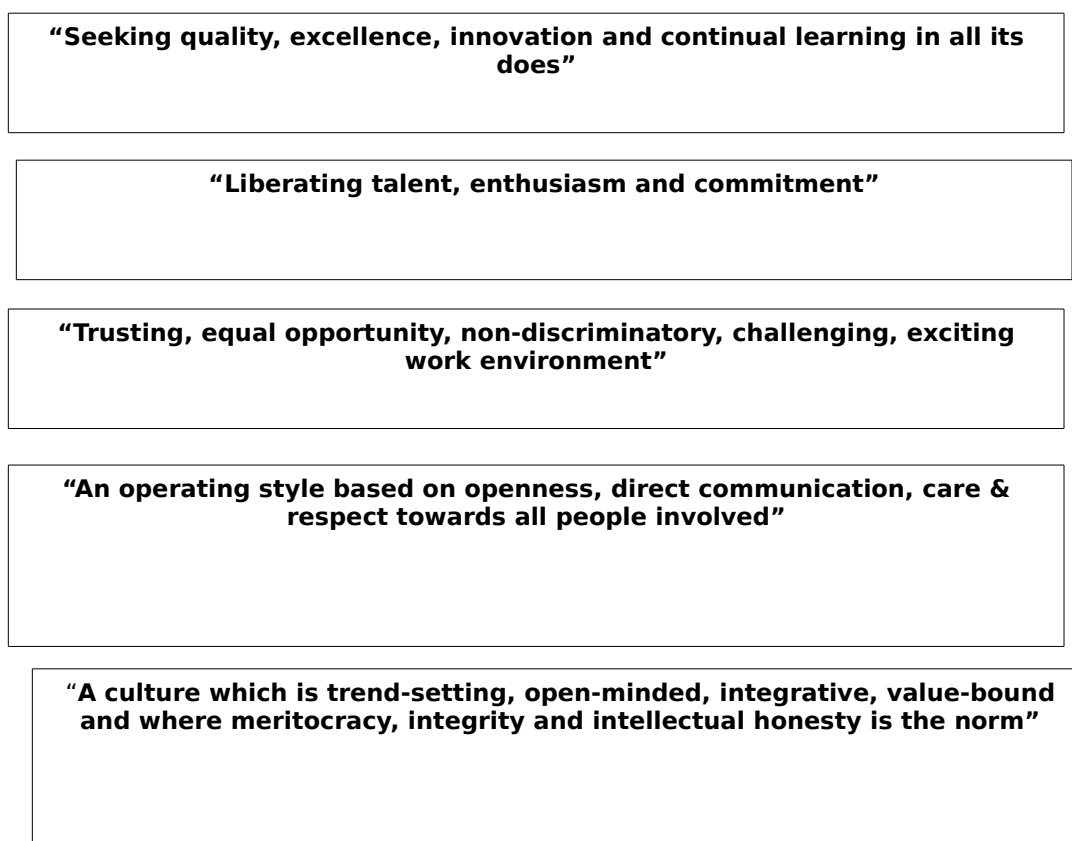
DEVELOPMENT OF YOUNG MEN AND WOMEN INTO INDIVIDUALS WHO ARE:

- Knowledgeable and skilful;
- Techno-Managers;
- Innovative & Entrepreneurial;
- Employable at responsible positions;
- Versatile, Down to Earth, Adaptable, Lifelong Learners;
- Good Citizens of the Country having respect for National & Human Values, an Ethos for Intellectual Honesty and a spirit of Community and a Concern for Fellow Beings and the Environment.

3.4 CORE VALUES

The core values represented by the statements articulated hereunder in Fig. 3.1 are fundamental to the success of IKGPTU and to the fulfilment of its vision and mission statements. Obviously “values” can only be in the form of an expression of intent. Much hard work has to be done in order to achieve the articulated values and to internalize them into a day-to-day working philosophy so that the vision and mission statements of the institute become “live able”.

Fig. 3.1: Core Values of IKGPTU



3.5 OBJECTIVES

Emanating from the vision and mission statements of the University as articulated in sub-sections 3.1 and 3.2, the set of overall objectives of the University are:

- To offer globally-relevant, industry-linked, research-focused, technology-enabled seamless education at the graduate, postgraduate and research levels in various areas of engineering & technology and applied sciences keeping in mind that the manpower so spawned is excellent in quality, is relevant to the global technological needs, is motivated to give its best and is committed to the growth of the Nation;
- To foster the creation of new and relevant technologies and to transfer them to industry for effective utilization;
- To participate in the planning and solving of engineering and managerial problems of relevance to global industry and to society at large by conducting basic and applied research in the areas of technologies;
- To develop and conduct continuing education programmes for practicing engineers and managers with a view to update their fundamental knowledge base and problem-solving capabilities in the various areas of core competence of the University;
- To develop strong collaborative and cooperative links with private and public sector industries and government user departments through various avenues such as undertaking of consultancy projects, conducting of collaborative applied research projects, manpower development programmes in cutting-edge areas of technology, etc;
- To develop comprehensive linkages with premier academic and research institutions within the country and abroad for mutual benefit;
- To provide leadership in laboratory planning and in the development of instructional resource material in the conventional as well as in the audio-visual, the video and computer-based modes;

- To develop programmes for faculty growth and development both for its own faculty as well as for the faculty of other engineering and technology institutions;
- To anticipate the global technological needs and to plan and prepare to cater to them;
- To interact and participate with the community/society at large with a view to inculcate in them a feel for scientific and technological thought and endeavour; and
- To actively participate in the technological development of the State of Punjab through the undertaking of community development programmes including training and education programmes catering to the needs of the unorganized sector as well as that of the economically and socially weaker sections of society.

3.6 ACADEMIC PHILOSOPHY

3.6.1 The philosophy of the education to be imparted at the University is to awaken the “**deepest potential**” of its students as holistic human beings by nurturing qualities of self-confidence, courage, integrity, maturity, versatility of mind as well as a capacity to face the challenges of tomorrow so as to enable them to serve humanity and its highest values in the best possible way.

3.6.2 **Key Features:** In consonance with the academic philosophy of the University articulated in sub-section 3.6.1 hereinabove the key features of education at the University shall be as indicated hereunder:

- To train its students to be a unique class of engineers having a strong technical foundation coupled with well-developed leadership skills and a broad worldview. Through team projects, classroom interaction, industry interaction and hands-on laboratory work they shall learn the value of clear communication and collaboration while attaining a breadth of knowledge in engineering fundamentals and a depth of technical expertise in a chosen discipline. The expectation is that the graduates shall be locally conscious, globally aware leaders who think

critically, question assumptions, and go on to tackle seemingly unsolvable problems all while building community and contributing to a better world. Thus the education offered at the **University** shall be globally-relevant, industry-linked, research-focused, technology-enabled and seamless;

- ii It shall be based on the concept of integrative learning that entails the use of a holistic education methodology which links religion, spirituality, love, trust, sharing and community with the curricula and the class room and addresses the students as whole human being with the object of transforming them in such a way that enables them to contribute in the best possible way to Society, the Nation and the World as caring and thoughtful adults.
- iii In view of the adoption of the concept of seamlessness and integrated learning connections within the curriculum will be made between major fields of study and other allied fields, between the curricula, the cross-curricular and the co-curricular aspects of education and between academic knowledge and practice.
- iv It is proposed to adopt the highly successful engineering science based academic model that has been in vogue in the IIT system over the past four to five decades although in a slightly tweaked manner wherein: (a) the open elective component of the course curriculum shall be enlarged to enable students to simultaneously opt for a major and minor field of study; (b) education offerings on aspects of life shall be enhanced by increasing the percentage of the curriculum time devoted to inputs of humanities & social sciences noting that knowledge of technology is governed equally by a component of ‘social construction’ as by the positivistic principles of the physical sciences; and (c) creativity will be emphasized with a view to inculcate a spirit of discovery and innovation through offering of courses fusing technology and art and providing 24 hour access to a student managed and student operated INNOVATION CENTER as an integral component of the Institute’s Central Workshop as well as a **HOBBIES WORKSHOP** in the Student Activities Centre.
- v Keeping the above concepts in view it is proposed to frame the course curriculum for various programmes of study in a manner such that:
 - Each student constructs a significant portions of his/her own curriculum as per his/her own choice;
 - There is lateral integration of some portions of the curriculum across a variety of allied disciplines to enable the student to opt for a minor field of study besides the major field to which he has been admitted;

- Each student shall mandatorily participate in two co-curricular activities from amongst physical education, the performing arts, crafts, sports in each academic year;
- Each student shall mandatorily audit two one semester periods of community engagement;
- Each student shall mandatorily audit several short duration cross-curricular capsule courses aimed at honing attributes such as creative thinking, problem-solving skills, communication skills, team-working ability, inter-personal skills, etc.;
- Each student shall mandatorily undergo one stint of industry internship on a thin sandwich pattern extending between the sixth and eight semesters;
- Each student shall undertake a course-end synthesizing project which shall constitute around 10% of the total graduation credit requirement. Also in order to hone the students problem-solving skills each course will have some project-type activity; and
- Each student shall mandatorily audit one course on research methodology and also attends a whole host of extra-mural lectures on contemporary issues organized by the University at periodic intervals throughout the academic year.

vi Education delivery would be through a blend of methodologies including face-to-face delivery in the usual class room mode, interactive learning and synchronous e- learning.

vii Some international exposure shall be provided to students through collaborative projects with student groups in another country as well as industry internship with multinational companies abroad.

viii The curriculum structure shall be framed in terms of the modular credit system based on the semester system wherein the academic year shall comprise of two semesters each of around 16 weeks duration (including a two week period for minor tests and semester-end examinations) plus a summer term of around eight to ten weeks. The curriculum shall be developed on the basis of a Knowledge-Skill-Aptitude (KSA) matrix wherein normal classroom learning will be supplemented by non-classroom learning, interactions and internships.

- ix Academic performance evaluation of students in individual courses will be on the basis of a Comprehensive Continuous Evaluation (CCE) system with grades being awarded by the concerned Course Instructors based on student performance in pre-announced evaluation elements (such as quizzes, mid-term tests, trimester-end final examination, term papers, projects, tutorial and laboratory sessions, etc.) throughout the period of teacher-student contact for the particular course.
- x Admission of students to various categories of academic programmes will be based on merit in either a national entrance test in the case of those programmes where so prescribed by the concerned National Regulatory Agency or merit in a IKGPTU Admission Test with weight age being given for previous academic performance.
- xi With a view to implement the key features of education outlined hereinabove the Main Campus and Regional Campuses of IKGPTU shall function as autonomous entities with respect to all aspects of education such as the curriculum framework, the student admission and academic performance evaluation system, etc., independent of what prevails in the affiliated colleges.

Chapter 4

ACADEMIC PROGRAMMES

4.1 TYPES OF PROGRAMMES

4.1.1 Keeping in mind the definition of the term “technical education” as laid down in sub-clause (e) of clause 2 of the PTU Act it is recommended that academic programmes listed hereunder in Table 4.1 may be offered on the main campus of IKGPTU at Kapurthala in a phased manner under the aegis of its proposed Faculties of Study / Schools of Excellence at the Baccalaureate, Post Graduate Diploma, Master’s and Doctoral levels. Some of the programmes may also be offered in the e-learning candid classroom mode at work-study sites for registered off-campus students. Likewise, the programmes indicated in Table 4.2 may be offered at the six IKGPTU Regional Campuses.

TABLE 4.1: CONSOLIDATED STATEMENT FOR ACADEMIC PROGRAMMES TO BE OFFERED AT THE MAIN CAMPUS AT KAPURTHALA

Programme	Duration	Annual Intake	Year of Start	Eligibility	Mode of Admission
A. FACULTY OF ENGINEER-ING & TECHNO-LOGY					
B. Tech. in: (i) Civil Engineering; (ii) Computer Science & Engineering; (iii) Electronics & Communication Engineering; (iv) Mechanical Engineering; (v) Electrical Engineering; (vi) Chemical Engineering; and (vii) Food Engineering.	4 years	Programmes (i) – (v): 45 students each; Programmes (vi) – (vii) 30 students each.	Programmes (i) – (v): Year 1; Programmes (v) – (vii): Year 4;	10+2 pass with PCM & English	Merit in JEE Main (administered by CBSE) for UG Programmes in Engineering

Programme	Duration	Annual Intake	Year of Start	Eligibility	Mode of Admission
B. Des. (Industrial Design)	4 years	30 students	Year 6	10+2 pass with PCM & English	Merit in JEE Main (administered by CBSE) for UG Programmes in Engineering
M. Tech.in: (i) Construction Management; (ii) Computer Science & Engineering (Data Analytics); (iii) Electronics & Communication Engineering (Wireless Communication); (iv) Electrical Engineering (Power Systems); (v) Mechanical Engineering (Manufacturing Engineering); (vi) Civil Engineering (Structural Engineering); (vii) Energy Engineering; and (viii) Software Engineering.	2 years	20 students in each programme	Programmes (ii - vi): Year 1; Programmes (i, vii & viii): Year 5	B. Tech. in CE / CS&E / E&CE / EE / ME respectively for programmes (i) – (vi); B. Tech. in Civil / Mechanical / Electrical / Chemical Engineering or M. Sc. in Physics for programme (vii) and B. Tech. in any engineering discipline for programme (viii)	Merit in Graduate Aptitude Test in Engineering
M. Des. (Electronic Design Technology)	2 years	20 students	Year 3	B. Tech. in Electrical Engineering / Electronics & Communication Engineering	Merit in Graduate Aptitude Test in Engineering administered by the IIT's
MCA (Computer Applications)	3 years	20 students	Year 2	Graduate in any discipline	Merit in IKGPTU Admission Test plus performance in the Baccalaureate and XIIth Board Examinations

Programme	Duration	Annual Intake	Year of Start	Eligibility	Mode of Admission
Ph. D.in: all areas of focus of the Faculty of Engineering & Technology	Flexible (Up to 4 years with scholarship)	Flexible	Year 2	Master's degree in the relevant field	Merit in IKGPTU Admission Test plus performance in the interview and assessment of previous academic and professional background
B. FACULTY OF MATHEMATICAL & APPLIED SCIENCES					
(i) B. Sc. – M.Sc. Dual Degree* in: Biotechnology; (ii) Chemical Science; (iii) Mathematical Science (iv) Physical Science * (with a proviso of leaving the programme with a B. Sc. degree at the end of 3 years)	5 years	15 students in each stream	Programmes (i - iv): Year 3	10+2 pass in Science Stream & English	Merit in JEE Main (administered by CBSE) for UG Programmes in Engineering or merit in 10 + 2 examination of a Central or State Board with marks above or equal to the cut-off percentage declared by DST as eligibility for INSPIRE fellowship --- (http://www.inspire-dst.gov.in)
M. Sc.in: (i) Chemical Sciences; (ii) Physical Sciences; (iii) Mathematical Science; (iv) Ecology & Environmental Science; (v) Actuarial Science; (vi) Molecular Biology; (vii) Biotechnology	2 years	20 students in each programme	Programmes (i – iv): Year 1; Programmes (v - vii): Year 5	Graduate in Chemistry / Physics / Mathematics respectively for programmes (i) – (iii); Graduate in Mathematics / Statistics / Economics for programme (v); and graduate in Physical, Biological, Agricultural,	Merit in IKGPTU Admission Test plus performance in the Baccalaureate Degree

Programme	Duration	Annual Intake	Year of Start	Eligibility	Mode of Admission
				Fishery Sciences or Engineering & Technology for programmes (iv, vi & vii)	
Ph. D. in: all areas of focus of the Faculty of Mathematical & Applied Sciences	Flexible (Up to 4 years with scholarship)	Flexible	Year 2	Master's degree in the relevant field	Merit in IKGPTU Admission Test plus performance in the interview and assessment of previous academic and professional background
C. FACULTY OF MANAGEMENT STUDIES					
BBA in: Business Studies	3 years	45 students	Year 3	10 + 2 in any combination of subjects and English	Merit in IKGPTU Admission Test plus performance in the XIIth Board Examination
M. A.in: (i)Business Economics; (ii)Financial Markets; (iii) Organizations & Development	2 years	20 students in each programme	Year 5	Graduate in any discipline	Merit in IKGPTU Admission Test plus performance in the Baccalaureate and XIIth Board Examination
M. Com. in: (i)Real Estate Business Management ; (ii) Environment Audit	2 years	20 students in each stream	Year 5	Graduate in any discipline	Merit in IKGPTU Admission Test plus performance in the Baccalaureate and XIIth Board Examination
MBA in: General Management --- Finance / Marketing / HR / Operations	2 years	60 students	Year 1	Graduate in any discipline	CAT/other All-India Management Entrance Examination followed by group discussion and interview.
PG Programme in	1 year	20 students	Year 3	Graduate in any	Merit in IKGPTU

Programme	Duration	Annual Intake	Year of Start	Eligibility	Mode of Admission
Management in: (i) Entrepreneurship & Small Business Management (ii) Agri & Food Business Management; and (iii) Operations & Manufacturing Management; (iv) Health Sector Management		in each programme		discipline	Admission Test plus performance in the interview and assessment of previous academic and professional background
Executive MBA in: General Management	21 months modular programme: initial contact of 3 days followed by 6 modules of 9 days each once every quarter	30 students	Year 5	Graduate in any engineering discipline / Master's in any non-engineering discipline	Industry Sponsorship
Ph. D. in: all areas of focus of the Faculty of Commerce & Management	Flexible (Up to 4 years with scholarship)	Flexible	Year 2	MBA in the relevant sectoral area	Merit in IKGPTU Admission Test plus performance in the interview and assessment of previous academic and professional background
D. FACULTY OF MEDIA & MASS COMMUNICATION					
B.A. in: Journalism & Mass Communication (with specialization in Print & Electronic Journalism)	3 years	45 students	Year 3	10 + 2 pass in any combination of subjects & English	Merit in IKGPTU Admission Test plus performance in the XIIth Board Examination
PG Diploma in: (i) Media Industry	1 year	20 students in each programme	Programmes (ii) & (iii): Year 4	Graduate in any discipline	Merit in IKGPTU Admission Test plus performance in the

Programme	Duration	Annual Intake	Year of Start	Eligibility	Mode of Admission
Management; (ii) PR & Advertisement; (iii) Animation & Digital Media Art; (iv) Radio & TV Production			Programmes (i) & (iv): Year 7		Baccalaureate and XIIth Board Examination
M.A. in: Journalism & Mass Communication with specialization in (i) Development & Social Communication; (ii) Organizational Communication	2 years	20 students in each programme	Year 1	Graduate in any discipline	Merit in IKGPTU Admission Test plus performance in the Baccalaureate and XIIth Board Examination
Ph. D. in: all areas of focus of the Faculty of Media & Mass Communication	Flexible (Up to 4 years with scholarship)	Flexible	Year 2	Master's degree in the relevant field	Merit in IKGPTU Admission Test plus performance in the in an interview and assessment of previous academic and professional background
E. FACULTY OF HOSPITALITY, TOURISM & TRAVEL MANAGEMENT					
BHM & CT in: Hotel Management & Catering Technology	4 years	45 students	Year 3	10 + 2 pass in any combination of subjects and English	Merit in IKGPTU Admission Test plus performance in the XIIth Board Examination
PG Diploma in: (i) Event Management; (ii) Tourism Operations; (iii) Tourism Accommodation Marketing; and (iv) Tourism Transport	1 year	20 students in each programme	Year 4	Graduate in any discipline	Merit in IKGPTU Admission Test plus performance in the Baccalaureate and XIIth Board Examination
M. A. in: Tourism & Travel	2 years	30 students	Year 6	Graduate in any discipline	Merit in IKGPTU Admission Test plus

Programme	Duration	Annual Intake	Year of Start	Eligibility	Mode of Admission
Management					performance in the Baccalaureate and XIIth Board Examination
Ph. D. in: all areas of focus of the Faculty of Hospitality, Tourism & Travel Management	Flexible (Up to 4 years with scholarship)	Flexible	Year 2	Master's degree in the relevant field	Merit in IKGPTU Admission Test plus assessment of previous academic and professional background
F. FACULTY OF LIFESTYLE DESIGN					
B. Tech. / B. Des. in: (i) Fashion Communication; (ii) Apparel Manufacturing; (iii) Textile & Knitwear Design	4 years	30 students in each programme	Year 2	10 + 2 pass in any combination of subjects and English	Merit in JEE Main (administered by CBSE) for UG Programmes in Engineering
PG Diploma in: (i) Fashion Retail Marketing; (ii) Apparel Merchandising	1 year	20 students in each programme	Year 6	Graduate in any discipline	Merit in IKGPTU Admission Test plus performance in the Baccalaureate Examination
M. Tech. in: (i) Fashion Technology; (ii) Fashion Management	2 years	20 students in each programme	Year 4	Graduate in any engineering discipline	Merit in IKGPTU Admission Test plus performance in the Baccalaureate Examination
Ph. D. in: all areas of focus of the Faculty of Lifestyle Design	Flexible (Up to 4 years with scholarship)	Flexible	Year 2	Master's degree in the relevant field with a minimum of 60% marks	Merit in IKGPTU Admission Test plus performance in the interview and assessment of previous academic and professional background
G. FACULTY OF ARCHITECTURE					
B. Arch. in: Architecture	5 years	40 students	Year 1	10 + 2 pass in the Science Stream and English	Merit in IKGPTU Admission Test plus performance XIIth Board Examination

Programme	Duration	Annual Intake	Year of Start	Eligibility	Mode of Admission
B. Planning in: Infrastructure Planning	4 years	20 students	Year 3	10 + 2 pass in the Science Stream and English	Merit in IKGPTU Admission Test plus performance in the XIIth Board Examination
M. Arch. in: Built Environment	2 years	20 students	Year 1	B. Arch.	Merit in IKGPTU Admission Test plus interview and assessment of previous academic and professional background
Ph. D. in: all areas of focus of the Faculty of Art and Architecture	Flexible (Up to 4 years with scholarship)	Flexible	Year 2	Master's degree in the relevant field	Merit in IKGPTU Admission Test plus performance in an interview and assessment of previous academic and
H. FACULTY OF SOCIAL & HUMAN SCIENCES					
M. A. in: (i) Economics; (ii) Sociology; (iii) Psychology.	2 years	20 students in each programme	Year 5	Graduate in appropriate discipline	Merit in IKGPTU Admission Test plus performance in the Baccalaureate Examination
M. F.A. in: Fine Arts	2 years	20 students in each programme	Year 5	Graduate in Fine Arts	Merit in IKGPTU Admission Test plus performance in the Baccalaureate Examination
Ph. D. in: all areas of focus of the Faculty of Social & Human Sciences	Flexible (Up to 4 years with scholarship)	Flexible	Year 2	Master's degree in the relevant field	Merit in IKGPTU Admission Test plus performance in the interview and assessment of previous academic and professional background
I. FACULTY OF TEACHER					

Programme	Duration	Annual Intake	Year of Start	Eligibility	Mode of Admission
TRAINING & EDUCATION					
UG Diploma in: Technical Teaching	6 months (2 batches annually)	30 students	Year 2	Graduate in any engineering discipline	Sponsored ITI Instructors
B. T. Ed. in: Technical Education	1 year	30 students	Yea 2	Graduate in any engineering discipline	Sponsored Engineering College & Polytechnic Teachers
PG Diploma in: (i)Guidance & Counselling; and (ii)Life Skills Development	1 year	20 students in each programme	Year 5	Graduate in any discipline	Merit in IKGPTU Admission Test plus performance in the Baccalaureate Examination
M. Tech. in: Educational Technology	2 year	20 students	Year 3	Graduate in any discipline followed by a B. Ed degree	Merit in IKGPTU Admission Test plus performance in the Baccalaureate Examination
Integrated Teacher Training Modules TTM1 and TTM2 --- each consisting of the following three components: •Educational psychology of teaching and learning •Audio-visual and electronic resources which can be employed by teachers and students face-to-face or in distance and self-learning mode •Teaching methodology, assessment, feedback and other aspects in relation to classroom management.	2 weeks for Integrated Module TTM1 followed by the next 2 weeks integrated Module TTM2. Details in Annexure 4.1, 4.2 and 4.3	Flexible (Groups of 10 to 20 in-service teachers)	Year 2	Graduate or Masters in any taught discipline, e.g., Arts, Science, Design, Engineering, Technology Management with some teaching experience.	Sponsored faculty / senior administrators from IKGPTU Main & Regional Campuses, IKGPTU Affiliated Colleges and other Colleges/Universities
Ph. D. in: all areas of focus of the	Flexible (Up to 4 years)	Flexible	Year 2	Master's degree in the relevant	Merit in IKGPTU Admission Test plus

Programme	Duration	Annual Intake	Year of Start	Eligibility	Mode of Admission
Faculty of Technical Teacher Education	with scholarship)			field	performance in the interview and assessment of previous academic and professional background
J. FACULTY OF PHARMACUETICAL SCIENCE					
B. Pharmacy in: Pharmaceutical Science	4 years	30 students	Year 5	10 + 2 Pass in Science Stream plus English	Merit in IKGPTU Admission Test plus performance in the XIIth Board Examination
M. Pharmacy in: Pharmaceutical Science with specialization in Medicinal Chemistry	2 years	20 students	Year 7	Graduate in Pharmaceutical Science	Merit in IKGPTU Admission Test plus performance in the Baccalaureate Examination
Ph. D. in: all areas of focus of the Faculty of Pharmaceutical Science	Flexible (Up to 4 years with scholarship)	Flexible	Flexible	Master's degree in the relevant field	Merit in IKGPTU Admission Test plus performance in the interview and assessment of previous academic and professional background
K. INTERNATIONAL RESOURCE CENTRE FOR HUMAN VALUES & PROFESSIONAL ETHICS (IRCHVPE)					
PG Diploma in: Human Values & Ethics	1 year	10 students	Year 1	Graduate in any Discipline	Merit in Interview
M. Tech. in: Holistic Development – Systems & Technologies	2 years	10 students	Year 1	Graduate in any Engineering Discipline	Merit in Interview

TABLE 4.2: CONSOLIDATED STATEMENT FOR ACADEMIC PROGRAMMES TO BE OFFERED AT THE IKGPTU REGIONAL CAMPUSES

Programme	Duration	Annual Intake	Year of Start	Eligibility	Mode of Admission
IKGPTU-AMRITSAR CAMPUS					
B. Tech. in: (i) Computer Science & Engineering; (ii) Plastic Engineering & Technology.	<u>Lateral Entry:</u> 3 years <u>Regular Entry:</u> 4 years	<u>Programme (i):</u> Lateral Entry / Regular Entry: 30 / 15; <u>Programme (ii):</u> Lateral Entry / Regular Entry: 20 / 10;	<u>Programme (i):</u> Year 1; <u>Programme (ii):</u> Year 3.	<u>Lateral Entry:</u> Programme (i) Diploma in any Technical Discipline from a Polytechnic recognized by the Board of Technical Education of any State; Programme (ii) Diploma in Plastic Engineering from a Polytechnic recognized by the Board of Technical Education of any State; <u>Regular Entry:</u> 10+2 pass with PCM & English	<u>Lateral Entry:</u> Merit in IKGPTU Admission Test plus performance in the Diploma Examination <u>Regular Entry:</u> Merit in JEE Main(administered by CBSE) for UG Programmes in Engineering
IKGPTU-BATALA CAMPUS					
B. Tech. in (i)Civil Engineering; (ii) Electrical	<u>Lateral Entry:</u> 3 years <u>Regular Entry:</u>	Lateral Entry / Regular Entry: 30 /	Year 1	<u>Lateral Entry:</u> Diploma in CE / EE / ME, respectively for	<u>Lateral Entry:</u> Merit in IKGPTU Admission

Programme	Duration	Annual Intake	Year of Start	Eligibility	Mode of Admission
Engineering; (iii) Mechanical Engineering.	Entry: 4 years	15;		Programmes (i) / (ii) / (iii) from a Polytechnic recognized by the Board of Technical Education of any State; Regular Entry: 10+2 pass with PCM & English	Test plus performance in the Diploma Examination <u>Regular Entry:</u> Merit in JEE Main (administered by CBSE) for UG Programmes in Engineering
IKGPTU- BHIKIWIND CAMPUS					
B. Tech. in (i)Computer Science & Engineering; (ii)Mechanical Engineering.	Lateral Entry: 3 years Regular Entry: 4 years	Lateral Entry / Regular Entry: 30 / 15;	Year 1	Lateral Entry: Programme (i)Diploma in any Technical Discipline from a Polytechnic recognized by the Board of Technical Education of any State; Programme (ii) Diploma in Mechanical Engineering from a Polytechnic recognized by the Board of Technical Education of any State. Regular Entry:	Lateral Entry: Merit in IKGPTU Admission Test plus performance in the Diploma Examination <u>Regular Entry:</u> Merit in JEE Main (administered by CBSE) for UG Programmes in Engineering

Programme	Duration	Annual Intake	Year of Start	Eligibility	Mode of Admission
				10+2 pass with PCM & English	
IKGPTU-DINANAGAR CAMPUS					
B. Tech. in: (i) Computer Science & Engineering; (ii) Civil Engineering	<u>Lateral Entry:</u> 3 years <u>Regular Entry:</u> 4 years	Lateral Entry / Regular Entry: 30 / 15;	<u>Programme (i):</u> Year 1 <u>Programme (ii):</u> Year 3	<u>Lateral Entry:</u> Programme (i) Diploma in any Technical Discipline from a Polytechnic recognized by the Board of Technical Education of any State; Programme (ii) Diploma in Civil Engineering from a Polytechnic recognized by the Board of Technical Education of any State. <u>Regular Entry:</u> 10+2 pass with PCM & English	<u>Lateral Entry:</u> Merit in IKGPTU Admission Test plus performance in the Diploma Examination <u>Regular Entry:</u> Merit in JEE Main(administered by CBSE) for UG Programmes in Engineering
BCA in: Computer Application	3 years	60	Year 1	10+2 pass in any stream & English	Merit in IKGPTU Admission Test plus performance in the XIIth Board Examinations
IKGPTU-HOSHIARPUR CAMPUS					
B. Tech. in: (i) Computer	<u>Lateral Entry:</u>	Lateral Entry /	<u>Programme (i):</u> Year 1	<u>Lateral Entry:</u> Programme	<u>Lateral Entry:</u> Merit in

Programme	Duration	Annual Intake	Year of Start	Eligibility	Mode of Admission
Science & Engineering; (ii) Civil Engineering; (iii) Mechanical Engineering	3 years <u>Regular Entry:</u> 4 years	Regular Entry: 40 / 20;		(i) Diploma in any Technical Discipline from a Polytechnic recognized by the Board of Technical Education of any State; Programme (ii) Diploma in Civil Engineering from a Polytechnic recognized by the Board of Technical Education of any State. Programme (iii) Diploma in Mechanical Engineering from a Polytechnic recognized by the Board of Technical Education of any State <u>Regular Entry:</u> 10+2 pass with PCM & English	IKGPTU Admission Test plus performance in the Diploma Examination <u>Regular Entry:</u> Merit in JEE Main (administered by CBSE) for UG Programmes in Engineering
IKGPTU-SULTANPUR LODHI CAMPUS					
B. Tech. in: Computer Science & Engineering	<u>Lateral Entry:</u> 3 years <u>Regular Entry:</u> 4 years	Lateral Entry / Regular Entry: 30 / 15;	Year 2	<u>Lateral Entry:</u> Programme (i) Diploma in any Technical Discipline from a Polytechnic	<u>Lateral Entry:</u> Merit in IKGPTU Admission Test plus performance

Programme	Duration	Annual Intake	Year of Start	Eligibility	Mode of Admission
				recognized by the Board of Technical Education of any State. Regular Entry: 10+2 pass with PCM & English	in the Diploma Examination <u>Regular Entry:</u> Merit in JEE Main (administered by CBSE) for UG Programmes in Engineering
B. Pharmacy	4 years	30	Year 2	10+2 pass in Science Stream plus English	Merit in IKGPTU Admission Test plus performance in the XIIth Board Examinations
B. Des. in: Fashion Design	4 years	30	Year 2	10+2 pass with PCM plus English	Merit in IKGPTU Admission Test plus performance in the XIIth Board Examinations
MCA in: Computer Application	2 years	40	Year 2	Graduate in any discipline	Merit in IKGPTU Admission Test plus performance in the Bachelor's Degree Examination

4.2 PROJECTED STUDENT STRENGTH

4.2.1 Consolidated statements for the academic programmes at the baccalaureate / postgraduate diploma / master's / doctoral levels that are proposed to be offered at the main campus of IKGPTU at Kapurthala, under the aegis of its Faculties of Study / Centres of Excellence, along with their respective annual student intake and year of start have been indicated in Tables 4.1. Likewise, a consolidated statement for the academic programmes proposed to be offered at the IKGPTU Regional Campuses along with their respective annual student intake and year of start have been indicated in Tables 4.2. Based on the recommended annual student intake the total student strength for each category of academic programme for each of the Faculties of Study / Centres of Excellence is given in Table 4.3. Also the year-wise full time student strength for all categories of programmes for each Faculty of Study / Centre of Excellence for the initial ten years of operation of IKGPTU in its reconstituted form as a teaching university is given in Table 4.4. Similarly the total student strength for various categories of programmes and the year-wise intake for the initial ten years for each of the IKGPTU Regional Campuses are given in Tables 4.5 and 4.6, respectively.

TABLE 4.3: TOTAL NUMBER OF CATEGORY-WISE FULL TIME STUDENTS IN EACH FACULTY OF STUDY/ CENTRE OF EXCELLENCE ON THE MAIN CAMPUS OF IKGPTU

Faculties of Study	UG Students	PG Diploma Students	Master's Students	Total
A. Faculty of Engineering & Technology	1320	----	360	1680
B. Faculty of Mathematical & Applied Sciences	300	----	280	580
C. Faculty of Management Studies	135	80	320	535
D. Faculty of Media & Mass Communication	135	80	80	295
E. Faculty of Hospitality and Tourism & Travel Management	180	80	60	320
F. Faculty of Lifestyle Design	360	40	80	480
G. Faculty of Architecture	280	---	40	320
H. Faculty of Social & Human Sciences	---	---	160	160
I. Faculty of Teacher Training & Education	60	40	40	140

J. Faculty of Pharmaceutical Science	120	---	40	160
K. International Resource Centre for Human Values & Professional Ethics	---	10	20	30
Total	2890	330	1480	4700

TABLE 4.4: YEAR-WISE STUDENT STRENGTH OF FULL TIME STUDENTS FOR ALL CATEGORIES OF ACADEMIC PROGRAMMES OFFERED ON THE MAIN CAMPUS OF IKGPTU

Faculty of Study / Centre of Excellence	I	II	III	IV	V	VI	VII	VIII	IX	X
A. Faculty of Engineering & Technology										
UG & MCA	225	470	715	1020	1080	1170	1260	1290	1320	1320
PG DIPLOMA	---	---	---	---	---	---	---	---	---	---
MASTER'S	100+12*	200	220	240	300	360	360	360	360	360
SUB-TOTAL	325	670	935	1260	1380	1530	1620	1650	1680	1680
B. Faculty of Mathematical & Applied Sciences										
UG-PG DUAL DEGREE	---	---	60	120	180	240	300	300	300	300
PG DIPLOMA	---	---	---	---	---	---	---	---	---	---
MASTER'S	80+36*	160	160	160	220	280	280	280	280	280
SUB-TOTAL	80	160	220	280	400	520	580	580	580	580
C. Faculty of Management Studies										
UG	---	---	45	90	135	135	135	135	135	135
PG DIPLOMA	---	---	80	80	80	80	80	80	80	80
MASTER'S	60+15*	120	120	120	220	320	320	320	320	320
SUB-TOTAL	60	120	245	290	435	535	535	535	535	535
D. Faculty of Media & Mass Communication										
UG	---	---	45	90	135	135	135	135	135	135
PG DIPLOMA	---	---	---	40	40	40	80	80	80	80
MASTER'S	40 + 8*	80	80	80	80	80	80	80	80	80
SUB-TOTAL	40	80	125	210	255	255	295	295	295	295
E. Faculty of Hospitality, Tourism & Travel Management										

Faculty of Study / Centre of Excellence	I	II	III	IV	V	VI	VII	VII I	IX	X
UG	---	---	45	90	135	180	180	180	180	180
PG DIPLOMA	---	---	---	80	80	80	80	80	80	80
MASTER'S	---	---	---	---	---	30	60	60	60	60
SUB-TOTAL	---	---	45	170	215	290	320	320	320	320
F. Faculty of Lifestyle Design										
UG	---	90	180	270	360	360	360	360	360	360
PG DIPLOMA	---	---	---	---	---	40	40	40	40	40
MASTER'S	---	---	---	40	80	80	80	80	80	80
SUB-TOTAL	---	90	180	310	440	480	480	480	480	480
G. Faculty of Architecture										
UG	40+43*	80+43*	140+43*	200+15*	260	280	280	280	280	280
PG DIPLOMA	---	---	---	---	---	---	---	---	---	---
MASTER'S	20+2*	40	40	40	40	40	40	40	40	40
SUB-TOTAL	60	120	180	240	300	320	320	320	320	320
H. Faculty of Social & Human Sciences										
UG	---	---	---	---	---	---	---	---	---	---
PG DIPLOMA	---	---	---	---	---	---	---	---	---	---
MASTER'S	---	---	---	---	80	160	160	160	160	160
SUB-TOTAL	---	---	---	---	80	160	160	160	160	160
I. Faculty of Teacher Training & Education										
UG & B.T.Ed.	---	60	60	60	60	60	60	60	60	60
PG DIPLOMA	---	---	---	---	40	40	40	40	40	40
MASTER'S	---	---	20	40	40	40	40	40	40	40
SUB-TOTAL	---	60	80	100	140	140	140	140	140	140
J. Faculty of Pharmaceutical Science										
UG	---	---	---	---	30	60	90	120	120	120
PG DIPLOMA	---	---	---	---	---	---	---	---	---	---
MASTER'S	---	---	---	---	---	---	20	40	40	40
SUB-TOTAL	---	---	---	---	30	60	110	160	160	160
K. International Resource Centre for Human Values & Professional Ethics (IRCHVPE)										
UG	---	---	---	---	---	---	---	---	---	---

Faculty of Study / Centre of Excellence	I	II	III	IV	V	VI	VII	VIII	IX	X
PG DIPLOMA	10	10	10	10	10	10	10	10	10	10
MASTER'S	10	20	20	20	20	20	20	20	20	20
SUB-TOTAL	20	30	30	30	30	30	30	20	30	30
DOCTORALPROGRAMME (Students not distributed to individual Faculties of Study)	---	20	40	60	80	100	100	100	100	100
TOTAL (Full Time Students)	585	1350	2080	2950	3785	4420	4690	4770	4800	4800

* No. of Students already enrolled for different programmes at the IKGPTU Main Campus

TABLE 4.5: TOTAL NUMBER OF CATEGORY-WISE FULL TIME STUDENTS IN EACH OF THE IKGPTU REGIONAL CAMPUSES

Name of Regional Campus	UG STUDENTS	MASTER'S STUDENTS	TOTAL
IKGPTU- AMRITSAR CAMPUS	250	---	250
IKGPTU- BATALA CAMPUS	450	---	450
IKGPTU- BHIKIWIND CAMPUS	300	---	300
IKGPTU- DINANAGAR CAMPUS	480	---	480
IKGPTU- HOSHIARPUR CAMPUS	600	---	600
IKGPTU- SULTANPUR LODHI CAMPUS	390	80	470
TOTAL	2470	80	2550

TABLE 4.6: YEAR-WISE STUDENT STRENGTH OF FULL TIME STUDENTS FOR ALL CATEGORIES OF ACADEMIC PROGRAMMES AT EACH OF THE IKGPTU REGIONAL CAMPUSES

Name of Regional Campus	I	II	III	IV	V	VI	VII	VIII	IX	X
IKGPTU-AMRITSAR CAMPUS	15+57*	60+26*	115	190	220	250	250	250	250	250
IKGPTU-BATALA CAMPUS	45+149*	180+38*	315+18*	450	450	450	450	450	450	450
IKGPTU-BHIKI WIND CAMPUS	30+76*	120+48*	210+9*	300	300	300	300	300	300	300
IKGPTU-DINANAGAR CAMPUS	75+147*	180+75*	300	390	435	480	480	480	480	480
IKGPTU-HOSHIARPUR CAMPUS	60+371*	240+189*	420	600	600	600	600	600	600	600
IKGPTU-SULTANPUR LODHI CAMPUS	---	120	270	375	470	470	470	470	470	470
TOTAL	225	900	1620	2275	2445	2550	2550	2550	2550	2550

* Number of Students already enrolled for different programmes at the IKGPTU Regional Campuses

4.2.2 The total number of registered full time students for all categories of formal academic programmes to be offered at the IKGPTU Main Campus is expected to stabilize at a level of 4800 students at the start of Academic Year IX. Besides the full time programmes it is also proposed to offer part time modular programmes, short term continuing education programmes and non-formal skills up-gradation courses to local youth leading to award of IKGPTU Continuing Education Certificates on the IKGPTU Main Campus. It is thus proposed to base resource requirement --- human, physical and financial --- for the IKGPTU Main Campus on the basis of a full time student population of 4800 students plus 200 part time students.

4.2.3 With respect to the IKGPTU Regional Campuses the expectation is that the ultimate student strength shall stabilize at 250 students at the Amritsar Campus, at 300 at the Bhikiwind Campus, 450 at the Batala Campus, 470 at the Sultanpur Lodhi Campus, 480 at the Dinanagar Campus and 600 at the Hoshiarpur Campus.

4.3 BASIS OF ADMISSION

4.3.1 The basis of admission for various academic programmes proposed to be offered at the Main and Regional Campuses of IKGPTU has been indicated in capsule form in the consolidated statement in Tables 4.1 and 4.2. The proposed system is elaborated hereunder:

- i **Baccalaureate D egr e Programmes:**
 - National Entrance Test for those Programmes for which the same is a requirement mandated by the concerned Regulatory Agency;
 - For all other Programmes On-line IKGPTU-Administered Admission Test: 75% weight age plus aggregate of the XII Class Board Examination Marks (with appropriate combination of subjects): 25% weight age.
- ii **Postgraduate Diploma Programmes:**
 - On-Line IKGPTU-Administered Admission Test: 75% weightage plus aggregate of the Baccalaureate Degree Marks: 25% weight age.
- iii **Masters D egr e Programmes:**
 - National Entrance Test for those Programmes for which the same is mandated by the concerned Regulatory Agency;
 - For all other Programmes On-line IKGPTU-Administered Admission Test: 75% weightage plus aggregate of the Baccalaureate Degree Marks: 25% weightage.
- iv **Doctoral D egr e Programme:**
 - IKGPTU-Administered Written Test plus an Interview: 75% weightage plus Quality of Academic Background & Professional Experience: 25% weightage.
- v **Continuing Education Programmes:**
 - Assessment of application including previous academic and professional background by the concerned Programme Coordinator and Faculty.

- 2 Policy of the State Government of Punjab with respect to affirmative action for various categories of applicants (SC / ST / OBC / Handicapped) shall be applicable for the admission in all academic programmes.
- 3 It is recommended that the entire process of admission for all programmes for award of the Baccalaureate Degree, the PG Diploma and the Masters Degree of the University on the basis indicated in sub-sections 4.3.1 (i) – (iv) be outsourced. This would include sub-processes such as:
 - Advertisement for admission;
 - Sale of application forms;
 - Receipt of application forms;
 - Scrutiny of applications;
 - Issue of admit cards;
 - Deciding on the on-line examination centres (computer training institutes at various locations);
 - Setting of on-line test papers;
 - Conduct of the on-line examination;
 - Preparation of the merit list based on admission criteria;
 - Issue of admission letters.
- 4 Coordination, liaison and supervision of the work of outsourcing agency on behalf of the University will be the responsibility of the Dean (Admissions) subject to policy guidance of the Admission Committee of the Academic Council.
- 4.3.5 It is recommended that admission to all non-formal education programmes as well as the M. Phil. / Doctoral D  gr   Programme and all formal and non-formal programmes to be offered under the aegis of the Faculty of Study of Technical Teacher Education and the International Resource Centre for Human Values & Professional Ethics may be handled directly by the University.

Chapter 5

ACADEMIC DIVISIONS

5.1 PREAMBLE

- 5.1.1 (i) Since its inception in January 1997 IKGPTU has primarily been functioning as an affiliating university although to a limited extent with effect from the academic year 2012 academic programmes both at the undergraduate and postgraduate level have been offered under the umbrella of a number of constituent colleges known as Punjab Institutes of Technology. However, it is now desired that henceforth IKGPTU operate as a full-fledged teaching university by launching the offering of academic programmes both on the Main Campus and the Regional Campuses.
- (ii) It is further recommended that henceforth PIT Kapurthala, PIM Kapurthala, PITTTTR Jalandhar and PIT Mohali may cease to exist and all academic programmes offered in these institutes may now be offered on the Main Campus at Kapurthala under the umbrella of corresponding Faculties of Study.

5.2 CLASSIFICATION OF ACADEMIC DIVISIONS

5.2.1 It is recommended that IKGPTU may have the following academic divisions:

- Faculties of Study;
- Centre of Excellence;
- Regional Campuses;
- Central Academic Service Facilities.

5.3 FACULTIES OF STUDY

5.3.1 It is recommended that initially the Faculties of Study listed hereunder may be established on the Main Campus at Kapurthala:

- Faculty of Engineering & Technology;
- Faculty of Mathematical & Applied Sciences;
- Faculty of Management Studies
- Faculty of Media & Mass Communication;
- Faculty of Hospitality, Tourism & Travel Management;
- Faculty of Lifestyle Design;
- Faculty of Architecture;
- Faculty of Social & Human Sciences;
- Faculty of Teacher Training & Education; and
- Faculty of Pharmaceutical Science.

5.3.2 Additional Faculties of Study may be established as and when the need arises in accordance with a procedure that may be prescribed in the Regulations of the University.

5.3.3 It is further recommended that each of the Faculties of Study may have several sub-units classified as **Departments** whose primary functions shall be as listed hereunder:

- Teaching at the undergraduate, postgraduate and pre-doctoral levels in their respective areas of core competence;
- Undertaking of academic research including guiding of projects and Ph.D. thesis;
- Curriculum and laboratory development;
- Offering of Continuing Education Programmes for working professionals;
- Development of learning resource material;

- Undertaking of sponsored R&D and Consultancy Projects; and
- Participation in inter-disciplinary teaching and research programmes.

5.4 CENTRES OF EXCELLENCE

5.4.1 Besides Faculties of Study it is also proposed to establish on the Main Campus at Kapurthala additional academic units classified as **Centers of Excellence** either as independent entities or as constituent sub-units of Faculties of Study. Their primary activities shall be teaching and undertaking of applied research in well-defined areas through group effort in collaboration with allied departments.

5.4.2 It is proposed that the existing **International Resource Centre of Human Values & Professional Ethics** may be classified as a Centre of Excellence and continue to operate as an independent academic unit on the IKGPTU Main Campus. Additional Centers of Excellence may be opened as per need in the future.

5.5 REGIONAL CAMPUSES

5.5.1 It is further recommended that IKGPTU may also offer academic programmes, in coordination with the Faculties of Study, at the following Regional Campuses of IKGPTU erstwhile named as PIT's:

- IKGPTU- Amritsar Campus;
- IKGPTU- Batala Campus;
- IKGPTU- Bhikiwind Campus;
- IKGPTU- Dinanagar Campus;
- IKGPTU- Hoshiarpur Campus; and
- IKGPTU- Sultanpur Lodhi Campus.

5.6 CENTRAL ACADEMIC SERVICE FACILITIES

5.6.1 Besides the Faculties of Study and Centres of Excellence as provided in sub-clauses 5.3.1 and 5.4.2 hereinabove it is proposed to establish on the Main Campus a number of independently managed Central Academic Service Facilities whose function shall

be to provide and manage a specific academic service facility that is needed by faculty and students of more than one Faculty of Study / Centre of Excellence.

5.6.2 It is recommended that to start with the under mentioned Central Academic Service Facilities may be established on the Main Campus of IKGPTU as independent standalone units:

- Central Workshop;
- Central Library;
- Computer Centre;
- Virtual Learning Centre;
- Continuing Education Centre;
- Technology Incubation Centre;
- Central Instrumentation Facility;
- Central Classroom Complex; and
- Auditorium-cum-Conference Centre.

5.7 PRIMARY DETAILS OF ACADEMIC DIVISIONS

5.7.1 Primary and essential details concerning each of the recommended Faculties of Study, Centres of Excellence, the Regional Campuses and the Central Academic Service Facilities respectively listed hereinabove in sub-sections 5.3.1, 5.4.2, 5.5.1 and 5.6.2 are given in the following sections of this Chapter.

5.8 FACULTY OF ENGINEERING & TECHNOLOGY

5.8.1 Academic Objectives

The primary objective of the Faculty of Engineering & Technology is capacity-building in various disciplines in the domain of engineering & technology through imparting of integrative education at various levels of higher education, fostering the

creation of new knowledge in the domain of its core competence through the undertaking of basic & applied research and its transmission to the user system and the development of comprehensive and intimate interaction with industry and the user system through various avenues such as exchange of personnel, the offering of continuing education programmes for working professionals that updates their knowledge and skill base, the undertaking of consultancy projects and conducting of collaborative research.

5.8.2 Constituent Departments

It is recommended that at inception the Faculty of Engineering & Technology may have the following constituent departments:

- Civil Engineering;
- Chemical Engineering;
- Computer Science & Engineering;
- Electrical Engineering;
- Electronics & Communication Engineering;
- Energy Engineering;
- Food Engineering;
- Industrial Design; and
- Mechanical Engineering.

5.8.3 Academic Programmes & Student Intake

- (i) The Faculty of Engineering & Technology shall offer the following academic programmes:

Programme	Area of Focus	Duration	Annual Intake	Year of Start
B. Tech. (Civil Engineering)	Structural Engineering / Hydraulics & Water Resources Mgt. / Geotechnical Engineering / Construction Management / Public Health Engineering / Transportation Engineering	4 years	45	A.Y. 1
B. Tech. (Chemical Engineering)	Chemical Engineering Science / Process Engineering / Petrochemical Engineering / Petroleum Refining / Gas Processing & Utilization	4 years	30	A.Y. 4
B. Tech. (Computer Science & Engineering)	Computer Graphics & CAD / Software Engineering / Databases & Information Systems / Social Media Application / Mobile Computing / Data Analytics / Cloud Computing	4 years	45	A.Y. 1
B. Tech. (Electrical Engineering)	Power Systems / Electrical Machinery	4 years	45	A.Y. 1
B. Tech. (Electronics & Communication Engineering)	Communication & Signal Processing / Industrial Automation & Control / Digital Hardware Design / Process Instrumentation / Microprocessor- based Systems	4 years	45	A.Y. 1
B. Tech. (Food Engineering)	Food Microbiology / Food Materials / Food Engineering Operations / Food Storage & Packaging	4 years	30	A.Y. 4
B. Tech. (Mechanical Engineering)	Manufacturing Technology / Fluid Mechanics & Fluid Machinery / Thermal Sciences / Mechanical Design / Industrial Engineering	4 years	45	A.Y. 1
B. Des. (Industrial Design)	Product Design / Visual Design	4 years	30	A.Y. 6
M. Tech. (Construction Management)	Building Construction	2 years	20	A.Y. 5
M. Tech. (Computer Science & Engineering)	Data Analytics	2 years	20	A.Y. 1

Programme	Area of Focus	Duration	Annual Intake	Year of Start
Engineering)				
M. Tech. (Electrical Engineering)	Power Systems	2 years	20	A.Y. 1
M. Tech. (Electronics & Communication Engineering)	Wireless Communication	2 years	20	A.Y. 1
M. Tech. (Energy Engineering)	Solar Energy / Biomass Characterization / Chemical Conversion / Wind Energy / Microhydel Energy / Integrated Power Generation / Energy Conservation / Energy Auditing	2 years	20	A.Y. 5
M. Tech. (Civil Engineering)	Structural Engineering	2 years	20	A.Y. 1
M. Tech. (Mechanical Engineering)	Manufacturing Systems	2 years	20	A.Y. 1
M. Tech. (Software Engineering)	Software Engineering	2 years	20	A.Y. 5
M. Des. (Electronic Design Technology)	Digital Hardware / Process Instruments	2 years	20	A.Y. 3
MCA (Computer Applications)	Computer Applications	3 years	20	A.Y. 2
Ph. D.	All areas of focus of the Faculty of Engineering & Technology	Flexible (with scholarship up to 4 years)	Flexible	A.Y. 2

- (ii) Based on the recommended annual student intake for various academic programmes as indicated hereinabove the overall student strength for the academic programmes proposed to be offered under the aegis of the Faculty of Engineering & Technology is 1680 students out of which 1320 are at the Baccalaureate and MCA level and 360 are at the Master's level. In addition the Faculty of Engineering & Technology would draw students at the doctoral level from the central pool. The projected year-wise student strength for the

Faculty of Engineering and Technology with phasing for various programmes as indicated in the table hereinabove has been given in Table 4.4 (A)

5.8.4 Faculty Requirement

- (i) Based on the current UGC norms for faculty to student ratio of 1:15 for the UG & MCA Programmes and 1:10 for the Master's Degree Programmes for the engineering & technology education sector the total strength of faculty strength for the Faculty of Engineering & Technology works out to be 124. It is proposed to transfer 15 faculty positions out of the 124 positions to the Faculties of Mathematical & Applied Sciences / Management Studies / Social & Human Sciences for the teaching of foundation courses to the UG students.
- (ii) It is further recommended that the cadre distribution between the three faculty cadres of Professor, Associate Professor and Assistant Professor be determined on the basis of the ratio of 1:2:4. On the basis of the above stated ratios the cadre distribution for individual sub-units of the Faculty of Engineering & Technology works out as indicated hereunder:

Department / Cadre Position	Professor	Associate Professor	Assistant Professor	TOTAL
Civil Engineering	03	05	10	18
Chemical Engineering	01	02	04	07
Computer Science & Engineering	03	06	12	21
Electrical Engineering	02	04	08	14
Electronics & Communication Engineering	02	05	10	17
Energy Engineering	01	01	02	04
Food Engineering	01	02	04	07
Industrial Design	01	02	04	07
Mechanical Engineering	02	04	08	14
TOTAL	16	31	62	109

- (iii) On the basis of the projected year-wise student strength for academic programmes of the Faculty of Engineering & Technology as indicated in Table 4.4 (A) the year-wise faculty strength is determined to be as indicated hereunder in Table 5.1:

Table 5.1: Year-wise Faculty Strength of the Faculty of Engineering & Technology

Cadre Position / Year	I	II	III	IV	V	VI	VII	VIII	IX	X
Professor	03	06	08	11	12	14	15	15	16	16
Associate Professor	06	12	17	22	25	28	30	31	31	31
Assistant Professor	12	24	33	44	50	57	60	61	62	62
TOTAL	21	42	58	77	87	99	105	107	109	109

- (iv) It may be noted that the prescribed faculty norm of 1:15 and 1:10 has primarily been determined keeping in mind the functions of teaching and research guidance in a fully developed institution. However, during the initial establishment phase the role of the faculty extends way beyond the teaching and research guidance function and hence during this initial phase it is necessary to have on rolls a critical mass of faculty beyond what is determined on the basis of the prescribed norm. It is thus recommended that the faculty strength for the Faculty of Engineering & Technology of be quickly built-up to a critical mass of 40 faculty members before basing the faculty requirement on the prescribed norm.
- (v) The year-wise cadre-wise allocation of faculty for each of the individual departments may be decided by the University Executive Management within the overall numbers for individual cadres indicated in the table in sub-section (ii) hereinabove for each department.

5.8.5 Requirement of Space and Support Manpower

The requirement of space and support manpower for the Faculty of Engineering & Technology is as indicated hereunder in Table 5.2:

Table 5.2: Space & Support Staff Requirement for Faculty of Engineering & Technology

Function	Space (sq. m.)#	Support Staff
FACULTY BUILDING		
Office of the Dean, Faculty of Engineering & Technology	50	---
Administrative Office of the Faculty of Engineering & Technology	50	03: Cat. IV (A/B)
Offices of the Heads of Department (09 Nos. @ 20 sq. m. each)	180	---
Administrative Offices of the Departments (09 Nos. @ 15 sq. m. each)	135	09: Cat. IV (A/B)
Faculty Offices (109 offices @ 15 sq. m. each)	1635	---
Cubicles for Project Staff & Post-Doctoral Fellows (01 rooms with 05 cubicles @ 5 sq. m. each cubicle)	25	---
Cubicles for Research Scholars (01 room with 05 cubicles @ 5 sq. m. each cubicle)	25	---
Offices for Visiting Faculty (01 room to seat 3 visitors each @ 10 sq. m.)	30	---
Seminar – cum - Committee Rooms (03 Nos. @ 50 sq. m. each)	150	---
Common Room for Students / Faculty (2 Nos. @ 100 sq. m. each)	200	---
Pantry (2 Nos. attached to the Common Rooms @ 05 sq. m. each)	10	---
Reception Lounge	200	01: Cat. IV (A/B)
Reprography Room	25	---
Strong Room	25	---
Educational Technology Room	25	---
Computation Room	50	---
Store	100	01: Cat. IV (A/B)
Branch Library Faculty of Engineering & Technology	150	01: Cat. IV (A/B)
Product Archives	100	01: Cat. IV (A/B)
Product Exhibition Hall	400	---
Sub-Total: FACULTY BUILDING (excluding toilets & circulation corridors)	3565	16: Cat. IV (A/B)
LABORATORY COMPLEX		
• Department of Civil Engineering: Fluid Mechanics & Water Management / Geotechnical Engineering / Civil	1250	06: Cat. III (A/B)

Function	Space (sq. m.)#	Support Staff
Engineering Materials / Structures & Earthquake Engineering / Surveying & Photogrammetry / Transportation		
<ul style="list-style-type: none"> • Department of Chemical Engineering: Utility Room / Fluid Dynamics / Heat & Mass Transfer / Fluid & Particle Mechanics / Chemical Analysis / Process Control / Reaction Engineering / Instrumentation & Control / Polymer Processing & Rheology / Polymer Reaction Engineering / Petroleum Process Engineering / Petroleum Refinery Model Room / Glass Blowing Facility 	750	05: Cat. III (A/B)
<ul style="list-style-type: none"> • Department of Computer Science & Engineering: Microcomputer / Digital Systems Engineering & Microprocessor / Graphics / Data Communications / Software Engineering / Artificial Intelligence & Robotics / Computer Communication 	750	05: Cat. III (A/B)
<ul style="list-style-type: none"> • Department of Electrical Engineering: Basic Electrical & Electronic Engineering / Electrical Machinery / Power Systems 	750	03: Cat. III (A/B)
<ul style="list-style-type: none"> • Department of Electronics & Communication Engineering: Electronics & Communications / Digital Hardware & Design / Signal & Image Processing / Microwave & Antennas / Microprocessor Application / Interconnection (PCB, SMD & Hybrids / Motion Control Systems / Analog Electronics / VHF Communication / Switching Systems / Optoelectronics / Design Studio 	750	
<ul style="list-style-type: none"> • Department of Energy Engineering: Solar Appliance Testing / Fuel Cell / Thermal Transport & Material Testing / Engineering* / Microhydel Energy* / Biomass Characterization / Chemical Conversion / Chemical Analysis / Integrated Power Generation <p>Note: * To be part of the Fluid Mechanics & Fluid Machinery Laboratory of the Department of Mechanical Engineering</p>	750 Wind	
<ul style="list-style-type: none"> • Department of Food Engineering: Food Microbiology / Food Materials / Food Engineering Operations / Fluid Dynamic* / Heat & Mass Transfer* / Reaction Engineering* / Instrumentation & Controls* • To be shared with the Chemical Engineering 	500	05: Cat. III (A/B)

Function	Space (sq. m.)#	Support Staff
Department		
<ul style="list-style-type: none"> Department of Industrial Design: Metal Studio / Wood Studio / Plastic Studio / Plaster Studio / Ceramic Studio / Paint Studio / Product Development Studio / Craft Development Studio / Photography & AV Studio / Ergonomics / Computer Graphics Laboratories. 	750	05: Cat. III (A/B)
<ul style="list-style-type: none"> Department of Mechanical Engineering: Utility Room / Strength of Materials / Material Science / Computer Aided Graphics & Design / Fluid Mechanic & Fluid Machinery / Thermal Science / IC Engines / Turbo-machinery / Theory of Machines & Mechanical Handling / Mechanics & Kinematics / Vibrations, Instrumentation & Controls / Tribology & Maintenance Engineering / Primary Manufacturing* / Advanced Manufacturing Processes* / Metrology* / Computer Aided Manufacture* / Rapid Prototyping Facility* / Industrial Engineering* 	1250	06: Cat. III (A/B)
* To be housed in the Central Workshop Complex.		
Sub-Total: Laboratory Complex (excluding space for toilets & circulation corridors)	7500+ 500 (Shed) + 1000 (Open Space)	45: Cat. III (A/B)
TOTAL	11065 + 500 (Shed) + 1000 (Open Space)	16: Cat. IV (A/B); 45: Cat. III (A/B)

the space requirement is only indicative. The actual space requirement has been worked out on the basis of space under construction as given in Chapter 8.

5.9 FACULTY OF MATHEMATICAL & APPLIED SCIENCES

5.9.1 Academic Objectives

The primary objective of the Faculty of Mathematical & Applied Sciences is to impart high quality education and training with a view to spawn academics, researchers and practitioners in the field of Mathematical & Applied Sciences.

5.9.2 Constituent Departments

- i It is recommended that at its inception the Faculty of Mathematical & Sciences may have the following constituent departments:

- Actuarial Sciences;
- Ecology & Environmental Sciences;
- Chemical Sciences;
- Mathematical Sciences;
- Biotechnology; and
- Physical Sciences.

5.9.3 Academic Programmes & Student Intake

(i) The Faculty of Mathematical & Applied Sciences shall offer the following Academic Programmes:

Programme	Areas of Focus	Duration	Annual Student Intake	Year of Start
B. Sc. – M. Sc. Dual Degree (Chemical Sciences / Physical Sciences / Biotechnology / Mathematical Sciences)	Chemical Sciences / Physical Sciences / Biotechnology / Mathematical Sciences	5 years	60 (15 in each specialization)	A.Y. 3
M. Sc. (Molecular Biology)	Molecular Biology	2 years	20	A.Y. 5
M. Sc. (Biotechnology)	Biotechnology	2 years	15	A.Y. 5
M. Sc. (Actuarial Sciences)	Actuarial Science	2 years	20	A.Y. 5
M. Sc. (Chemical Science)	Pharmaceutical Technology / Waste Management / Nanotechnology	2 years	20	A.Y. 1
M. Sc. (Ecology & Environmental Science)	Himalayan Eco-system / Environmental Control	2 years	20	A.Y. 1
M. Sc. (Mathematical Science)	Computational Mathematics	2 years	20	A.Y. 1
M. Sc. (Physical Science)	Optoelectronics / Material	2 years	20	A.Y. 1

Programme	Areas of Focus	Duration	Annual Student Intake	Year of Start
Science)	Science			
Ph. D.	All areas of focus of the Faculty of Mathematical & Applied Sciences	Flexible (with scholarship for a maximum of 4 years)	Flexible	

- (ii) Based on the recommended annual student intake of students for various academic programmes as indicated hereinabove the overall student strength for the academic programmes proposed to be offered under the aegis of the Faculty of Mathematical & Applied Sciences is 580 students out of which 300 are at the UG – PG Dual Degree level and 280 are at the Master’s level. In addition the Faculty of Mathematical & Applied Sciences would draw students at the doctoral level from the central pool. The projected year-wise student strength for the Faculty of Mathematical & Applied Sciences with phasing for various programmes as indicated in the table hereinabove has been given in Table 4.4 (B).

5.9.4 Faculty Requirement:

- (i) Based on the current UGC norms for faculty to student ratio of 1:25 for UG Programmes and 1:10 for the Master’s Degree Programmes for the science education sector the total strength of faculty strength for the Faculty of Mathematical & Applied Sciences works out to be 40. In addition it is proposed to allot 06 faculty positions to the Faculty of Mathematical & Applied Sciences out of the pool for the teaching of foundation courses to UG students of various disciplines.
- (ii) It is further recommended that the cadre distribution between the three faculty cadres of Professor, Associate Professor and Assistant Professor be determined on the basis of the ratio of 1:2:4. On the basis of the above stated ratios the cadre distribution for individual sub-units of the Faculty of Mathematical & Applied Sciences works out as indicated hereunder:

Department / Cadre Position	Professor	Associate Professor	Assistant Professor	TOTAL
Actuarial Sciences	01	01	02	04
Chemical Sciences	01	03	05	09
Ecology & Environmental Sciences	01	01	02	04
Mathematical Sciences	01	03	05	09
Physical Sciences	01	03	05	09
Biotechnology	02	02	07	11
TOTAL	06	13	26	46

- (iii) On the basis of the projected year-wise student strength for academic programmes of the Faculty of Mathematical & Applied Sciences as indicated in Table 4.4 (B) the year-wise faculty strength is determined to be as indicated hereunder in Table 5.3:

Table 5.3: Year-wise Faculty Strength of the Faculty of Mathematical & Applied Sciences

Cadre Position / Year	I	II	III	IV	V	VI	VII	VIII	IX	X
Professor	02	03	03	04	05	06	07	07	07	07
Associate Professor	04	06	07	08	10	13	13	13	13	13
Assistant Professor	08	12	14	15	20	25	26	26	26	26
TOTAL	14	21	24	27	35	44	46	46	46	46

- (i) It may be noted that the prescribed faculty norm of 1:25 and 1:10 has primarily been determined keeping in mind the functions of teaching and research guidance in a fully developed institution. However, during the initial establishment phase the role of the faculty extends way beyond the teaching and research guidance function and hence during this initial phase it is necessary to have on rolls a critical mass of faculty beyond what is determined on the basis of the prescribed norm. It is thus recommended that the faculty strength for the Faculty of Mathematical & Applied Sciences of be quickly built-up to a critical mass of 15 faculty members before basing the faculty requirement on the prescribed norm.

- (v) The year-wise cadre-wise allocation of faculty for each of the individual departments may be decided by the University Executive Management within the overall numbers for individual cadres indicated in the table in sub-section (ii) hereinabove for each department.

5.9.5 Requirement of Space and Support Manpower

The requirement of space and support manpower for the Faculty of Mathematical & Applied Sciences is as indicated hereunder in Table 5.4:

Table 5.4: Space & Support Staff Requirement for Faculty of Mathematical & Applied Sciences

Function	Space (sq. m.)#	Support Staff
FACULTY BUILDING		
Office of the Dean, Faculty of Mathematical & Applied Sciences	50	---
Administrative Office of the Faculty of Mathematical & Applied Sciences	50	02: Cat. IV (A/B)
Offices of the Heads of Department (05 Nos. @ 20 sq. m. each)	100	---
Administrative Offices of the Departments (05 Nos. @ 15 sq. m. each)	75	05: Cat. IV (A/B)
Faculty Offices (46 offices @ 15 sq. m. each)	690	---
Cubicles for Project Staff & Post-Doctoral Fellows (01 rooms with 05 cubicles @ 5 sq. m. each cubicle)	25	---
Cubicles for Research Scholars (01 room with 05 cubicles @ 5 sq. m. each cubicle)	25	---
Offices for Visiting Faculty (01 room to seat 3 visitors each @ 10 sq. m.)	30	---
Seminar – cum - Committee Rooms (02 Nos. @ 50 sq. m. each)	100	---
Common Room for Students / Faculty (2 Nos. @ 50 sq. m. each)	100	---
Pantry (2 Nos. attached to the Common Rooms @ 05 sq. m. each)	10	---
Reception Lounge	200	01: Cat. IV (A/B)
Reprography Room	25	---
Strong Room	25	---
Educational Technology Room	25	---
Computation Room	50	---
Store	50	01: Cat. IV (A/B)

Function	Space (sq. m.)#	Support Staff
Branch Library Faculty of Mathematical & Applied Sciences	50	01: Cat. IV (A/B)
Sub-Total: FACULTY BUILDING (excluding Toilets & Circulation Corridors)	1670	10: Cat. IV (A/B)
LABORATORY COMPLEX		
• Department of Chemistry: 04 UG & PG Teaching Laboratories / 02 Research Laboratories / Pharmaceutical Chemistry Laboratory / Instrumentation Facility / Glass Blowing Workshop	750	02: Cat. III (A/B)
• Department of Ecology & Environment Science: 01 PG Teaching Laboratory / 01 Research Laboratory	750	02: Cat. III (A/B)
• Department of Physics: 04 UG & PG Teaching Laboratories / 02 Research Laboratories	750	02: Cat. III (A/B)
Department of Biological Sciences: 04 UG & PG Teaching Laboratories / 02 Research Laboratories	750	02: Cat. III (A/B)
Sub-Total: Laboratory Complex (excluding Toilets & Circulation Corridors)	3000	08: Cat. III (A/B)
TOTAL (excluding Toilets & Circulation Corridors)	4670	10: Cat. IV (A/B); 03: Cat. III (A/B)

the space requirement is only indicative. The actual space has been worked out on the basis of available space as given in Chapter 8.

5.10 FACULTY OF MANAGEMENT STUDIES

5.10.1 Academic Objectives:

The primary objective of the Faculty of Management Studies is to provide world-class management education at the undergraduate and postgraduate levels blending traditional Indian culture and values with modern management theories and practices with a view to spawn a cadre of competent individuals who are fully prepared to serve

the nation and the world as global managers of the future and claim their rightful place in the corporate world.

5.10.2 Constituent Departments

It is recommended that at its inception the Faculty of Management Studies may have the following constituent departments:

- Commerce; and
- Management (covering the areas of Finance & Accounting / Organizational Behaviour & Human Resource Management /Marketing /Systems & IT /Operations Management & Quantitative Techniques / Strategic Management /Business Policy)

5.10.3 Academic Programmes & Student Intake

- (i) The Faculty of Management Studies shall offer the following academic programmes:

Programme	Areas of Focus	Duration	Annual Student Intake	Year of Start
BBA (Business Studies)	General Management (Finance / Marketing / Organizational Behaviour & HR / Operations Management / Systems & IT)	3 years	45	A.Y. 3
M. A. (Business Economics)	Business Economics	2 years	20	A.Y. 5
M. A. (Financial Markets)	Financial Markets	2 years	20	A.Y. 5
M. A. (Organizations & Development) --- to be offered jointly with Faculty of Social &	Strategies & Processes of Development / The Organization in its Environment / The	2 years	20	A.Y. 5

Programme	Areas of Focus	Duration	Annual Student Intake	Year of Start
Human Sciences but coordinated by the Faculty of Commerce & Management.	Individual in the Organization			
M. Com. (Real Estate Business)	Real Estate Business	2 years	20	A.Y. 5
M. Com. (Environment Audit)	Environment Audit	2 years	20	A.Y. 5
MBA (General Management)	General Management (Finance / Marketing / Organizational Behaviour & HR / Operations Management / Systems & IT)	2 years	60	A.Y. 1
PGPM (Entrepreneurship & Small Business Management)	Entrepreneurship & Small Business Management	1 years	20	A.Y. 3
PGPM (Agri& Food Sector Management)	Agri& Food Sector Management	1 years	20	A.Y. 3
PGPM (Operations & Manufacturing Management)	Operations & Manufacturing Management	1 years	20	A.Y. 3
PGPM (Health Sector Management)	Health Sector Management	1 years	20	A.Y. 3
Executive Management (General Management)	General Management (Finance / Marketing / Organizational Behaviour & HR / Operations Management / Systems & IT)	21 months (part time modular programme)	20	A.Y. 5
Ph. D.	All areas of focus of the Faculty of Commerce & Management	Flexible (with scholarship up to 4 years)	Flexible	A.Y. 2

- (ii) Based on the recommended annual student intake of students for various academic programmes as indicated hereinabove the overall student strength for the academic programmes proposed to be offered under the aegis of the Faculty of Management Studies is 535 students out of which 135 are at the Baccalaureate level, 80 at the PG Diploma level and 320 are at the Master's level. In addition the Faculty of Management Studies would draw students at the doctoral level from the central pool. The projected year-wise student strength for the Faculty of Management Studies with phasing for various programmes as indicated in the table hereinabove has been given in Table 4.4 (C).

5.10.4 Faculty Requirement

- (i) Based on the current UGC norms for faculty to student ratio of 1:15 for the UG Programmes and 1:10 for the Master's Degree Programmes for the commerce & management education sector the total strength of faculty strength for the Faculty of Management Studies works out to be 47(after reduction of 02 posts keeping in mind the shared load for the M. A. Programme in Organizations &Development). In addition it is proposed to transfer 02 faculty positions to the Faculty of Management Studies out of the pool for the teaching of foundation courses to the UG students of various disciplines.
- (ii) It is further recommended that the cadre distribution between the three faculty cadres of Professor, Associate Professor and Assistant Professor be determined on the basis of the ratio of 1:2:4. On the basis of the above stated ratios the cadre distribution for individual sub-units of the Faculty of Management Studies works out as indicated hereunder

Department / Cadre Position	Professor	Associate Professor	Assistant Professor	TOTAL
Commerce	01	02	04	07
Management (Finance / Marketing / Organizational Behaviour & HR / Operations Management / Systems & IT / Health Management / Manufacturing	06	12	24	42

Management)				
TOTAL	07	14	28	49

- (iii) On the basis of the projected year-wise student strength for academic programmes of the Faculty of Management Studies as indicated in Table 4.4 (C) the year-wise faculty strength is determined to be as indicated hereunder in Table 5.5:

Table 5.5: Year-wise Faculty Strength of the Faculty of Management Studies

Cadre Position / Year	I	II	III	IV	V	VI	VII	VIII	IX	X
Professor	01	02	04	04	06	07	07	07	07	07
Associate Professor	02	04	07	08	11	14	14	14	14	14
Assistant Professor	05	08	14	16	23	28	28	28	28	28
TOTAL	08	14	25	28	40	49	49	49	49	49

- (iv) It may be noted that the prescribed faculty norm of 1:15 and 1:10 has primarily been determined keeping in mind the functions of teaching and research guidance in a fully developed institution. However, during the initial establishment phase the role of the faculty extends way beyond the teaching and research guidance function and hence during this initial phase it is necessary to have on rolls a critical mass of faculty beyond what is determined on the basis of the prescribed norm. It is thus recommended that the faculty strength for the Faculty of Management Studies of be quickly built-up to a critical mass of 20 faculty members before basing the faculty requirement on the prescribed norm.
- (v) The year-wise cadre-wise allocation of faculty for each of the individual departments may be decided by the University Executive Management within the overall numbers for individual cadres indicated in the table in sub-section (ii) hereinabove for each department.

5.10.5 Requirement of Space and Support Manpower

The requirement of space and support manpower for the Faculty of Management Studies is as indicated hereunder in Table 5.6:

Table 5.6: Space & Support Staff Requirement for Faculty of Management Studies

Function	Space (sq. m.)#	Support Staff
FACULTY BUILDING		
Office of the Dean, Faculty of Management Studies	50	---
Administrative Office of the Faculty of Management Studies	50	02: Cat. IV (A/B)
Offices of the Heads of Department (02 Nos. @ 20 sq. m. each)	40	---
Administrative Offices of the Departments (02 Nos. @ 15 sq. m. each)	30	02: Cat. IV (A/B)
Faculty Offices (47 offices @ 15 sq. m. each)	705	---
Cubicles for Project Staff & Post-Doctoral Fellows (01 rooms with 05 cubicles @ 5 sq. m. each cubicle)	25	---
Cubicles for Research Scholars (01 room with 05 cubicles @ 5 sq. m. each cubicle)	25	---
Offices for Visiting Faculty (01 room to seat 3 visitors each @ 10 sq. m.)	30	---
Seminar – cum - Committee Rooms (02 Nos. @ 50 sq. m. each)	100	---
Common Room for Students / Faculty (2 Nos. @ 50 sq. m. each)	100	---
Pantry (2 Nos. attached to the Common Rooms @ 05 sq. m. each)	10	---
Reception Lounge	200	01: Cat. IV (A/B)
Reprography Room	25	---
Strong Room	25	---
Educational Technology Room	25	---
Computation Room	50	---
Case Library	50	---
Branch Library Faculty of Management Studies	50	01: Cat. IV (A/B)
Sub-Total: FACULTY BUILDING (excluding Toilets & Circulation Corridors)	1540	06: Cat. IV (A/B)
LABORATORY COMPLEX		
• Financial Markets Simulation Laboratory	75	01: Cat. III (A/B)
Sub-Total: Laboratory Complex (excluding Toilets & Circulation Corridors)	75	01: Cat. III (A/B)
TOTAL (excluding Toilets & Circulation Corridors)	1615	06: Cat. IV (A/B); 01: Cat. III (A/B)

the space requirement is only indicative. The actual space has been worked out on the basis of space under construction as given in Chapter 8.

5.11 FACULTY OF MEDIA & MASS COMMUNICATION

5.11.1 Academic Objectives

The primary objective of the Faculty of Media & Mass Communication is to offer world-quality programs of education, training and research at the undergraduate and postgraduate levels in the broad domain of media & mass communication providing inputs on the new methods of mass communication and new ways of receipt and transmission of information with a view to nurture human-capital to serve as the voice of society.

5.11.2 Constituent Departments:

It is recommended that at inception the Faculty of Media & Mass Communication may have the following constituent departments, based on the functional areas covered by the Faculty:

- Print & Electronic Journalism;
- Radio & TV Production;
- Development & Organizational Communication;
- Public Relations & Advertisement;
- Digital Media Art & Animation; and
- Media Industry Management.

5.11.3 Academic Programmes & Student Intake

The Faculty of Media & Mass Communication shall offer the following academic programmes:

Programme	Area of Focus	Duration	Annual Student Intake	Year of Start
B. A. (Journalism & Mass Communication)	Print & Electronic Journalism	3 years	45	A.Y. 3
PG Diploma (Media Industry Management)	Media Industry Management	1 year	20	A.Y. 7
PG Diploma (Public Relations & Advertising)	Public Relations & Advertising	1 year	20	A.Y. 4
PG Diploma (Animation & Digital Media Art)	Animation & Digital Media Art	1 year	20	A.Y. 4
PG Diploma (Radio & TV Production)	Radio & TV Production	1 year	20	A.Y. 7
M. A. (Journalism & Mass Communication)	(i) Development & Social Communication; (ii) Organizational Communication	2 years	20 in each specialization	A.Y. 1
Ph. D.	All areas of focus of the Faculty of Media & Mass Communication	Flexible (with scholarship up to 4 years)	Flexible	A.Y. 5

- (ii) Based on the recommended annual student intake of students for various academic programmes as indicated hereinabove the overall student strength for the academic programmes proposed to be offered under the aegis of the Faculty of Media & Mass Communication is 295 students out of which 135 are at the Baccalaureate level, 80 at the PG Diploma level and 80 are at the Master's level. In addition the Faculty of Media & Mass Communication would draw students at the doctoral level from the central pool. The projected year-wise student strength for the Faculty of Media and Mass Communication with phasing for various programmes as indicated in the table hereinabove has been given in Table 4.4 (D).

5.11.4 Faculty Requirement

- (i) Based on the current UGC norms for faculty to student ratio of 1:15 for the UG Programmes and 1:10 for the Postgraduate Diploma and Master's Degree Programmes for the Media & Mass Communication education sector the total strength of faculty strength for the Faculty of Commerce & Management works out to be 25.
- (ii) It is further recommended that the cadre distribution between the three faculty cadres of Professor, Associate Professor and Assistant Professor be determined on the basis of the ratio of 1:2:4. On the basis of the above stated ratios the cadre distribution for individual sub-units of the Faculty of Media & Mass Communication works out as indicated hereunder:

Department / Cadre Position	Professor	Associate Professor	Assistant Professor	TOTAL
Print & Electronic Journalism	01	03	05	09
Media Industry Management	00	01	01	02
Public Relations & Advertisement	01	---	01	02
Animation & Digital Media Art	01	00	01	02
Development & Organizational Communication	01	02	05	08
Radio & TV Production	00	01	01	02
TOTAL	04	07	14	25

- (iii) On the basis of the projected year-wise student strength for academic programmes of the Faculty of Media & Mass Communication as indicated in Table 4.4 (D) the year-wise faculty strength is determined to be as indicated hereunder in Table 5.7:

Table 5.7: Year-wise Faculty Strength of the Faculty of Media & Mass Communication

Cadre Position / Year	I	II	III	IV	V	VI	VII	VIII	IX	X
Professor	01	01	02	03	03	03	04	04	04	04
Associate Professor	01	01	03	05	06	06	07	07	07	07
Assistant Professor	02	02	06	10	12	12	14	14	14	14
TOTAL	04	04	11	18	21	21	25	25	25	25

- (ii) It may be noted that the prescribed faculty norm of 1:15 and 1:10 has primarily been determined keeping in mind the functions of teaching and research guidance in a fully developed institution. However, during the initial establishment phase the role of the faculty extends way beyond the teaching and research guidance function and hence during this initial phase it is necessary to have on rolls a critical mass of faculty beyond what is determined on the basis of the prescribed norm. It is thus recommended that the faculty strength for the Faculty of Media & Mass Communication be quickly built-up to a critical mass of 10 faculty members before basing the faculty requirement on the prescribed norm.

5.11.5 Requirement of Space and Support Manpower

The requirement of space and support manpower for the Faculty of Media & Mass Communication is as indicated hereunder in Table 5.8:

Table 5.8: Space & Support Staff Requirement for Faculty of Media & Mass Communication

Function	Space (sq. m.)#	Support Staff
FACULTY BUILDING		
Office of the Dean, Faculty of Media & Mass Communication	50	---
Administrative Office of the Faculty of Media & Mass Communication	50	02: Cat. IV (A/B)
Offices of the Heads of Department (06 Nos. @ 20 sq. m. each)	120	---
Administrative Offices of the Departments (06 Nos. @ 15 sq. m. each)	90	06: Cat. IV (A/B)
Faculty Offices (25 offices @ 15 sq. m. each)	375	---
Cubicles for Project Staff & Post-Doctoral Fellows (01 room with 05 cubicles @ 5 sq. m. each cubicle)	25	---
Cubicles for Research Scholars (01 room with 05 cubicles @ 5 sq. m. each cubicle)	25	---

Function	Space (sq. m.)#	Support Staff
Offices for Visiting Faculty (01 room to seat 3 visitors each @ 10 sq. m.)	30	---
Seminar – cum - Committee Rooms (01 Nos. @ 50 sq. m. each)	50	---
Common Room for Students / Faculty (2 Nos. @ 50 sq. m. each)	100	---
Pantry (2 Nos. attached to the Common Rooms @ 05 sq. m. each)	10	---
Reception Lounge	200	01: Cat. IV (A/B)
Reprography Room	25	---
Strong Room	25	---
Educational Technology Room	25	---
Computation Room	50	---
Store	50	01: Cat. IV (A/B)
Branch Library Faculty of Media & Mass Communication	50	01: Cat. IV (A/B)
Sub-Total: FACULTY BUILDING (excluding Toilets & Circulation Corridors)	1350	11: Cat. IV (A/B)
LABORATORY COMPLEX		
• Colour Photography Laboratory	50	01: Cat. III (A/B)
• Digital Art Communication Laboratory	50	01: Cat. III (A/B)
• FM Radio	100	01: Cat. III (A/B)
• Desktop Publishing Facility	25	01: Cat. III (A/B)
• Printing Press	75	01: Cat. III (A/B)
• Art Communication Facility	50	01: Cat. III (A/B)
• TV Studio	100	01: Cat. III (A/B)
Sub-Total: Laboratory Complex (excluding Toilets & Circulation Corridors)	450	07: Cat. III (A/B)
TOTAL (excluding Toilets & Circulation Corridors)	1800	08: Cat. IV (A/B); 10: Cat. III (A/B)

the space requirement is only indicative. The actual space has been worked out on the basis of space under construction as given in Chapter 8.

5.12 FACULTY OF HOSPITALITY, TOURISM & TRAVEL MANAGEMENT

5.12.1 Academic Objectives

The primary objective of the Faculty of Hospitality, Tourism & Travel Management is to offer programs of education, training and research of world-class quality at the

undergraduate and postgraduate levels with a view to nurture human-capital having the capacity to serve as the innovators and leaders of the future in the domain of hospitality, tourism & travel management,

5.12.2 Constituent Departments:

It is proposed that at its inception the Faculty of Hospitality, Tourism & Travel Management may have the following constituent departments based on the functional areas covered by the School:

- Hotel Management & Catering Technology; and
- Tourism & Travel Management.

5.12.3 Academic Programmes & Student Intake:

(i) The Faculty of Hospitality, Tourism & Travel Management shall offer the following academic programs:

Programme	Areas of Focus	Duration	Annual Student Intake	Year of Start
BHM & CT (Hotel Management & Catering Technology)	Hotel Management & Catering Technology	4years	45	A.Y. 3
PG Diploma (Event Management)	Event Management	1 year	20	A.Y. 4
PG Diploma (Tourism Operations)	Tourism Operations	1 year	20	A.Y. 4
PG Diploma (Tourism Accommodation Marketing)	Tourism Accommodation Marketing	1 year	20	A.Y. 4
PG Diploma (Tourism Transport)	Tourism Transport	1 year	20	A.Y. 4
M. A. (Tourism & Travel Management)	Tourism & Travel Management	2 years	30	A.Y. 6
Ph. D.	All areas of focus of the Faculty of Hospitality, Tourism & Travel Management	Flexible (with scholarship up to 4 years)	Flexible	A.Y. 5

- (ii) Based on the recommended annual student intake of students for various academic programmes as indicated hereinabove the overall student strength for the academic programmes proposed to be offered under the aegis of the Faculty of Hotel, Tourism & Travel Management is 320 students out of which 180 are at the Baccalaureate level, 80 at the PG Diploma level and 60 are at the Master's level. In addition the Faculty of Media & Mass Communication would draw students at the doctoral level from the central pool. The projected year-wise student strength for the Faculty of Hotel, Travel & Tourism Management with phasing for various programmes as indicated in the table hereinabove has been given in Table 4.4 (E).

5.12.4 Faculty Requirement

- (i) Based on the current UGC norms for faculty to student ratio of 1:15 for the UG Programmes and 1:10 for the Postgraduate Diploma and Master's Degree Programmes for the technology education sector the total strength of faculty strength for the Faculty of Hotel, Tourism & Travel Management works out to be 26.
- (ii) It is further recommended that the cadre distribution between the three faculty cadres of Professor, Associate Professor and Assistant Professor be determined on the basis of the ratio of 1:2:4. On the basis of the above stated ratios the cadre distribution for individual sub-units of the Faculty of Hotel, Tourism & Travel Management works out as indicated hereunder:

Department / Cadre Position	Professor	Associate Professor	Assistant Professor	TOTAL
Hotel Management & Catering Technology	02	03	07	12
Tourism & Travel Management	02	04	08	14
TOTAL	04	07	15	26

- (iii) On the basis of the projected year-wise student strength for academic programmes of the Faculty of Hospitality, Tourism & Travel Management as

indicated in Table 4.4 (E) the year-wise faculty strength is determined to be as indicated hereunder in Table 5.9:

Table 5.9: Year-wise Faculty Strength of the Faculty of Hotel, Tourism & Travel Management

Cadre Position	I	II	III	IV	V	VI	VII	VII	IX	X
Professor	---	---	01	02	02	03	04	04	04	04
Associate Professor	---	---	---	04	05	07	07	07	07	07
Assistant Professor	---	---	02	08	10	13	15	15	15	15
TOTAL	---	---	03	14	17	23	26	26	26	26

- (iv) It may be noted that the prescribed faculty norm of 1:15 and 1:10 has primarily been determined keeping in mind the functions of teaching and research guidance in a fully developed institution. However, during the initial establishment phase the role of the faculty extends way beyond the teaching and research guidance function and hence during this initial phase it is necessary to have on rolls a critical mass of faculty beyond what is determined on the basis of the prescribed norm. It is thus recommended that the faculty strength for the Faculty of Hotel, Tourism & Travel Management be quickly built-up to a critical mass of 10 faculty members before basing the faculty requirement on the prescribed norm.

5.12.5 Requirement of Space and Support Manpower

The requirement of space and support manpower for the Faculty of Hotel, Tourism & Travel Management is as indicated hereunder in Table 5.10:

Table 5.10: Space & Support Staff Requirement for Faculty of Hotel, Tourism & Travel Management

Function	Space (Sq. m.)#	Support Staff
FACULTY BUILDING		
& Travel Management	50	---
Administrative Office of the Faculty of Hotel, Tourism & Travel Management	50	02: Cat. IV (A/B)
Offices of the Heads of Department (02 Nos. @ 20 sq. m. each)	40	---
Administrative Offices of the Departments (02 Nos. @ 15 sq. m. each)	30	02: Cat. IV (A/B)
Faculty Offices (26 offices @ 15 sq. m. each)	390	---
Cubicles for Project Staff & Post-Doctoral Fellows (01 room with 05 cubicles @ 5 sq. m. each cubicle)	25	---
Cubicles for Research Scholars (01 room with 05 cubicles @ 5 sq. m. each cubicle)	25	---
Offices for Visiting Faculty (01 room to seat 3 visitors each @ 10 sq. m.)	30	---
Seminar – cum - Committee Rooms (01 Nos. @ 50 sq. m. each)	50	---
Common Room for Students / Faculty (2 Nos. @ 50 sq. m. each)	100	---
Pantry (2 Nos. attached to the Common Rooms @ 05 sq. m. each)	10	---
Reception Lounge	200	01: Cat. IV (A/B)
Reprography Room	25	---
Educational Technology Room	25	---
Computation Room	25	---
Store	50	01: Cat. IV (A/B)
Branch Library Faculty of Hotel, Tourism & Travel Management	50	01: Cat. IV (A/B)
Sub-Total: FACULTY BUILDING (excluding Toilets & Circulation Corridors)	1175	07: Cat. IV (A/B)
LABORATORY COMPLEX		
• Basic Training Kitchen / Quantity Training Kitchen / Advanced Training Kitchen / Larder / Food Quality Testing Laboratory / Bakery & Confectionary Laboratory	150	03: Cat. III (A/B)
• Housekeeping Laboratory (including Laundry & Linen	25	01: Cat. III (A/B)

Function	Space (Sq. m.)#	Support Staff
Store)		
• Front Office Training Desk	25	01: Cat. III (A/B)
• Travel Training Desk	25	01: Cat. III (A/B)
• Maintenance Workshop	50	02: Cat. III (A/B)
• Live Hospitality Training Facility: 4 - bedded Guest House + 20-seated Three Star Restaurant	250	02: Cat. III (A/B)
Sub-Total: Laboratory Complex (excluding Toilets & Circulation Corridors)	525	10: Cat. III (A/B)
TOTAL (excluding Toilets & Circulation Corridors)	1700	07: Cat. IV (A/B); 10: Cat. III (A/B)

the space requirement is only indicative. The actual space has been worked out on the basis of space under construction as given in Chapter 8.

5.13 FACULTY OF LIFESTYLE DESIGN

5.13.1 Academic Objectives

The primary objective of the Faculty of Lifestyle Design is to offer art, design, business and technology education and training of world quality in the areas of fashion, textile and life-style design at the baccalaureate, master's and doctoral levels with a view to spawn committed designers capable of providing innovative inputs and leadership in the life style and apparel & textile industry so that the nation can retain and expand its share in the highly competitive international market.

5.13.2 Constituent Departments:

It is recommended that the Faculty of Lifestyle Design may have the following constituent departments based on the functional areas covered by the Faculty:

- Apparel & Knitwear Design;
- Fashion Marketing, Merchandizing & Management;

- Fashion & Apparel Manufacturing Technology; and
- Fashion Communication.

5.13.3 Academic Programs & Student Intake

- (i) The Faculty of Lifestyle Design shall offer the following academic programmes:

Programme	Area of Focus	Duration	Annual Student Intake	Year of Start
B. Des. (Fashion Communication)	Fashion Communication	4 years	30	A.Y. 2
B. Des. (Textile & Knitwear Design)	Textile & Knitwear Design	4 years	30	A.Y. 2
B. Tech. (Apparel Manufacturing)	Apparel Manufacturing	4 years	30	A.Y. 2
PG Diploma (Fashion Retail Marketing)	Fashion Retail Marketing	1 years	20	A.Y. 6
PG Diploma (Apparel Merchandising)	Apparel Merchandising	1 years	20	A.Y. 6
M. Tech. (Fashion Technology)	Fashion Technology	2 years	20	A.Y. 4
M. A. (Fashion Management)	Fashion Management	2 years	20	A.Y. 4
Ph. D.	All areas of focus of the Faculty of Lifestyle Design	Flexible (with scholarship for a maximum of 4 years)	Flexible	A.Y. 2

- (ii) Based on the recommended annual student intake of students for various academic programmes as indicated hereinabove the overall student strength for the academic programmes proposed to be offered under the aegis of the Faculty of Lifestyle Design is 480 students out of which 360 are at the Baccalaureate level, 40 at the PG Diploma level and 80 are at the Master's

level. In addition the Faculty of Lifestyle Design would draw students at the doctoral level from the central pool. The projected year-wise student strength for the Faculty of Lifestyle Design with phasing for various programmes as indicated in the table hereinabove has been given in Table 4.4 (F).

5.13.4 Faculty Requirement

- (i) Based on the current UGC norms for faculty to student ratio of 1:15 for the UG Programmes and 1:10 for the Postgraduate Diploma and Master's Degree Programmes for the technology education sector the total strength of faculty strength for the Faculty of Lifestyle Design works out to be 36. It is proposed to transfer 03 faculty positions out of the 36 positions to a pool for the teaching of foundation courses to the UG students.
- (ii) It is further recommended that the cadre distribution between the three faculty cadres of Professor, Associate Professor and Assistant Professor be determined on the basis of the ratio of 1:2:4. On the basis of the above stated ratios the cadre distribution for individual sub-units of the Faculty of Lifestyle Design works out as indicated hereunder:

Department / Cadre Position	Professor	Associate Professor	Assistant Professor	TOTAL
Apparel & Knitwear Design	01	02	04	07
Fashion Marketing, Merchandizing & Management	01	02	05	08
Fashion Manufacturing Technology	02	03	06	11
Fashion Communication	01	02	04	07
TOTAL	05	09	19	33

- (iii) On the basis of the projected year-wise student strength for academic programmes of the Faculty of Lifestyle Design as indicated in Table 4.4 (F) the year-wise faculty strength is determined to be as indicated hereunder in Table 5.11:

Table 5.11: Year-wise Faculty Strength of the Faculty of Lifestyle Design

Cadre Position / Year	I	II	III	IV	V	VI	VII	VIII	IX	X
Professor	---	01	01	03	04	05	05	05	05	05
Associate Professor	---	---	03	05	09	09	09	09	09	09
Assistant Professor	---	02	05	11	18	19	19	19	19	19
TOTAL	---	03	09	19	31	33	33	33	33	33

- (iv) It may be noted that the prescribed faculty norm of 1:15 and 1:10 has primarily been determined keeping in mind the functions of teaching and research guidance in a fully developed institution. However, during the initial establishment phase the role of the faculty extends way beyond the teaching and research guidance function and hence during this initial phase it is necessary to have on rolls a critical mass of faculty beyond what is determined on the basis of the prescribed norm. It is thus recommended that the faculty strength for the Faculty of Lifestyle Design be quickly built-up to a critical mass of 10 faculty members before basing the faculty requirement on the prescribed norm.

5.13.5 Requirement of Space and Support Manpower

The requirement of space and support manpower for the Faculty of Lifestyle Design is as indicated hereunder in Table 5.12.

Table 5.12: Space & Support Staff Requirement for Faculty of Lifestyle Design

Function	Space (sq. m.)#	Support Staff
FACULTY BUILDING		
Office of the Dean, Faculty of Lifestyle Design	50	---
Administrative Office of the Faculty of Lifestyle Design	50	02: Cat. IV (A/B)
Offices of the Heads of Department (04 Nos. @ 20 sq. m. each)	80	---
Administrative Offices of the Departments (04 Nos. @ 15 sq. m. each)	60	04: Cat. IV (A/B)
Faculty Offices (33 offices @ 15 sq. m. each)	495	---
Cubicles for Project Staff & Post-Doctoral Fellows (01 rooms with 05 cubicles @ 5 sq. m. each cubicle)	25	---
Cubicles for Research Scholars (01 room with 05 cubicles @ 5 sq. m. each cubicle)	25	---
Offices for Visiting Faculty (01 room to seat 3 visitors each @10 sq. m.)	30	---
Seminar – cum - Committee Rooms (01 Nos. @ 50 sq. m. each)	50	---
Common Room for Students / Faculty (2 Nos. @ 50 sq. m. each)	100	---
Pantry (2 Nos. attached to the Common Rooms @ 05 sq. m. each)	10	---
Reception Lounge	200	01: Cat. IV (A/B)
Reprography Room	25	---
Educational Technology Room	25	---
Computation Room	25	---
Store	50	01: Cat. IV (A/B)
Branch Library Faculty of Lifestyle Design	50	01: Cat. IV (A/B)
Sub-Total: FACULTY BUILDING (excluding Toilets & Circulation Corridors)	1350	09: Cat. IV (A/B)

Function	Space (sq. m.)#	Support Staff
LABORATORY COMPLEX		
• Textile Testing Laboratory	50	01: Cat. III (A/B)
• Weaving Laboratory	50	01: Cat. III (A/B)
• Knitting Laboratory	50	01: Cat. III (A/B)
• Sewing Laboratory	50	01: Cat. III (A/B)
• CAD Laboratory	25	01: Cat. III (A/B)
• Computer Graphics Laboratory	25	01: Cat. III (A/B)
• Photography Studio + Dark Room	25	01: Cat. III (A/B)
• Make-up Laboratory	25	01: Cat. III (A/B)
• Art Room	25	01: Cat. III (A/B)
• Design Studio	75	---
• Student Supply Store	25	01: Cat. IV (A/B)
• Fashion Museum	50	01: Cat. III (A/B)* * Also to look after Project Archives / Exhibition Hall
• Project Archives	25	---
• Project Exhibition Hall	75	---
Sub – Total: LABORATORY COMPLEX (excluding toilets and circulation corridors)	575	10: Cat. III (A/B); 01: Cat. IV (A/B)
TOTAL (excluding toilets and circulation corridors)	1925	10: Cat. III (A/B); 10: Cat. IV (A/B)

the space requirement is only indicative. The actual space has been worked out on the basis of space under construction as given in Chapter 8.

5.14 FACULTY OF ARCHITECTURE

5.14.1 Academic Objectives

The primary objective of the Faculty of Architecture is to impart high quality education and training with a view to spawn creative talent to serve as academics, researchers and practitioners in the field of Architecture.

5.14.2 Constituent Departments

It is recommended that the Faculty of Architecture may function as a single entity with no constituent departments with a focus on the following areas

- Planning;
- Architecture; and
- Landscape Design.

5.14.3 Academic Programmes & Student Intake

i The Faculty of Architecture shall offer the following Academic Programmes:

Programme	Area of Focus	Duration	Annual Student Intake	Year of Start
B. Arch.	Building Science & Architecture / Landscape Architecture	5 years	40	A.Y. 1
B. Planning	Infrastructure & Urban Planning	4 years	20	A.Y. 3
M. Arch.	Built Environment	2 years	20	A.Y. 1
Ph. D.	All areas of focus of the Faculty of Art & Architecture	Flexible (with scholarship for a maximum of 4 years)	Flexible	A.Y. 2

- (ii) Based on the recommended annual student intake of students for various academic programs as indicated hereinabove the overall student strength for the academic programs proposed to be offered under the aegis of the Faculty of Architecture is 320 students out of which 280 are at the Bachelor's level and 40 at the Master's level. The projected year-wise student strength for the Faculty of Architecture with phasing for various programmes as indicated in the table hereinabove has been given in Table 4.4 (G).

5.14.4 Faculty Requirement

- (i) Based on the current UGC norms for faculty to student ratio of 1:15 for the Bachelor's Degree and 1:10 for the Master's Degree Programmes for the Architecture education sector the total strength of faculty strength for the Faculty of Architecture works out to be 23.
- (ii) It is further recommended that the cadre distribution between the three faculty cadres of Professor, Associate Professor and Assistant Professor be determined on the basis of the ratio of 1:2:4. On the basis of the above stated ratios the cadre distribution to be earmarked for individual areas of focus of the Faculty of Architecture works out as indicated hereunder:

Areas of Focus / Cadre Position	Professor	Associate Professor	Assistant Professor	TOTAL
Architecture	02	05	09	16
Planning	01	01	03	05
Landscape Design	---	01	01	02
TOTAL	03	07	13	23

- (iii) On the basis of the projected year-wise student strength for academic programmes of the Faculty of Architecture as indicated in Table 4.4 (G) the year-wise faculty strength is determined to be as indicated hereunder in Table 5.13:

Table 5.13: Year-wise Faculty Strength of the Faculty of Architecture

Cadre Position / Year	I	II	III	IV	V	VI	VII	VIII	IX	X
Professor	01	01	02	02	03	03	03	03	03	03
Associate Professor	01	03	04	05	06	07	07	07	07	07
Assistant Professor	03	05	07	10	12	13	13	13	13	13
TOTAL	05	09	13	17	21	23	23	23	23	23

- (iv) It may be noted that the prescribed faculty norms of 1:15 and 1:10 for UG and PG Programmes, respectively have primarily been determined keeping in mind the functions of teaching and research guidance in a fully developed institution. However, during the initial establishment phase the role of the faculty extends way beyond the teaching and research guidance function and hence during this initial phase it is necessary to have on rolls a critical mass of faculty beyond what is determined on the basis of the prescribed norm. It is thus recommended that the faculty strength for the Faculty of Architecture be quickly built-up to a critical mass of 10 faculty members before basing the faculty requirement on the prescribed norm.

5.14.5 Requirement of Space and Support Manpower

The requirement of space and support manpower for the Faculty of Architecture is as indicated hereunder in Table 5.14:

Table 5.14: Space & Support Staff Requirement for Faculty of Architecture

Function	Space (Sq. m.)#	Support Staff
FACULTY BUILDING		
Office of the Dean, Faculty of Architecture	50	---
Administrative Office of the Faculty of Architecture	50	02: Cat. IV (A/B)
Faculty Offices (23 offices @ 15 sq. m. each)	345	---
Cubicles for Project Staff & Post-Doctoral Fellows (01 room With 05 cubicles @ 5 sq. m. each cubicle)	25	---
Cubicles for Research Scholars (01 room with 05 cubicles @ 5 sq. m. each cubicle)	25	---
Offices for Visiting Faculty (01 room to seat 3 visitors each @ 10 sq. m.)	30	---
Seminar – cum - Committee Rooms (01 Nos. @ 50 sq. m. each)	50	---
Common Room for Students / Faculty (2 Nos. @ 50 sq. m. each)	100	---
Pantry (2 Nos. attached to the Common Rooms @ 05 sq. m. each)	10	---
Reception Lounge	200	01: Cat. IV (A/B)
Reprography Room	25	---
Educational Technology Room	25	---
Computation Room	25	---
Store	50	01: Cat. IV (A/B)
Branch Library Faculty of Art & Architecture	50	01: Cat. IV (A/B)
Sub-Total: FACULTY BUILDING (excluding Toilets & Circulation Corridors)	1060	05: Cat. IV (A/B)
LABORATORY COMPLEX		
• Planning & Architecture: Design Studio / Surveying Laboratory / Material Testing & Structures Laboratory / Workshop / Art Studio / Materials Museum / Exhibition Room	300	04: Cat. III (A/B)
• CAD Laboratory	25	01: Cat. III (A/B)
• Computer Graphics Laboratory	25	01: Cat. III (A/B)
Sub – Total: LABORATORY COMPLEX (excluding toilets and circulation corridors)	350	06: Cat. III (A/B);
TOTAL (excluding toilets and circulation corridors)	1410	06: Cat. III (A/B); 05: Cat. IV (A/B)

the space requirement is only indicative. The actual space has been worked out on the basis of space under construction as given in Chapter 8.

5.15 FACULTY OF SOCIAL & HUMAN SCIENCES

5.15.1 Academic Objectives

The primary roles of the Faculty of Social & Human Sciences are:

- (i) Offering education and training of world quality at the master's and doctoral levels to spawn professionals with a capacity to serve as academics, researchers and practitioners in the broad areas covering the field of social & human sciences; and
- (ii) Offering **FOUNDATION COURSES** in the domain of Social & Human Sciences to develop in the baccalaureate and master's students of various technology disciplines:
 - Competency in communication, both oral and written;
 - Knowledge of human cultures, past and present, and the ways in which they have influenced one another;
 - An awareness of concepts, ideas and systems of thought that underlie human endeavour;
 - An understanding of the social, political and economic framework of society;
 - Sensitivity to modes of communication and self-expression in the arts; and
 - Sensitivity to the intellectual, moral and social issues and the consequences of scientific and technological activities and practices.

5.15.2 Constituent Departments:

It is recommended that the Faculty of Social & Human Sciences may function as a single entity with no constituent departments with a focus on the following functional areas from amongst the broad spectrum of knowledge areas encompassed in the domain of Social & Human Sciences:

- Economics;
- Psychology;
- Sociology;
- English;
- Linguistics;
- French / German;
- World History & Culture; and
- Fine Arts.

5.15.3 Academic Programs & Student Intake

- (i) The Faculty of Social & Human Sciences shall offer the following academic programmes:

Programme	Areas of Focus	Duration	Annual Student Intake	Year of Start
M. A. (Economics)	Economics	2 years	20	
M. A. (Psychology)	Psychology	2 years	20	
M. A. (Sociology)	Sociology	2 years	20	
M. A. (Organizations & Development)* * to be offered jointly with the Faculty of Commerce & Management without any coordination role	Organizations & Development	2 years	20	
MFA	Commercial Art / Rock Art	2 years	20	A.Y. 5
Foundation Courses	Foundation Courses in all areas of focus of the Faculty of Social & Human Sciences	---	---	
Ph. D.	All areas of focus of the Faculty of Social & Human Sciences	Flexible (with scholarship for a maximum of 4 years)	Flexible	

- ii Based on the recommended annual student intake of students for various academic programmes as indicated hereinabove the overall student strength for the academic programmes proposed to be offered under the aegis of the Faculty of Social & Human Sciences is 160 students all of whom are at the Master's level. In addition the Faculty of Social & Human Sciences would draw students at the doctoral level from the central pool and offer courses on an ala carte basis in its area of focus for students of other programmes offered at the main campus of the University. The projected year-wise student strength for the Faculty of Social & Human Sciences with phasing for various programmes as indicated in the table hereinabove has been given in Table 4.4 (H).

5.15.4 Faculty Requirement

- (i) Based on the current UGC norms for faculty to student ratio of 1:15 for the Master's Degree Programmes for the Social & Human sciences education sector the total strength of faculty strength for the Faculty of Social & Human Sciences works out to be 10. In addition 10 faculty positions are proposed to be allotted to the Faculty of Social & Human Sciences out of the pool for the teaching of FOUNDATION COURSES to students of various technology disciplines. Also 02 faculty positions are proposed to be allotted to the Faculty of Social & Human Sciences for the shared load with the Faculty of Commerce & Management in the Master's Programme in "Organization & Development".
- (ii) It is further recommended that the cadre distribution between the three faculty cadres of Professor, Associate Professor and Assistant Professor be determined on the basis of the ratio of 1:2:4. On the basis of the above stated ratios the cadre distribution to be earmarked for individual areas of focus of the Faculty of Social & Human Sciences works out as indicated hereunder:

Areas of Focus / Cadre Position	Professor	Associate Professor	Assistant Professor	TOTAL
Economics	01	01	02	04
Psychology	01	01	02	04
Sociology	01	01	02	04
English	00	02	02	04
World History & Culture	00	00	01	01
Fine Arts	00	01	01	02
Linguistics	00	00	01	01
French	00	00	01	01
German	00	00	01	01
Total	03	06	13	22

- (iii) On the basis of the projected year-wise student strength for academic programmes of the Faculty of Social & Human Sciences as indicated in Table 4.4 (H) the year-wise faculty strength is determined to be as indicated hereunder in Table 5.15:

Table 5.15: Year-wise Faculty Strength of the Faculty of Social & Human Sciences

Cadre Position / Year	I	II	III	IV	V	VI	VII	VIII	IX	X
Professor	01	01	02	02	03	03	03	03	03	03
Associate Professor	02	03	03	04	05	06	06	06	06	06
Assistant Professor	04	06	07	08	10	13	13	13	13	13
TOTAL	07	10	12	14	18	22	22	22	22	22

- iii It may be noted that the prescribed faculty norm of 1:15 has primarily been determined keeping in mind the functions of teaching and research guidance in a fully developed institution. However, during the initial establishment phase the role of the faculty extends way beyond the teaching and research guidance function and hence during this initial phase it is necessary to have on rolls a critical mass of faculty beyond what is determined on the basis of the prescribed norm. It is thus recommended that the faculty strength for the Faculty of Social & Human Sciences be quickly built-up to a critical mass of 10 faculty members before basing the faculty requirement on the prescribed norm.

5.15.5 Requirement of Space and Support Manpower

The requirement of space and support manpower for the Faculty of Social & Human Sciences is as indicated hereunder in Table 5.16:

Table 5.16: Space & Support Staff Requirement for Faculty of Social & Human Sciences

Function	Space (Sq. m.)#	Support Staff
FACULTY BUILDING		
Office of the Dean, Faculty of Social & Human Sciences	50	---
Administrative Office of the Faculty of Social & Human Sciences	50	03: Cat. IV (A/B)
Faculty Offices (22 offices @ 15 sq. m. each)	330	---
Cubicles for Project Staff & Post-Doctoral Fellows (01 room with 05 cubicles @ 5 sq. m. each cubicle)	25	---
Cubicles for Research Scholars (01 room with 05 cubicles @ 5 sq. m. each cubicle)	25	---
Offices for Visiting Faculty (01 room to seat 3 visitors each @ 10 sq. m.)	30	---
Seminar – cum - Committee Rooms (01 Nos. @ 50 sq. m. each)	50	---
Common Room for Students / Faculty (2 Nos. @ 50 sq. m. each)	100	---
Pantry (2 Nos. attached to the Common Rooms @ 05 sq. m. each)	10	---
Reception Lounge	200	01: Cat. IV (A/B)
Reprography Room	25	---
Educational Technology Room	25	---
Computation Room	25	---
Branch Library Faculty of Social & Human Sciences	50	01: Cat. IV (A/B)
Sub-Total: FACULTY BUILDING (excluding Toilets & Circulation Corridors)	995	05: Cat. IV (A/B)
LABORATORY COMPLEX		
• Language Laboratory	50	01: Cat. III (A/B)
• Clinical Psychology Laboratory	25	01: Cat. III (A/B)
• Rock Art Studio	25	01: Cat. III (A/B)
• Commercial Art Studio	25	01: Cat. III (A/B)
Sub – Total: LABORATORY COMPLEX (excluding toilets and circulation corridors)	125	04: Cat. III (A/B);
TOTAL (excluding toilets and circulation corridors)	1120	04: Cat. III (A/B); 05: Cat. IV (A/B)

the space requirement is only indicative. The actual space has been worked out on the basis of space under construction as given in Chapter 8.

5.16 FACULTY OF TEACHER TRAINING AND EDUCATION

5.16.1 Academic Objectives

The Faculty of Teacher Training & Education is an overarching faculty concerned with the quality improvement and up-gradation of the core teaching function of the university and its constituent and affiliated institutions. The primary roles of the Faculty of Teacher Training and Education are as listed hereunder:

- (i) Offering education and training at the Bachelor's, Post Graduate Diploma and Master's levels to enable the students undergoing its programmes to acquire the necessary wherewithal in the realm of educational psychology, teaching methodology and assessment techniques to more effectively serve as faculty members;
- (ii) Offering opportunity to conduct research in educational technology and programmes leading to Ph.D. in educational technology;
- (iii) Offering short modular courses providing the necessary wherewithal in the areas of educational psychology, teaching methodology and teaching-learning resources for in-service training of teachers engaged in teaching in institutions of higher education; and
- (iv) Liaising with other Faculties of Study at IKGPTU in offering academic programmes / individual courses in the e-learning mode through videoconferencing / virtual classrooms and in advising with regards audio-visual resource development and curriculum development, assessment techniques and other core teaching-learning functions,

5.16.2 Constituent Departments/Functional Sections

It is recommended that the Faculty of Teacher Training and Education may function as a single entity with no demarcated constituent departments but with the following broad functional units to be coordinated by Unit Coordinators drawn from the faculty at large and with individual faculty members participating in their respective areas of specialisations.

- Undergraduate, Postgraduate and Master’s levels Programmes;
- Short duration Modular Training Programmes on Effective Teaching, Curriculum Development and other areas of educational technology.
- Academic and Collaborative Research; and
- Curriculum Development and e-learning activities.

5.16.3 Academic Programmes and Student Intake

- (i) The Faculty of Teacher Training & Education shall offer the following academic programmes:

Program	Areas of Focus	Duration	Annual Student Intake	Year of Start
UG Diploma (Technical Teaching)	<ul style="list-style-type: none"> •Educational psychology of teaching and learning •Audio-visual and electronic resources which can be employed by teachers and students face-to-face or in distance and self-learning mode •Teaching methodology, assessment, feedback and other aspects in relation to classroom management. 	6 months	30 students	Year 2
B. T. Ed. (Technical Education)	<ul style="list-style-type: none"> •Educational psychology of teaching and learning •Audio-visual and 	1 year	30 students	Year 2

Program	Areas of Focus	Duration	Annual Student Intake	Year of Start
	<p>electronic resources which can be employed by teachers and students face-to-face or in distance and self-learning mode</p> <ul style="list-style-type: none"> •Teaching methodology, assessment, feedback and other aspects in relation to classroom management. 			
PG Diploma (Guidance & Counselling / Life Skills Development)	Guidance & Counselling / Life Skills Development	1 year	20 students in each programme	Year 5
M. Tech. (Educational Technology)	Educational Technology	2 years	20 students	Year 3
Integrated Teacher Training Modules TTM1 and TTM2	<ul style="list-style-type: none"> •Educational psychology of teaching and learning •Audio-visual and electronic resources which can be employed by teachers and students face-to-face or in distance and self-learning mode •Teaching methodology, assessment, feedback and other aspects in relation to classroom 	2 weeks for Integrated Module TTM1 followed by the next 2 weeks integrated Module TTM2.	Flexible (Groups of 10 to 20 in-service teachers)	Year 2

Program	Areas of Focus	Duration	Annual Student Intake	Year of Start
	management.			
Ph. D.	all areas of focus of the Faculty of Teacher Training & Education	Flexible (up to 4 years with scholarship)	Flexible	Year 2

- (ii) Based on the recommended annual student intake of students for various academic programmes as indicated hereinabove the overall student strength for the academic programmes proposed to be offered under the aegis of the Faculty of Teacher Training & Education is 140 students out of which 60 are at the Baccalaureate level, 40 at the PG Diploma level and 40 are at the Master's level. In addition the Faculty of Teacher Training & Education would draw students at the doctoral level from the central pool. The projected year-wise student strength for the Faculty of Teacher Training & Education with phasing for various programmes as indicated in the table hereinabove has been given in Table 4.4 (I).

5.16.4 Faculty Requirement

- (i) It is proposed that the faculty will have specialisations in different complimentary areas in the broad field of educational technology including the following:
- Educational Psychology;
 - Teaching Methodology;
 - Educational Methods and Research;
 - Curriculum Development;
 - Distance Learning; and
 - Instructional Technology.
- (ii) Since the student intake for the UG Diploma and B. Tech. Ed. Programmes that are classified as UG Programmes is at the baccalaureate level it is

proposed that the faculty norm for these two programmes as well as for the PG Diploma and Master's Programmes be based on a faculty to student ratio of 1:10 in consonance with the UGC norm for Post Graduate level of education in the technology education sector. On the above stated basis the faculty strength for the Faculty of Teacher Training & Education works out to be 14. In addition it is proposed that 07 faculty members may be provided to the Faculty of Teacher Training & Education to cater to the teaching of the short duration modular courses. Thus it is proposed that the total faculty strength for the Faculty of Teacher Training & Education be 21.

- (iii) It is further recommended that the cadre distribution between the three faculty cadres of Professor, Associate Professor and Assistant Professor be determined on the basis of the ratio of 1:2:4. On the basis of the above stated ratios the cadre distribution for individual sub-units of the Faculty of Teacher Training and Education works out as indicated hereunder:

Department / Cadre Position	Professor	Associate Professor	Assistant Professor	TOTAL
Educational Psychology	01	01	02	04
Teaching Methodology	01	01	02	04
Educational Methods and Research	01	01	02	04
Curriculum Development	00	01	02	03
Distance Learning	00	01	02	03
Instructional Technology	00	01	02	03
TOTAL	03	06	12	21

- (iv) Based on the projected year-wise student strength for academic programmes of the Faculty of Teacher Training & Education as indicated in Table 4.4 (I) the year-wise faculty strength is determined to be as indicated hereunder in Table 5.17:

Table 5.17: Year-wise Faculty Strength of the Faculty of Teacher Training & Education

Cadre Position / Year	I	II	III	IV	V	VI	VII	VIII	IX	X
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Cadre Position / Year	I	II	III	IV	V	VI	VII	VIII	IX	X
Professor	---	01	01	02	03	03	03	03	03	03
Associate Professor	---	02	03	04	05	06	06	06	06	06
Assistant Professor	---	05	06	08	11	12	12	12	12	12
TOTAL	---	08	10	14	19	21	21	21	21	21

- (v) It may be noted that the prescribed faculty norm of 1:10 has primarily been determined keeping in mind the functions of teaching and research guidance in a fully developed institution. However, during the initial establishment phase the role of the faculty extends way beyond the teaching and research guidance function and hence during this initial phase it is necessary to have on rolls a critical mass of faculty beyond what is determined on the basis of the prescribed norm. It is thus recommended that the faculty strength for the Faculty of Teacher Training and Education be quickly built-up to a critical mass of 10 faculty members before basing the faculty requirement on the prescribed norm.

5.16.5 Requirement of Space and Support Manpower

The requirement of space and support manpower for the Faculty of Teacher Training & Education is as indicated hereunder in Table 5.18:

Table 5.18: Space & Support Staff Requirement for Faculty of Teacher Training & Education

Function	Space (sq. m.)#	Support Staff
FACULTY BUILDING		
Office of the Dean, Faculty of Teacher Training & Education	50	---
Administrative Office of the Faculty of Teacher Training and Education	50	02: Cat. IV (A/B)
Offices of the Unit Coordinators (04 Nos. @ 20 sq. m. each)	80	---
Faculty Offices (21 offices @ 15 sq. m. each)	315	---
Cubicles for Project Staff & Post-Doctoral Fellows (01 room with 05 cubicles @ 5 sq. m. each cubicle)	25	---

Function	Space (sq. m.)#	Support Staff
Cubicles for Research Scholars (01 room with 05 cubicles @ 5 sq. m. each cubicle)	25	---
Offices for Visiting Faculty (01 room to seat 3 visitors each @ 10 sq. m.)	30	---
Seminar – cum - Committee Rooms (01 Nos. @ 50 sq. m. each)	50	---
Common Room for Students / Faculty (2 Nos. @ 50 sq. m. each)	100	---
Pantry (2 Nos. attached to the Common Rooms @ 05 sq. m. each)	10	---
Reception Lounge	200	01: Cat. IV (A/B)
Reprography Room	20	---
Strong Room	25	---
Educational Technology Room	25	---
Computation Room	50	---
Store	50	01: Cat. IV (A/B)
Branch Library Faculty of Teacher Training & Education	50	01: Cat. IV (A/B)
Sub-Total: FACULTY BUILDING (excluding Toilets & Circulation Corridors)	1215	05: Cat. IV (A/B)
LABORATORY COMPLEX		
• Educational Psychology Laboratory	50	01: Cat. III (A/B)
• Instructional Technology Laboratory	50	01: Cat. III (A/B)
• Distance Learning Techniques	50	01: Cat. III (A/B)
• Desktop Publishing Facility	25	01: Cat. III (A/B)
• Virtual Classroom Facility	50	01: Cat. III (A/B)
• Audio-visual Development Laboratory	50	01: Cat. III (A/B)
• Curriculum Development Facilities	50	01: Cat. III (A/B)
Sub-Total: Laboratory Complex (excluding Toilets & Circulation Corridors)	325	07: Cat. III (A/B)
TOTAL (excluding Toilets & Circulation Corridors)	1540	07: Cat. III (A/B);

Function	Space (sq. m.)#	Support Staff
		05: Cat. IV (A/B)

the space requirement is only indicative. The actual space has been worked out on the basis of space under construction as given in Chapter 8.

5.17 FACULTY OF PHARMACEUTICAL SCIENCES

5.17.1 Academic Objectives

The primary roles of the Faculty of Pharmaceutical Sciences is to offer education and training of world quality at the bachelor's, master's and doctoral levels in the broad field of Pharmaceutical Sciences.

5.17.2 Constituent Departments:

It is recommended that the Faculty of Social & Human Sciences may function as a single entity with no constituent departments with a focus on the following functional areas from amongst the broad spectrum of knowledge areas encompassed in the domain of Pharmaceutical Sciences:

- Pharmaceutics;
- Pharmacology;
- Pharmacognosy;
- Forensic Pharmacy;
- Medicinal Chemistry; and
- Pharmaceutical Biotechnology.

5.17.3 Academic Programs & Student Intake

- (i) The Faculty of Pharmaceutical Sciences shall offer the following academic programmes:

Programme	Areas of Focus	Duration	Annual Student Intake	Year of Start
B. Pharmacy	Pharmaceutics / Pharmacology / Pharmacognosy / Forensic Pharmacy /Medicinal Chemistry / Pharmaceutical Biotechnology.	4 years	30	A.Y. 5
M. Pharmacy	Medicinal Chemistry	2 years	20	A.Y. 7
Ph. D.	All areas of focus of the Faculty of Pharmaceutical Sciences	Flexible (with scholarship for a maximum of 4 years)	Flexible	A.Y. 7

- (ii) Based on the recommended annual student intake of students for various academic programmes as indicated hereinabove the overall student strength for the academic programmes proposed to be offered under the aegis of the Faculty of Pharmaceutical Sciences is 160 students out of which 120 students are at the Bachelor's level and 40 students are at the Master's level. In addition the Faculty of Pharmaceutical Sciences would draw students at the doctoral level from the central pool. The projected year-wise student strength for the Faculty of Pharmaceutical Sciences with phasing for various programmes as indicated in the table hereinabove has been given in Table 4.4 (J).

5.17.4 Faculty Requirement

- (i) Based on the current UGC norms for faculty to student ratio of 1:15 for the Bachelor's Degree Programmes and 1:10 for the Master's Degree Programmes for the Pharmaceutical Sciences education sector the total strength of faculty strength for the Faculty of Pharmaceutical Sciences works out to be 12.
- (ii) It is further recommended that the cadre distribution between the three faculty cadres of Professor, Associate Professor and Assistant Professor be determined

on the basis of the ratio of 1:2:4. On the basis of the above stated ratios the cadre distribution of the Faculty of Pharmaceutical Sciences works out as 02 Professors, 03 Associate Professors and 07 Assistant Professors.

- (iii) On the basis of the projected year-wise student strength for academic programmes of the Faculty of Pharmaceutical Sciences as indicated in Table 4.4 (J) the year-wise faculty strength is determined to be as indicated hereunder in Table 5.19:

Table 5.19: Year-wise Faculty Strength of the Faculty of Pharmaceutical Sciences

Cadre Position / Year	I	II	III	IV	V	VI	VII	VIII	IX	X
Professor	---	---	---	---	01	01	01	02	02	02
Associate Professor	---	---	---	---	01	01	02	03	03	03
Assistant Professor	---	---	---	---	---	02	05	07	07	07
TOTAL	---	---	---	---	02	04	08	12	12	12

- (iv) It may be noted that the prescribed faculty norms of 1:15 and 1:10 for the Bachelor's and Master's level has primarily been determined keeping in mind the functions of teaching and research guidance in a fully developed institution. However, during the initial establishment phase the role of the faculty extends way beyond the teaching and research guidance function and hence during this initial phase it is necessary to have on rolls a critical mass of faculty beyond what is determined on the basis of the prescribed norm. It is thus recommended that the faculty strength for the Faculty of Pharmaceutical Sciences be quickly built-up to a critical mass of 06 faculty members before basing the faculty requirement on the prescribed norm.

5.17.5 Requirement of Space and Support Manpower

The requirement of space and support manpower for the Faculty of Pharmaceutical Sciences is as indicated hereunder in Table 5.20:

Table 5.20: Space & Support Staff Requirement for Faculty of Pharmaceutical Sciences

Function	Space (Sq. m.)#	Support Staff
FACULTY BUILDING		
Office of the Dean, Faculty of Pharmaceutical Sciences	50	---
Administrative Office of the Faculty of Pharmaceutical Sciences	50	02: Cat. IV (A/B)
Faculty Offices (12 offices @ 15 sq. m. each)	180	---
Cubicles for Project Staff & Post-Doctoral Fellows (01 room with 05 cubicles @ 5 sq. m. each cubicle)	25	---
Cubicles for Research Scholars (01 room with 05 cubicles @ 5 sq. m. each cubicle)	25	---
Offices for Visiting Faculty (01 room to seat 3 visitors Each @ 10 sq. m.)	30	---
Seminar – cum - Committee Rooms (01 Nos. @ 50 sq. m. each)	50	---
Common Room for Students / Faculty (2 Nos. @ 50 sq. m. each)	100	---
Pantry (2 Nos. attached to the Common Rooms @ 05 sq. m. each)	10	---
Reception Lounge	200	01: Cat. IV (A/B)
Reprography Room	25	---
Educational Technology Room	25	---
Computation Room	25	---
Branch Library Faculty of Pharmaceutical Sciences	50	01: Cat. IV (A/B)
Sub-Total: FACULTY BUILDING (excluding Toilets & Circulation Corridors)	845	04: Cat. IV (A/B)
LABORATORY COMPLEX		
• 04 UG / PG Teaching Laboratories and 01 Research Laboratory	200	03: Cat. III (A/B)
Sub – Total: LABORATORY COMPLEX (excluding toilets and circulation corridors)	200	03: Cat. III (A/B);
TOTAL (excluding toilets and circulation corridors)	1045	03: Cat. III (A/B); 04: Cat. IV (A/B)

the space requirement is only indicative. The actual space has been worked out on the basis of space under construction as given in Chapter 8.

5.18 INTERNATIONAL RESOURCE CENTRE FOR HUMAN VALUES & PROFESSIONAL ETHICS

5.18.1 Academic Objectives

The primary role of the International Resource Centre for Human Values & Professional Ethics is to develop amongst students, teachers, technical professionals, bureaucrats, education policy makers a vision for a humane society based on a sound understanding of Universal Human Values & Ethics. Specifically it enjoins through the offering of a Master's, a PG Diploma and a Foundation Course the undertaking of life's journey in a holistic and value-based manner.

5.18.2 Constituent Departments

It is recommended that the International Resource Centre for Human Values & Professional Ethics functions as a single entity with no constituent departments.

5.18.3 Academic Programs & Student Intake

- (i) The International Resource Centre for Human Values & Professional Ethics shall offer the following academic programmes:

Programme	Areas of Focus	Duration	Annual Student Intake	Year of Start
M. Tech. (Holistic Development: Systems & Technologies)	<ul style="list-style-type: none"> • Holistic Perspectives of Nature; • Design of Sustainable Holistic Technologies; • Holistic Systems; • Developing Socially Benign Entrepreneurship 	2 years	10	Year 1
PG Diploma (Universal Human Values & Ethics)	<ul style="list-style-type: none"> • Introduction to Universal Human Values and Value Education • Understanding the Human Being Comprehensively; • Understanding Co-Existence in Existence & its Manifestation; • Values, Relationships & Ethical Human Conduct; • Holistic Development Towards Universal Human Order. 	1 year	10	Year 1
Foundation Course	<ul style="list-style-type: none"> • Introduction to Value Education; • Understanding of Harmony at Various Levels; • Implications of the Right Understanding in Life & Profession 	5 Modules over 28 one hour lectures offered in a 10 day period	Flexible	Year 1

- (ii) Based on the recommended annual student intake of students for various academic programmes as indicated hereinabove the overall student strength for the academic programmes proposed to be offered under the aegis of the International Resource Centre for Human Values & Professional Ethics is 30 students all of whom are at the Postgraduate level. The projected year-wise student strength for the International Resource Centre for Human Values & Professional Ethics with phasing for various programmes as indicated in the table hereinabove has been given in Table 4.4 (K).

5.18.4 Faculty Requirement

- (i) Based on the current UGC norms for faculty to student ratio of 1:10 for the Master's Degree Programmes for the technology education sector the total strength of faculty strength for the International Resource Centre for Human Values & Professional Ethics works out to be 03. In addition it is proposed that the full time faculty be supplemented by Visiting Faculty.
- (ii) It is further recommended that the cadre distribution between the three faculty cadres of Professor, Associate Professor and Assistant Professor be determined on the basis of the ratio of 1:2:4. On the basis of the above stated ratios the cadre distribution for the International Resource Centre for Human Values & Professional Ethics works out as indicated hereunder:
- Professor 01
 - Associate Professor 01
 - Assistant Professor 01
- (ii) On the basis of the projected year-wise student strength for academic programmes of the International Resource Centre for Human Values & Professional Ethics as indicated in Table 4.4 (K) the year-wise faculty strength is determined to be as indicated hereunder in Table 5.21:

Table 5.21: Year-wise Faculty positions for the International Resource Centre for Human Values & Professional Ethics

Cadre Position / Year	I	II	III	IV	V	VI	VII	VIII	IX	X
Professor	01	01	01	01	01	01	01	01	01	01
Associate Professor	01	01	01	01	01	01	01	01	01	01
Assistant Professor	01	01	01	01	01	01	01	01	01	01
TOTAL	03	03	03	03	03	03	03	03	03	03

5.18.5 Requirement of Space and Support Manpower

- (i) The requirement of space and support manpower for the International Resource Centre for Human Values & Professional Ethics is as indicated hereunder in Table 5.22:

Table 5.22: Space & Support Staff Requirement for International Resource Centre for Human Values & Professional Ethics

Function	Space (Sq. m.)#	Support Staff
FACULTY BUILDING		
Office of the Head, IRCHVPE	50	---
Administrative Office of IRCHVPE	50	01: Cat. IV (A/B)
Faculty Offices (03 offices @ 15 sq. m. each)	45	---
Cubicles for Project Staff & Post-Doctoral Fellows (01 room with 05 cubicles @ 5 sq. m. each cubicle)	25	---
Cubicles for Research Scholars (01 room with 05 cubicles @ 5 sq. m. each cubicle)	25	---
Offices for Visiting Faculty (01 room to seat 3 visitors each @ 10 sq. m.)	30	---
Seminar – cum - Committee Rooms (01 Nos. @ 50 sq. m. each)	50	---
Total	275	01: Cat. IV (A/B)

the space requirement is only indicative. The actual space has been worked out on the basis of space under construction as given in Chapter 8.

5.19 IKGPTU-AMRITSAR CAMPUS

5.19.1 Academic Objectives

The primary objective of IKGPTU-Amritsar Campus is capacity-building in various disciplines in the domain of engineering & technology through imparting of integrative education at the undergraduate level for meritorious technical diploma holders and rural youth of the Majhabelt of the State of Punjab at affordable cost near their place of residence.

5.19.2 Constituent Departments

It is proposed that the IKGPTU-Amritsar Campus may have the following constituent academic departments:

- Computer Science & Engineering;
- Plastics Engineering & Technology;
- Engineering Sciences;
- Mathematical & Applied Sciences; and
- Humanities & Social Sciences.

5.19.3 Academic Programmes & Student Intake

(i) The IKGPTU-Amritsar Campus shall offer the following academic programmes:

Programme	Areas of Focus	Duration	Annual Student Intake	Year of Start
B. Tech. (Computer Science & Engineering)	Computer Graphics & CAD / Software Engineering / Databases & Information Systems / Social Media Application / Mobile Computing / Data Analytics / Cloud Computing	Lateral Entry / Regular Entry: 03 / 04;	Lateral Entry / Regular Entry: 30 / 15;	A.Y. 1
B. Tech. (Plastic Engineering & Technology)	Plastic Processing & Machinery / Physics of Plastics / Manufacturing of Plastic & Thermoplastic Material / Plastic Recycling / Plastic Packaging / Plastic Moulding, Extrusion / Plastic Mould & Die Design / Medical Plastics / Plastic Testing / Adhesives & Sealants	Lateral Entry / Regular Entry: 03 / 04;	Lateral Entry / Regular Entry: 20 / 10;	A.Y. 3

(ii) Based on the recommended annual student intake of students for various academic programmes as indicated hereinabove the overall student strength

for the academic programmes proposed to be offered at the IKGPTU-Amritsar Campus is 250 students all at the Baccalaureate level. The projected year-wise student strength of the IKGPTU-Amritsar Campus with phasing for various programmes as indicated in the table hereinabove has been given in Table 4.6.

5.19.4 Faculty Requirement

- (i) Based on the current UGC norms for faculty to student ratio of 1:15 for the UG Degree Programmes for the Engineering & Technology sector the total faculty strength of the IKGPTU-Amritsar Campus works out to be 17.
- (ii) It is further recommended that the cadre distribution between the three faculty cadres of Professor, Associate Professor and Assistant Professor be determined on the basis of the ratio of 1:2:4. On the basis of the above stated ratios the cadre distribution for individual sub-units of the IKGPTU-Amritsar Campus works out as indicated hereunder:

Department / Cadre Position	Professor	Associate Professor	Assistant Professor	TOTAL
Computer Science & Engineering	01	02	05	08
Plastic Engineering & Technology	01	02	03	06
Engineering Sciences	---	01	02	03
Mathematical & Applied Sciences*	---	---	---	---
Humanities & Social Sciences*	---	---	---	---
TOTAL	02	05	10	17

* To be provided through Visiting Faculty from local Colleges

- (iii) Based on the projected year-wise student strength for academic programmes offered at the IKGPTU-Amritsar Campus as indicated in Table 4.6 the year-wise faculty strength is determined to be as indicated hereunder in Table 5.23:

Table 5.23: Year-wise Faculty Strength of the IKGPTU-Amritsar Campus

Cadre Position / Year	I	II	III	IV	V	VI	VII	VIII	IX	X
Professor	01	01	01	02	02	02	02	02	02	02
Associate Professor	---	01	02	03	04	05	05	05	05	05
Assistant Professor	---	02	04	06	07	10	10	10	10	10
TOTAL	01	04	07	11	13	17	17	17	17	17

- (iv) It may be noted that the prescribed faculty norm of 1:15 has primarily been determined keeping in mind the functions of teaching in a fully developed institution. However, during the initial establishment phase the role of the faculty extends way beyond the teaching function and hence during this initial phase it is necessary to have on rolls a critical mass of faculty beyond what is determined on the basis of the prescribed norm. It is thus recommended that the faculty strength of the IKGPTU-Amritsar Campus be quickly built-up to a critical mass of 10 faculty members before basing the faculty requirement on the prescribed norm.

5.19.5 Requirement of Space and Support Manpower

The requirement of space and support manpower for the IKGPTU-Amritsar Campus is as indicated hereunder in Table 5.24:

Table 5.24: Space & Non-Faculty Staff Requirement of the IKGPTU-Amritsar Campus

Function	Space (Sq. m.)#	Non-Faculty Staff
ADMINISTRATIVE & FACULTY BUILDING		
Office of the Principal / Director IKGPTU-Amritsar Campus	50	01: Executive Assistant --- Cat. IV A/B
Administrative Offices of the IKGPTU-Amritsar Campus	250	01: Deputy Registrar --- Cat. IIA/B 01: Assistant Registrar --- Cat. II A/B 01: Deputy Finance Officer --- Cat. II A/B 04: Executive Assistants --- Cat. IV A/B 01: Accounts Assistant --- Cat. IV A/B
Offices of the Heads of Department (02 Nos. @ 30 sq. m. each)	60	02: Executive Assistants --- Cat. IV A/B
Reception Lounge	100	01: Executive Assistant --- Cat. IV A/B
Faculty Offices (17 offices @ 15 sq. m. each)	255	---
Cubicles for Project / Research Staff (01 room with 05 cubicles @ 5 sq. m. each cubicle)	25	---
Offices for Visiting Faculty (01 room to seat 3 visitors each @ 10 sq. m.)	30	---
Strong Room	25	---
Seminar – cum - Committee Rooms (01 Nos. @ 50 sq. m. each)	50	---
Common Room for Students / Faculty (2 Nos. @ 50 sq. m. each)	100	---
Pantry (attached to the Common Rooms @ 05 sq. m. each)	05	---
Reprography Room	25	---
Store	50	01: Stores Assistant --- Cat. IV A/B
Sub – Total: ADMINISTRATIVE & FACULTY COMPLEX (excluding toilets and circulation corridors)	1025	03: Cat. II A/B; 10: Cat. IV A/B
CENTRAL ACADEMIC SERVICES FACILITIES		
Central Computing Facility	100	02: Programmers --- Cat II A/B; 01: Computer Engineer ---

Function	Space (Sq. m.)#	Non-Faculty Staff
		Cat. III A/B
Central Library Facility	150	01: Assistant Librarian --- Cat. Academic Non-Teaching; 02: Professional Assistants (Library) --- Cat. IV A/B
Educational Technology & Videoconferencing Facility	100	01: Technical Assistant --- Cat. III A/B; 01: AV Technician --- Cat. III A/B
Central Workshop Facility	200	01: Foreman --- Cat. III A/B 04: Mechanics --- Cat. III A/B
Hobby-cum-Innovation Centre	50	---
Auditorium: to seat 300 persons	600	01: AV Technician --- Cat. III A/B
Classroom Complex <ul style="list-style-type: none"> Lecture Halls: 02 for seating 60 students & 04 for seating 45 students @ 2 sq. m. / student Tutorial Rooms: 06 for seating 30 students @ 2 sq. m. / student Drawing Halls: 01 for seating 60 students @ 4 sq. m. / student 	1200	01: Caretaker --- Cat. IV A/B
Sub – Total: Central Academic Services Complex (excluding toilets and circulation corridors)	2400	02: Cat. II A/B; 09: Cat. III A/B; 03: Cat. IV A/B; 01: Academic Non-Teaching
LABORATORY COMPLEX		
• Language Laboratory: 01 Nos. @ 50 sq. m.	50	01: Laboratory Assistant --- Cat. IIIA/B
• Applied Sciences Laboratories: 02 Nos. @ 50 sq. m. each	100	02: Laboratory Assistant --- Cat. IIIA/B
• Engineering Sciences Laboratories: 02 Nos. @ 50 sq. m. each	100	02: Laboratory Assistant --- Cat. IIIA/B
• CSE Laboratories: 03 Nos. @ 50 sq. m. each	150	03: Laboratory Assistant --- Cat. IIIA/B
• Plastics Engineering & Technology	300	01: Technical Assistant ---

Function	Space (Sq. m.)#	Non-Faculty Staff
Laboratories; 06 Nos. @ 50 sq. m. each		Cat. III A/B 05: Laboratory Assistant --- Cat. IIIA/B
Sub – Total: LABORATORY COMPLEX (excluding toilets and circulation corridors)	700	14: Cat. III A/B
TOTAL (excluding toilets and circulation corridors)	4125	05:Cat. II A/B; 23: Cat. III A/B; 13: Cat. IV A/B; 01: Academic Non-Teaching

the space requirement is only indicative. The actual space has been worked out on the basis of available space as given in Chapter 8.

5.20 IKGPTU- BATALA CAMPUS

5.20.1 Academic Objectives

The primary objective of the IKGPTU-Batala Campus is capacity-building in various disciplines in the domain of engineering & technology through imparting of integrative education at the undergraduate level for meritorious technical diploma holders and rural youth belonging to the weaker sections of society of the State of Punjab at affordable cost near their place of residence.

5.20.2 Constituent Departments

It is proposed that the IKGPTU-Batala Campus may have the following constituent academic departments:

- Civil Engineering;
- Electrical Engineering;
- Mechanical Engineering;
- Mathematical & Applied Sciences; and

- Humanities & Social Sciences.

5.20.3 Academic Programmes & Student Intake

- (i) The IKGPTU-Batala Campus shall offer the following academic programmes:

Programme	Areas of Focus	Duration	Annual Student Intake	Year of Start
B. Tech. (Civil Engineering)	Structural Engineering / Hydraulics & Water Resources Mgt. / Geotechnical Engineering / Construction Management / Public Health Engineering / Transportation Engineering	Lateral Entry / Regular Entry: 03 / 04;	Lateral Entry / Regular Entry: 30 / 15;	A.Y. 1
B. Tech. (Electrical Engineering)	Power Systems / Electrical Machinery	Lateral Entry / Regular Entry: 03 / 04;	Lateral Entry / Regular Entry: 30 / 15;	A.Y. 1
B. Tech. (Mechanical Engineering)	Manufacturing Technology / Fluid Mechanics & Fluid Machinery / Thermal Sciences / Mechanical Design / Industrial Engineering	Lateral Entry / Regular Entry: 03 / 04;	Lateral Entry / Regular Entry: 30 / 15;	A.Y. 1

- (ii) Based on the recommended annual student intake of students for various academic programmes as indicated hereinabove the overall student strength for the academic programmes proposed to be offered at the IKGPTU-Batala Campus is 450 students all at the Baccalaureate level. The projected year-wise student strength of the IKGPTU-Batala Campus with phasing for various programmes as indicated in the table hereinabove has been given in Table 4.6.

5.20.4 Faculty Requirement

- (i) Based on the current UGC norms for faculty to student ratio of 1:15 for the UG Degree Programmes for the engineering & technology education sector the total faculty strength of the IKGPTU-Batala Campus works out to be 30.
- (ii) It is further recommended that the cadre distribution between the three faculty cadres of Professor, Associate Professor and Assistant Professor be determined on the basis of the ratio of 1:2:4. On the basis of the above stated ratios the cadre distribution for individual sub-units of the IKGPTU-Batala Campus works out as indicated hereunder:

Department / Cadre Position	Professor	Associate Professor	Assistant Professor	TOTAL
Civil Engineering	01	03	06	10
Electrical Engineering	01	03	06	10
Mechanical Engineering	02	03	05	10
Mathematical & Applied Sciences*	---	---	---	---
Humanities & Social Sciences*	---	---	---	---
TOTAL	04	09	17	30

* To be provided through Visiting Faculty from local Colleges

- (iii) Based on the projected year-wise student strength for academic programmes offered at the IKGPTU-Batala Campus, as indicated in Table 4.6, the year-wise faculty strength is determined to be as indicated hereunder in Table 5.25:

Table 5.25: Year-wise Faculty Strength of the IKGPTU-Batala Campus

Cadre Position / Year	I	II	III	IV	V	VI	VII	VIII	IX	X
Professor	---	02	03	04	04	04	04	04	04	04
Associate Professor	01	03	06	09	09	09	09	09	09	09
Assistant Professor	02	07	11	17	17	17	17	17	17	17
TOTAL	03	12	20	30	30	30	30	30	30	30

- (iv) It may be noted that the prescribed faculty norm of 1:15 has primarily been determined keeping in mind the functions of teaching in a fully developed institution. However, during the initial establishment phase the role of the

faculty extends way beyond the teaching function and hence during this initial phase it is necessary to have on rolls a critical mass of faculty beyond what is determined on the basis of the prescribed norm. It is thus recommended that the faculty strength of the IKGPTU-Batala Campus be quickly built-up to a critical mass of 10 faculty members before basing the faculty requirement on the prescribed norm.

5.20.5 Requirement of Space and Support Manpower

The requirement of space and support manpower for the IKGPTU-Batala Campus is as indicated hereunder in Table 5.26:

Table 5.26: Space & Non-Faculty Staff Requirement for the IKGPTU-Batala Campus

Function	Space (Sq. m.)#	Non-Faculty Staff
ADMINISTRATIVE & FACULTY BUILDING		
Office of the Principal / Director IKGPTU-Batala Campus	50	01: Executive Assistant --- Cat. IV A/B
Administrative Offices of the IKGPTU-Batala Campus	250	01: Deputy Registrar --- Cat. IIA/B 01: Assistant Registrar --- Cat. II A/B 01: Deputy Finance Officer --- Cat. II A/B 04: Executive Assistants --- Cat. IV A/B 01: Accounts Assistant --- Cat. IV A/B
Offices of the Heads of Department (03 Nos. @ 30 sq. m. each)	90	03: Executive Assistants --- Cat. IV A/B
Reception Lounge	100	01: Executive Assistant --- Cat. IV A/B
Faculty Offices (30 offices @ 15 sq. m. each)	450	---
Cubicles for Project / Research Staff (01 room with 05 cubicles @ 5 sq. m. each cubicle)	25	---
Offices for Visiting Faculty (01 room to seat 3 visitors each @ 10 sq. m.)	30	---
Strong Room	25	---
Seminar – cum - Committee Rooms (01 Nos. @ 50 sq. m. each)	50	---

Function	Space (Sq. m.)#	Non-Faculty Staff
Common Room for Students / Faculty (2 Nos. @ 50 sq. m. each)	100	---
Pantry (attached to the Common Rooms @ 05 sq. m. each)	05	---
Reprography Room	25	---
Store	50	01: Stores Assistant --- Cat. IV A/B
Sub – Total: ADMINISTRATIVE & FACULTY COMPLEX (excluding toilets and circulation corridors)	1250	03: Cat. II A/B; 11: Cat. IV A/B
CENTRAL ACADEMIC SERVICES FACILITIES		
Central Computing Facility	100	02: Programmers --- Cat II A/B; 01: Computer Engineer --- Cat. III A/B
Central Library Facility	150	01: Assistant Librarian --- Academic Non-Teaching; 02: Professional Assistants (Library) --- Cat. IV A/B
Educational Technology & Videoconferencing Facility	100	01: Technical Assistant --- Cat. III A/B; 01: AV Technician --- Cat. III A/B
Central Workshop Facility	200	01: Foreman --- Cat. III A/B 04: Mechanics --- Cat. III A/B
Hobby-cum-Innovation Centre	50	---
Auditorium: to seat 300 persons	600	01: AV Technician --- Cat. III A/B
Classroom Complex <ul style="list-style-type: none"> Lecture Halls: 03 for seating 60 students & 06 for seating 45 students @ 2 sq. m. / student Tutorial Rooms: 09 for seating 30 students @ 2 sq. m. / student Drawing Halls: 02 for seating 60 students @ 4 sq. m. / student 	1920	01: Caretaker --- Cat. IV A/B
Sub – Total: Central Academic Services Complex (excluding toilets and circulation corridors)	3120	02: Cat. II A/B; 09: Cat. III A/B; 03: Cat. IV A/B; 01:

Function	Space (Sq. m.)#	Non-Faculty Staff
		Academic on-Teaching
LABORATORY COMPLEX		
• Language Laboratory: 01 Nos. @ 50 sq. m.	50	01: Laboratory Assistant --- Cat. IIIA/B
• Applied Sciences Laboratories: 02 Nos. @ 50 sq. m. each	100	02: Laboratory Assistant --- Cat. IIIA/B
• CE Laboratories: 06 Nos. @ 50 sq. m. each	300	06: Laboratory Assistant --- Cat. IIIA/B
• EE Laboratories: 03 Nos. @ 50 sq. m. each	150	03: Laboratory Assistant --- Cat. IIIA/B
• ME Laboratories; 06 Nos. @ 50 sq. m. each	300	01: Technical Assistant --- Cat. III A/B 05: Laboratory Assistant --- Cat. IIIA/B
Sub – Total: LABORATORY COMPLEX (excluding toilets and circulation corridors)	900	18: Cat. III A/B
TOTAL (excluding toilets and circulation corridors)	5270	05:Cat. II A/B; 27: Cat. III A/B; 13: Cat. IV A/B; 01: Academic Non-Teaching

the space requirement is only indicative. The actual space has been worked out on the basis of available space as given in Chapter 8.

5.21 IKGPTU-BHIKIWIND CAMPUS

5.21.1 Academic Objectives

The primary objective of IKGPTU-Bhikiwind Campus is capacity-building in various disciplines in the domain of engineering & technology through imparting of integrative education at the undergraduate level for meritorious technical diploma

holders and rural youth of the State of Punjab at affordable cost near their place of residence.

5.21.2 Constituent Departments

It is proposed that the IKGPTU-Bhikiwind Campus may have the following constituent academic departments:

- Computer Science & Engineering;
- Mechanical Engineering;
- Engineering Sciences;
- Mathematical & Applied Sciences; and
- Humanities & Social Sciences.

5.21.3 Academic Programmes & Student Intake

- (i) The IKGPTU-Bhikiwind Campus shall offer the following academic programmes:

Programme	Areas of Focus	Duration	Annual Student Intake	Year of Start
B. Tech. (Computer Science & Engineering)	Computer Graphics & CAD / Software Engineering / Databases & Information Systems / Social Media Application / Mobile Computing / Data Analytics / Cloud Computing	Lateral Entry / Regular Entry: 03 / 04;	Lateral Entry / Regular Entry: 30 / 15;	A.Y. 1
B. Tech. (Mechanical Engineering)	Manufacturing Technology / Fluid Mechanics & Fluid Machinery / Thermal Sciences / Mechanical Design / Industrial Engineering	Lateral Entry / Regular Entry: 03 / 04	Lateral Entry / Regular Entry: 30 / 15;	A.Y. 1

- (ii) Based on the recommended annual student intake of students for various academic programmes as indicated hereinabove the overall student strength for the academic programmes proposed to be offered at the IKGPTU-Bhikiwind Campus is 300 students all at the Baccalaureate level. The projected year-wise student strength of the IKHPTU-Bhikiwind Campus with phasing for various programmes as indicated in the table hereinabove has been given in Table 4.6.

5.21.4 Faculty Requirement

- (i) Based on the current UGC norms for faculty to student ratio of 1:15 for the UG Degree Programmes for the engineering & technology education sector the total faculty strength of the IKGPTU-Bhikiwind Campus works out to be 20.
- (ii) It is further recommended that the cadre distribution between the three faculty cadres of Professor, Associate Professor and Assistant Professor be determined on the basis of the ratio of 1:2:4. On the basis of the above stated ratios the cadre distribution for individual sub-units of the IKGPTU-Bhikiwind Campus works out as indicated hereunder:

Department / Cadre Position	Professor	Associate Professor	Assistant Professor	TOTAL
Computer Science & Engineering	01	03	05	09
Mechanical Engineering	02	02	05	09
Engineering Sciences	---	01	01	02
Mathematical & Applied Sciences*	---	---	---	---
Humanities & Social Sciences*	---	---	---	---
TOTAL	03	06	11	20

* To be provided through Visiting Faculty from local Colleges

- (iii) Based on the projected year-wise student strength for academic programmes of the IKGPTU-Bhikiwind Campus as indicated in Table 4.6 the year-wise faculty strength is determined to be as indicated hereunder in Table 5.27:

Table 5.27: Year-wise Faculty Strength of the IKGPTU-Bhikiwind Campus

Cadre Position / Year	I	II	III	IV	V	VI	VII	VIII	IX	X
Professor	---	01	02	03	03	03	03	03	03	03
Associate Professor	01	02	04	06	06	06	06	06	06	06
Assistant Professor	01	05	08	11	11	11	11	11	11	11
TOTAL	02	08	14	20	20	20	20	20	20	20

- (iv) It may be noted that the prescribed faculty norm of 1:15 has primarily been determined keeping in mind the functions of teaching in a fully developed institution. However, during the initial establishment phase the role of the faculty extends way beyond the teaching function and hence during this initial phase it is necessary to have on rolls a critical mass of faculty beyond what is determined on the basis of the prescribed norm. It is thus recommended that the faculty strength of the IKGPTU-Bhikiwind Campus be quickly built-up to a critical mass of 10 faculty members before basing the faculty requirement on the prescribed norm.

5.21.5 Requirement of Space and Support Manpower

The requirement of space and support manpower for the IKGPTU-Bhikiwind Campus is as indicated hereunder in Table 5.28:

Table 5.28: Space & Non-Faculty Staff Requirement for the IKGPTU-Bhikiwind Campus

Function	Space (Sq. m.)#	Non-Faculty Staff
ADMINISTRATIVE & FACULTY BUILDING		
Office of the Principal / Director IKGPTU-Bhikiwind Campus	50	01: Executive Assistant --- Cat. IV A/B
Administrative Offices of the IKGPTU-Bhikiwind Campus	250	01: Deputy Registrar --- Cat. IIA/B 01: Assistant Registrar ---

Function	Space (Sq. m.)#	Non-Faculty Staff
		Cat. II A/B 01: Deputy Finance Officer --- Cat. II A/B 04: Executive Assistants --- Cat. IV A/B 01: Accounts Assistant --- Cat. IV A/B
Offices of the Heads of Department (02 Nos. @ 30 sq. m. each)	60	02: Executive Assistants --- Cat. IV A/B
Reception Lounge	100	01: Executive Assistant --- Cat. IV A/B
Faculty Offices (20 offices @ 15 sq. m. each)	300	---
Cubicles for Project / Research Staff (01 room with 05 cubicles @ 5 sq. m. each cubicle)	25	---
Offices for Visiting Faculty (01 room to seat 3 visitors each @ 10 sq. m.)	30	---
Strong Room	25	---
Seminar – cum - Committee Rooms (01 Nos. @ 50 sq. m. each)	50	---
Common Room for Students / Faculty (2 Nos. @ 50 sq. m. each)	100	---
Pantry (attached to the Common Rooms @ 05 sq. m. each)	05	---
Reprography Room	25	---
Store	50	01: Stores Assistant --- Cat. IV A/B
Sub – Total: ADMINISTRATIVE & FACULTY COMPLEX (excluding toilets and circulation corridors)	1070	03: Cat. II A/B; 10: Cat. IV A/B
CENTRAL ACADEMIC SERVICES FACILITIES		
Central Computing Facility	100	02: Programmers --- Cat II A/B; 01: Computer Engineer --- Cat. III A/B
Central Library Facility	150	01: Assistant Librarian --- Cat. Academic Non-Teaching; 02: Professional Assistants (Library) --- Cat. IV A/B
Educational Technology & Videoconferencing Facility	100	01: Technical Assistant --- Cat. III A/B;

Function	Space (Sq. m.)#	Non-Faculty Staff
		01: AV Technician --- Cat. III A/B
Central Workshop Facility	200	01: Foreman --- Cat. III A/B 04: Mechanics --- Cat. III A/B
Hobby-cum-Innovation Centre	50	---
Auditorium: to seat 300 persons	600	01: AV Technician --- Cat. III A/B
Classroom Complex <ul style="list-style-type: none"> • Lecture Halls: 02 for seating 60 students & 04 for seating 45 students @ 2 sq. m. / student • Tutorial Rooms: 06 for seating 30 students @ 2 sq. m. / student • Drawing Halls: 01 for seating 60 students @ 4 sq. m. / student 	1200	01: Caretaker --- Cat. IV A/B
Sub – Total: Central Academic Services Complex (excluding toilets and circulation corridors)	2400	02: Cat. II A/B; 09: Cat. III A/B; 03: Cat. IV A/B; 01: Academic Non-Teaching
LABORATORY COMPLEX		
• Language Laboratory: 01 Nos. @ 50 sq. m.	50	01: Laboratory Assistant --- Cat. IIIA/B
• Applied Sciences Laboratories: 02 Nos. @ 50 sq. m. each	100	02: Laboratory Assistant --- Cat. IIIA/B
• Engineering Sciences Laboratories: 02 Nos. @ 50 sq. m. each	100	02: Laboratory Assistant --- Cat. IIIA/B
• CSE Laboratories: 03 Nos. @ 50 sq. m. each	150	03: Laboratory Assistant --- Cat. IIIA/B
• Mechanical Engineering Laboratories; 06 Nos. @ 50 sq. m. each	300	01: Technical Assistant --- Cat. III A/B 05: Laboratory Assistant --- Cat. IIIA/B
Sub – Total: LABORATORY COMPLEX (excluding toilets and circulation corridors)	700	14: Cat. III A/B
TOTAL (excluding toilets and circulation corridors)	4170	05: Cat. II A/B; 23: Cat. III A/B; 13: Cat. IV A/B;

Function	Space (Sq. m.)#	Non-Faculty Staff
		01: Academic Non-Teaching

the space requirement is only indicative. The actual space has been worked out on the basis of available space as given in Chapter 8.

5.22 IKGPTU-DINANAGAR CAMPUS

5.22.1 Academic Objectives

The primary objective of the IKGPTU-Dinanagar Campus is capacity-building in various disciplines in the domain of engineering & technology through imparting of integrative education at the undergraduate level for meritorious technical diploma holders and rural youth belonging to the weaker sections of society of the State of Punjab at affordable cost near their place of residence.

5.22.2 Constituent Departments

It is proposed that the IKGPTU-Dinanagar Campus may have the following constituent academic departments:

- Computer Science & Engineering;
- Civil Engineering;
- Mathematical & Applied Sciences; and
- Humanities & Social Sciences.

5.22.3 Academic Programmes & Student Intake

(i) The IKGPTU-Dinanagar Campus shall offer the following academic programmes:

Programme	Areas of Focus	Duration	Annual Student Intake	Year of Start
B. Tech. (Computer Science & Engineering)	Computer Graphics & CAD / Software Engineering / Databases & Information Systems / Social Media Application / Mobile Computing / Data Analytics / Cloud Computing	Lateral Entry / Regular Entry: 03 / 04;	Lateral Entry / Regular Entry: 30 / 15;	A.Y. 1
B. Tech. (Civil Engineering)	Structural Engineering / Hydraulics & Water Resources Mgt. / Geotechnical Engineering / Construction Management / Public Health Engineering / Transportation Engineering	Lateral Entry / Regular Entry: 03 / 04;	Lateral Entry / Regular Entry: 30 / 15;	A.Y. 3
BCA (Computer Application)	Computer Applications	03 years	60	A.Y. 1

- (ii) Based on the recommended annual student intake of students for various academic programmes as indicated hereinabove the overall student strength for the academic programmes proposed to be offered at the IKGPTU-Dinanagar Campus is 480 students all at the Baccalaureate level. The projected year-wise student strength of the IKGPTU-Dinanagar Campus with phasing for various programmes as indicated in the table hereinabove has been given in Table 4.6.

5.22.4 Faculty Requirement

- (i) Based on the current UGC norms for faculty to student ratio of 1:15 for the UG Degree Programmes for the engineering & technology education sector the total faculty strength of the IKGPTU-Dinanagar Campus works out to be 32.
- (ii) It is further recommended that the cadre distribution between the three faculty cadres of Professor, Associate Professor and Assistant Professor be determined on the basis of the ratio of 1:2:4. On the basis of the above stated ratios the cadre distribution for individual sub-units of the IKGPTU-Dinanagar Campus works out as indicated hereunder:

Department / Cadre Position	Professor	Associate Professor	Assistant Professor	TOTAL
Computer Science & Engineering	03	06	12	21
Civil Engineering	01	03	05	09
Engineering Science	---	---	02	02
Mathematical & Applied Sciences*	---	---	---	---
Humanities & Social Sciences*	---	---	---	---
TOTAL	04	09	19	32

* To be provided through Visiting Faculty from local Colleges

- (iii) Based on the projected year-wise student strength for academic programmes offered at the IKGPTU-Dinanagar Campus as indicated in Table 4.6 the year-wise faculty strength is determined to be as indicated hereunder in Table 5.29:



Table 5.29: Year-wise Faculty Strength of the IKGPTU-Dinanagar Campus

Cadre Position / Year	I	II	III	IV	V	VI	VII	VIII	IX	X
Professor	01	02	03	04	04	04	04	04	04	04
Associate Professor	01	03	06	07	08	09	09	09	09	09
Assistant Professor	03	07	11	15	17	19	19	19	19	19
TOTAL	05	12	20	26	29	32	32	32	32	32

- (iv) It may be noted that the prescribed faculty norm of 1:15 has primarily been determined keeping in mind the functions of teaching in a fully developed institution. However, during the initial establishment phase the role of the faculty extends way beyond the teaching function and hence during this initial phase it is necessary to have on rolls a critical mass of faculty beyond what is determined on the basis of the prescribed norm. It is thus recommended that the faculty strength of Dinanagar Campus be quickly built-up to a critical mass of 15 faculty members before basing the faculty requirement on the prescribed norm.

5.22.5 Requirement of Space and Support Manpower

The requirement of space and support manpower for the IKGPTU-Dinanagar Campus is as indicated hereunder in Table 5.30:

Table 5.30: Space & Non-Faculty Staff Requirement for the IKGPTU-Dinanagar Campus

Function	Space (Sq. m.)#	Non-Faculty Staff
ADMINISTRATIVE & FACULTY BUILDING		
Office of the Principal / Director IKGPTU-Dinanagar Campus	50	01: Executive Assistant --- Cat. IV A/B
Administrative Offices of the IKGPTU-Dinanagar Campus	250	01: Deputy Registrar --- Cat. IIA/B 01: Assistant Registrar --- Cat. II A/B 01: Deputy Finance Officer --- Cat. II A/B 04: Executive Assistants --- Cat. IV A/B 01: Accounts Assistant --- Cat. IV A/B
Offices of the Heads of Department (02 Nos. @ 30 sq. m. each)	60	03: Executive Assistants --- Cat. IV A/B
Reception Lounge	100	01: Executive Assistant --- Cat. IV A/B
Faculty Offices (32 offices @ 15 sq. m. each)	480	---
Cubicles for Project / Research Staff (01 rooms with 05 cubicles @ 5 sq. m. each cubicle)	25	---
Offices for Visiting Faculty (01 room to seat 3 visitors each @ 10 sq. m.)	30	---
Strong Room	25	---
Seminar – cum - Committee Rooms (01 Nos. @ 50 sq. m. each)	50	---
Common Room for Students / Faculty (2 Nos. @ 50 sq. m. each)	100	---
Pantry (attached to the Common Rooms @ 05 sq. m. each)	05	---
Reprography Room	25	---
Store	50	01: Stores Assistant --- Cat. IV A/B
Sub – Total: ADMINISTRATIVE & FACULTY COMPLEX (excluding toilets and circulation corridors)	1250	03: Cat. II A/B; 11: Cat. IV A/B
CENTRAL ACADEMIC SERVICES FACILITIES		
Central Computing Facility	100	02: Programmers --- Cat II A/B; 01: Computer Engineer --- Cat. III A/B
Central Library Facility	150	01: Assistant Librarian ---

Function	Space (Sq. m.)#	Non-Faculty Staff
		Academic Non-Teaching; 02: Professional Assistants (Library) --- Cat. IV A/B
Educational Technology & Videoconferencing Facility	100	01: Technical Assistant --- Cat. III A/B; 01: AV Technician --- Cat. III A/B
Central Workshop Facility	200	01: Foreman --- Cat. III A/B 04: Mechanics --- Cat. III A/B
Hobby-cum-Innovation Centre	50	---
Auditorium: to seat 300 persons	600	01: AV Technician --- Cat. III A/B
Classroom Complex <ul style="list-style-type: none"> • Lecture Halls: 03 for seating 60 students & 06 for seating 45 students @ 2 sq. m. / student • Tutorial Rooms: 09 for seating 30 students @ 2 sq. m. / student • Drawing Halls: 02 for seating 60 students @ 4 sq. m. / student 	1920	01: Caretaker --- Cat. IV A/B
Sub – Total: Central Academic Services Complex (excluding toilets and circulation corridors)	3120	02: Cat. II A/B; 09: Cat. III A/B; 03: Cat. IV A/B; 01: Academic Non-Teaching
LABORATORY COMPLEX		
<ul style="list-style-type: none"> • Language Laboratory: 01 Nos. @ 50 sq. m. 	50	01: Laboratory Assistant --- Cat. IIIA/B
<ul style="list-style-type: none"> • Applied Sciences / Engineering Sciences Laboratories: 04 Nos. @ 50 sq. m. each 	200	04: Laboratory Assistant --- Cat. IIIA/B
<ul style="list-style-type: none"> • CE Laboratories: 06 Nos. @ 50 sq. m. each 	300	06: Laboratory Assistant --- Cat. IIIA/B
<ul style="list-style-type: none"> • CSE Laboratories: 03 Nos. @ 50 sq. m. each 	150	03: Laboratory Assistant --- Cat. IIIA/B
Sub – Total: LABORATORY COMPLEX (excluding toilets and circulation corridors)	700	14: Cat. III A/B
TOTAL (excluding toilets and circulation corridors)	5070	05: Cat. II A/B; 23: Cat. III A/B;

Function	Space (Sq. m.)#	Non-Faculty Staff
		13: Cat. IV A/B; 01: Academic Non-Teaching

the space requirement is only indicative. The actual space has been worked out on the basis of available space as given in Chapter 8.

5.23 IKGPTU-HOSHIARPUR CAMPUS

5.23.1 Academic Objectives

The primary objective of the IKGPTU-Hoshiarpur Campus is capacity-building in various disciplines in the domain of engineering & technology through imparting of integrative education at the undergraduate level for meritorious technical diploma holders and rural youth belonging to the weaker sections of society of the State of Punjab at affordable cost near their place of residence.

5.23.2 Constituent Departments

It is proposed that the IKGPTU-Hoshiarpur Campus may have the following constituent academic departments:

- Civil Engineering;
- Computer Science & Engineering;
- Mechanical Engineering;
- Engineering Sciences;
- Mathematical & Applied Sciences; and
- Humanities & Social Sciences.

5.23.3 Academic Programmes & Student Intake

- (i) The IKGPTU-Hoshiarpur Campus shall offer the following academic programmes:

Programme	Areas of Focus	Duration	Annual Student Intake	Year of Start
B. Tech. (Civil Engineering)	Structural Engineering / Hydraulics & Water Resources Mgt. / Geotechnical Engineering / Construction Management / Public Health Engineering / Transportation Engineering	Lateral Entry / Regular Entry: 03 / 04;	Lateral Entry / Regular Entry: 40 / 20	A.Y. 1
B. Tech. (Computer Science & Engineering)	Computer Graphics & CAD / Software Engineering / Databases & Information Systems / Social Media Application / Mobile Computing / Data Analytics / Cloud Computing	Lateral Entry / Regular Entry: 03 / 04;	Lateral Entry / Regular Entry: 40 / 20	A.Y. 1
B. Tech. (Mechanical Engineering)	Manufacturing Technology / Fluid Mechanics & Fluid Machinery / Thermal Sciences / Mechanical Design / Industrial Engineering	Lateral Entry / Regular Entry: 03 / 04	Lateral Entry / Regular Entry: 40/ 20	A.Y. 1

- (ii) Based on the recommended annual student intake of students for various academic programmes as indicated hereinabove the overall student strength for the academic programmes proposed to be offered at the IKGPTU-Hoshiarpur Campus is 600 students all at the Baccalaureate level. The projected year-wise student strength of the IKGPTU-Hoshiarpur Campus with phasing for various programmes as indicated in the table hereinabove has been given in Table 4.6.

5.23.4 Faculty Requirement

- (i) Based on the current UGC norms for faculty to student ratio of 1:15 for the UG Degree Programmes for the engineering & technology education sector

the total faculty strength for the IKGPTU-Hoshiarpur Campus works out to be 40.

- (ii) It is further recommended that the cadre distribution between the three faculty cadres of Professor, Associate Professor and Assistant Professor be determined on the basis of the ratio of 1:2:4. On the basis of the above stated ratios the cadre distribution for individual sub-units of the IKGPTU-Hoshiarpur Campus works out as indicated hereunder:

Areas of Focus / Cadre Position	Professor	Associate Professor	Assistant Professor	TOTAL
Civil Engineering	02	03	07	12
Computer Science & Engineering	02	03	07	12
Mechanical Engineering	02	04	07	13
Engineering Sciences	---	01	02	03
Mathematical & Applied Sciences*	---	---	---	---
Humanities & Social Sciences*	---	---	---	---
TOTAL	06	11	23	40

* To be provided through Visiting Faculty from local Colleges

- (iii) Based on the projected year-wise student strength for academic programmes of the IKGPTU-Hoshiarpur Campus as indicated in Table 4.6 the year-wise faculty strength is determined to be as indicated hereunder in Table 5.31:

Table 5.31: Year-wise Faculty Strength of the IKGPTU-Hoshiarpur Campus

Cadre Position / Year	I	II	III	IV	V	VI	VII	VIII	IX	X
Professor	01	02	04	06	06	06	06	06	06	06
Associate Professor	01	05	08	11	11	11	11	11	11	11
Assistant Professor	02	09	16	23	23	23	23	23	23	23
TOTAL	04	16	28	40	40	40	40	40	40	40

- (iv) It may be noted that the prescribed faculty norm of 1:15 has primarily been determined keeping in mind the functions of teaching in a fully developed institution. However, during the initial establishment phase the role of the faculty extends way beyond the teaching function and hence during this initial phase it is necessary to have on rolls a critical mass of faculty beyond what is

determined on the basis of the prescribed norm. It is thus recommended that the faculty strength of IKGPTU-Hoshiarpur Campus be quickly built-up to a critical mass of 15 faculty members before basing the faculty requirement on the prescribed norm.

5.23.5 Requirement of Space and Support Manpower

The requirement of space and support manpower for the IKGPTU-Hoshiarpur Campus is as indicated hereunder in Table 5.32:

Table 5.32: Space & Non-Faculty Staff Requirement for the IKGPTU-Hoshiarpur Campus

Function	Space (Sq. m.)#	Non-Faculty Staff
ADMINISTRATIVE & FACULTY BUILDING		
Office of the Principal / Director IKGPTU-Hoshiarpur Campus	50	01: Executive Assistant --- Cat. IV A/B
Administrative Offices of the IKGPTU-Hoshiarpur Campus	250	01: Deputy Registrar --- Cat. IIA/B 01: Assistant Registrar --- Cat. II A/B 01: Deputy Finance Officer --- Cat. II A/B 04: Executive Assistants --- Cat. IV A/B 01: Accounts Assistant --- Cat. IV A/B
Offices of the Heads of Department (03 Nos. @ 30 sq. m. each)	90	03: Executive Assistants --- Cat. IV A/B
Reception Lounge	100	01: Executive Assistant --- Cat. IV A/B
Faculty Offices (40 offices @ 15 sq. m. each)	600	---
Cubicles for Project / Research Staff (01 room with 05 cubicles @ 5 sq. m. each cubicle)	25	---
Offices for Visiting Faculty (01 room to seat 3 visitors each @ 10 sq. m.)	30	---
Strong Room	25	---
Seminar – cum - Committee Rooms (01 Nos. @ 50 sq. m. each)	50	---

Function	Space (Sq. m.)#	Non-Faculty Staff
Common Room for Students / Faculty (2 Nos. @ 50 sq. m. each)	100	---
Pantry (attached to the Common Rooms @ 05 sq. m. each)	05	---
Reprography Room	25	---
Store	50	01: Stores Assistant --- Cat. IV A/B
Sub – Total: ADMINISTRATIVE & FACULTY COMPLEX (excluding toilets and circulation corridors)	1400	03: Cat. II A/B; 11: Cat. IV A/B
CENTRAL ACADEMIC SERVICES FACILITIES		
Central Computing Facility	100	02: Programmers --- Cat II A/B; 01: Computer Engineer --- Cat. III A/B
Central Library Facility	150	01: Assistant Librarian --- Academic Non-Teaching; 02: Professional Assistants (Library) --- Cat. IV A/B
Educational Technology & Videoconferencing Facility	100	01: Technical Assistant --- Cat. III A/B; 01: AV Technician --- Cat. III A/B
Central Workshop Facility	200	01: Foreman --- Cat. III A/B 04: Mechanics --- Cat. III A/B
Hobby-cum-Innovation Centre	50	---
Auditorium: to seat 300 persons	600	01: AV Technician --- Cat. III A/B
Classroom Complex <ul style="list-style-type: none"> Lecture Halls: 03 for seating 60 students & 06 for seating 45 students @ 2 sq. m. / student Tutorial Rooms: 09 for seating 30 students @ 2 sq. m. / student Drawing Halls: 02 for seating 60 students @ 4 sq. m. / student 	1920	01: Caretaker --- Cat. IV A/B
Sub – Total: Central Academic Services	3120	02: Cat. II A/B;

Function	Space (Sq. m.)#	Non-Faculty Staff
Complex (excluding toilets and circulation corridors)		09: Cat. III A/B; 03: Cat. IV A/B; 01: Academic Non-Teaching
LABORATORY COMPLEX		
• Language Laboratory: 01 Nos. @ 50 sq. m.	50	01: Laboratory Assistant --- Cat. IIIA/B
• Applied Sciences & Engineering Sciences Laboratories: 03 Nos. @ 50 sq. m. each	150	03: Laboratory Assistant --- Cat. IIIA/B
• CE Laboratories: 06 Nos. @ 50 sq. m. each	300	06: Laboratory Assistant --- Cat. IIIA/B
• CS&E Laboratories: 03 Nos. @ 50 sq. m. each	150	03: Laboratory Assistant --- Cat. IIIA/B
• ME Laboratories; 06 Nos. @ 50 sq. m. each	300	01: Technical Assistant --- Cat. III A/B 05: Laboratory Assistant --- Cat. IIIA/B
Sub – Total: LABORATORY COMPLEX (excluding toilets and circulation corridors)	950	19: Cat. III A/B
TOTAL (excluding toilets and circulation corridors)	5470	05:Cat. II A/B; 28: Cat. III A/B; 13: Cat. IV A/B; 01: Academic Non-Teaching

the space requirement is only indicative. The actual space has been worked out on the basis of available space as given in Chapter 8.

5.24 IKGPTU-SULTANPUR LODHI CAMPUS

5.24.1 Academic Objectives

The primary objective of the IKGPTU-Sultanpur Lodhi Campus capacity-building in various disciplines in the domain of engineering & technology through imparting of integrative education at the undergraduate level for meritorious technical diploma

holders and rural youth belonging to the weaker sections of society of the State of Punjab at affordable cost near their place of residence.

5.24.2 Constituent Departments

It is proposed that the IKGPTU-Sultanpur Lodhi Campus may have the following constituent academic departments:

- Computer Science & Engineering;
- Fashion Design;
- Pharmacy;
- Mathematical & Applied Sciences; and
- Humanities & Social Sciences.

5.24.3 Academic Programmes & Student Intake

- (i) The IKGPTU-Sultanpur Lodhi Campus shall offer the following academic programmes:

Programme	Areas of Focus	Duration	Annual Student Intake	Year of Start
B. Tech. (Computer Science & Engineering)	Computer Graphics & CAD / Software Engineering / Databases & Information Systems / Social Media Application / Mobile Computing / Data Analytics / Cloud Computing	Lateral Entry / Regular Entry: 03 years / 04 years;	Lateral Entry / Regular Entry: 30 / 15;	A.Y. 2
B. Design. (Fashion Design)	Fashion Design / Fashion Technology / Fashion Management	04 years	30	A.Y. 2
B. Pharmacy	Pharmacy	04 years	30	A.Y. 1
MCA (Computer Application)	Computer Application	02 years	45	A.Y. 2

- (ii) Based on the recommended annual student intake of students for various academic programmes as indicated hereinabove the overall student strength for the academic programmes proposed to be offered at the IKGPTU-Sultanpur Lodhi Campus is 480 students all at the Baccalaureate level. The projected year-wise student strength of the IKGPTU-Sultanpur Lodhi Campus with phasing for various programmes as indicated in the table hereinabove has been given in Table 4.6.

5.24.4 Faculty Requirement

- (i) Based on the current UGC norms for faculty to student ratio of 1:15 for the UG and MCA Degree Programmes for the engineering & technology education sector the total faculty strength of the IKGPTU-Sultanpur Lodhi Campus works out to be 32.
- (ii) It is further recommended that the cadre distribution between the three faculty cadres of Professor, Associate Professor and Assistant Professor be determined on the basis of the ratio of 1:2:4. On the basis of the above stated ratios the cadre distribution for individual sub-units of the IKGPTU-Sultanpur Lodhi Campus works out as indicated hereunder:

Departments / Cadre Position	Professor	Associate Professor	Assistant Professor	TOTAL
Computer Science & Engineering	03	05	08	16
Fashion Design	01	02	05	08
Pharmacy	01	02	05	08
Mathematical & Applied Sciences*	---	---	---	---
Humanities & Social Sciences*	---	---	---	---
TOTAL	05	09	18	32

* To be provided through Visiting Faculty from local Colleges

- (iii) Based on the projected year-wise student strength for academic programmes offered at the IKGPTU-Sultanpur Lodhi Campus as indicated in Table 4.6 the year-wise faculty strength is determined to be as indicated hereunder in Table 5.33:

Table 5.33: Year-wise Faculty Strength of the IKGPTU-Sultanpur Lodhi Campus

Cadre Position / Year	I	II	III	Iv	V	VI	VII	VIII	IX	X
Professor	---	01	03	04	05	05	05	05	05	05
Associate Professor	---	02	05	07	09	09	09	09	09	09
Assistant Professor	---	05	10	14	18	18	18	18	18	18
TOTAL	---	08	18	25	32	32	32	32	32	32

- (iv) It may be noted that the prescribed faculty norm of 1:15 has primarily been determined keeping in mind the functions of teaching in a fully developed institution. However, during the initial establishment phase the role of the faculty extends way beyond the teaching function and hence during this initial phase it is necessary to have on rolls a critical mass of faculty beyond what is determined on the basis of the prescribed norm. It is thus recommended that the faculty strength of the IKGPTU-Sultanpur Lodhi Campus be quickly built-up to a critical mass of 10 faculty members before basing the faculty requirement on the prescribed norm.

5.24.5 Requirement of Space and Support Manpower

The requirement of space and support manpower for the IKGPTU-Sultanpur Lodhi Campus is as indicated hereunder in Table 5.34:

Table 5.34: Space & Non-Faculty Staff Requirement for the IKGPTU-Sultanpur Lodhi Campus

Function	Space (Sq. m)#	Non-Faculty Staff
ADMINISTRATIVE & FACULTY BUILDING		
Office of the Principal / Director IKGPTU-Sultanpur Lodhi Campus	50	01: Executive Assistant --- Cat. IV A/B
Administrative Offices of the IKGPTU-Sultanpur Lodhi Campus	250	01: Deputy Registrar --- Cat. IIA/B 01: Assistant Registrar --- Cat. II A/B 01: Deputy Finance Officer --- Cat. II A/B 04: Executive Assistants --- Cat. IV A/B 01: Accounts Assistant --- Cat. IV A/B
Offices of the Heads of Department (03 Nos. @ 30 sq. m. each)	90	03: Executive Assistants --- Cat. IV A/B
Reception Lounge	100	01: Executive Assistant --- Cat. IV A/B
Faculty Offices (32 offices @ 15 sq. m. each)	480	---
Cubicles for Project / Research Staff (01 room	25	

Function	Space (Sq. m)#	Non-Faculty Staff
with 05 cubicles @ 5 sq. m. each cubicle)		---
Offices for Visiting Faculty (01 room to seat 3 visitors each @ 10 sq. m.)	30	---
Strong Room	25	---
Seminar – cum - Committee Rooms (01 Nos. @ 50 sq. m. each)	50	---
Common Room for Students / Faculty (2 Nos. @ 50 sq. m. each)	100	---
Pantry (attached to the Common Rooms @ 05 sq. m. each)	05	---
Reprography Room	25	---
Store	50	01: Stores Assistant --- Cat. IV A/B
Sub – Total: ADMINISTRATIVE & FACULTY COMPLEX (excluding toilets and circulation corridors)	1280	03: Cat. II A/B; 11: Cat. IV A/B
CENTRAL ACADEMIC SERVICES FACILITIES		
Central Computing Facility	100	02: Programmers --- Cat II A/B; 01: Computer Engineer --- Cat. III A/B
Central Library Facility	150	01: Assistant Librarian --- Cat. Academic Non-Teaching; 02: Professional Assistants (Library) --- Cat. IV A/B
Educational Technology & Videoconferencing Facility	100	01: Technical Assistant --- Cat. III A/B; 01: AV Technician --- Cat. III A/B
Central Workshop Facility	200	01: Foreman --- Cat. III A/B 04: Mechanics --- Cat. III A/B
Hobby-cum-Innovation Centre	50	---
Auditorium: to seat 300 persons	600	01: AV Technician --- Cat. III A/B
Classroom Complex <ul style="list-style-type: none"> • Lecture Halls: 03 for seating 60 students & 06 for seating 45 students @ 2 sq. m. / student • Tutorial Rooms: 09 for seating 30 students @ 	1920	01: Caretaker --- Cat. IV A/B

Function	Space (Sq. m)#	Non-Faculty Staff
2 sq. m. / student • Drawing Halls: 02 for seating 60 students @ 4 sq. m. / student		
Sub – Total: Central Academic Services Complex (excluding toilets and circulation corridors)	3120	01: Cat. II A/B; 09: Cat. III A/B; 03: Cat. IV A/B; 01: Cat. Academic Non-Teaching
LABORATORY COMPLEX		
• Language Laboratory: 01 Nos. @ 50 sq. m.	50	01: Laboratory Assistant --- Cat. IIIA/B
• Applied Sciences / Engineering Sciences Laboratories: 04 Nos. @ 50 sq. m. each	200	04: Laboratory Assistant --- Cat. IIIA/B
• Pharmacy Laboratories: 06 Nos. @ 50 sq. m. each	300	06: Laboratory Assistant --- Cat. IIIA/B
• CSE Laboratories: 03 Nos. @ 50 sq. m. each	150	03: Laboratory Assistant --- Cat. IIIA/B
• Fashion Design Studios / Museum / Laboratories, etc.: 06 Nos. @ 50 sq. m. each	300	06: Laboratory Assistant --- Cat. IIIA/B
Sub – Total: LABORATORY COMPLEX (excluding toilets and circulation corridors)	1000	20: Cat. III A/B
TOTAL (excluding toilets and circulation corridors)	5400	05: Cat. II A/B; 29: Cat. III A/B; 13: Cat. IV A/B; 01: Cat. Academic Non-Teaching

the space requirement is only indicative. The actual space has been worked out on the basis of available space as given in Chapter 8.

5.25 CENTRAL WORKSHOP

5.25.1 Objectives

The primary objectives of the Central Workshops are envisaged as follows:

- To facilitate the training of students especially in basic workshop skills;

- To provide facilities to make models and student projects, consultancy and R&D projects undertaken by students and faculty across the University;
- To demonstrate special purpose machines like CAD/CAM, Rapid Prototyping, extrusion and other manufacturing processes.
-

5.25.2 Central Workshop Management

The day-to-day management of the Central Workshop shall vest with the Workshop Superintendent assisted by two Foremen. Policy guidance shall be provided to the management by the Central Workshop Users Advisory Committee.



A Typical Machine Shop and a Carpentry/Plastics Shop

5.25.3 Space and Manpower Requirement

Requirement of space and manpower for the Central Workshop is as indicated hereunder in Table 5.35:

Table 5.35: Requirement of Space and Manpower for the Central Workshop

Description & Function	Space (Sq. m)#	Support Staff
Machine Shop including Tool Room / Fitting Shop / Carpentry & Pattern Shop / Smithy Shop / Foundry/Casting Shop / Sheet Metal Shop / Gas and Electric Welding Shops / Plastic Shop / Model Making Shop / Heat Treatment Shop / Painting & Plating Shop/	3000**	20** : Mechanics --- Cat. III A/B

Description & Function	Space (Sq. m)#	Support Staff
<p>Electrical-cum-Electronic Shop / Primary Manufacturing Shop* /Advanced Computer Aided Design and Manufacturing (CAD/CAM)* Workshop / Manufacturing Processes Shop* / Metrology Laboratory* / Rapid Prototyping Facility* / Students Projects, Models and Innovation Centre***</p> <p>Space for Display and Storage of Students' Work for Visitors and for New Students</p> <p>* Facilities of the Department of Mechanical Engineering to be housed in the Central Workshop Block;</p> <p>** Includes staff & space requirement for the laboratories of the Department of Mechanical Engineering housed in the Central Workshop;</p> <p>***Facility to be exclusively managed by the students.</p>		
Drawing/Sketching Office	25	01: Draftsman --- Cat. III A/B
Storage Space (Raw materials, bars, plates etc. to be in an outside covered shed)	50	01: Stores Assistant --- Cat. IV A/B
Seminar Room-cum-Classroom	50	----
Administrative Office for the Central Workshop	25	01: Executive Assistant --- Cat. IV A/B
Offices of the Workshop Superintendent / Workshop Foremen	50	01: Workshop Superintendent -- Cat. Academic Non-Teaching Academic Staff 02: Foreman --- Cat. III A/B
TOTAL	3200	01: Cat. Academic Non-Teaching Staff; 23: Cat.III A/B;

Description & Function	Space (Sq. m)#	Support Staff
		02: Cat. IV A/B.

the space requirement is only indicative. The actual space requirement is as delineated in Chapter 8.

5.26 CENTRAL LIBRARY (With E-Library)

5.26.1 Objectives

The primary objectives of the Central Library are envisaged as follows:

- To serve as a ‘learning resource centre’ which provides its users access to a variety of print and non-print knowledge resources;
- To actively contribute to knowledge creation by assisting the faculty and students in information search as a part of their research and projects;
- To serve as a mechanism to ensure that all users of the library’s services are information literate, i.e., they hone the skills of retrieval, evaluation and making practical use of the acquired knowledge and information base with a view to develop their ability to become independent life-long learners; and
- To provide access to e-libraries across the world in order to enhance learning through available periodicals, video-lectures, PowerPoint presentations and reports/ theses of other researchers.

5.26.2 Central Library Management

The day-to-day management of the Central Library shall vest with the University Librarian assisted by Deputy Librarians and appropriate level of professional support staff for operations of the Library. Policy guidance shall be provided to the management by the Users Advisory Committee on Library & Information Resource Services.



Desktop Computers in a Library



Desktop Computers for Individual Online Study in e-Library

5.26.3 Space and Manpower Requirement

- (i) It is proposed that space to the tune of 5000 sq. m. be provided for housing the Central Library, staff and the air-conditioning plant. Apart from arrays of shelves and reading rooms, the library should house a large number of partitioned desktop computers; say 100, for individual online study.
- (ii) Requirement of manpower to manage the Central Library services is as indicated hereunder in Table 5.36:

Table 5.36: Requirement of Manpower for the Central Library

Post Description	Number of Posts& Category
Librarian	01: Academic Non-Teaching Staff
Deputy Librarians	03: Academic Non-Teaching Staff
Assistant Librarian	05: Academic Non-Teaching Staff
Professional Assistant	10: Cat. IV A/B
Executive Assistant	01: Cat. IV A/B
Systems Programmer	01: Cat. II A/B
Computer Assistants	02: Cat. III A/B
TOTAL	09: Academic Non-Teaching Staff; 01: Cat. II A/B; 02: Cat. III A/B; 11: Cat. IV A/B

5.27 COMPUTER CENTRE

5.27.1 Objectives

The objectives of the Computer Centre are envisaged as follows:

- To provide computing facilities to meet the academic and support information service requirements of the university;
- To assist in the planning and implementation of the computerization of the administration and its constituent units including codification of data for students and employees, accounts, stores, student admission and academic records, library services, etc.;
- To offer manpower training programs for administrative and support staff for effective implementation of the university Management Information System;
- To develop system support software for the user community; and
- To manage the campus voice, data & picture communication network and the campus WAN & LAN for inter-connection and linkage with national and international communication networks.

5.27.2 Computer Centre Management

The day-to-day management of the Computer Centre is proposed to vest with the Chief Systems Manager assisted by the Systems Managers and a Technology Officers responsible for the Voice, Picture & Data Communication Network. They will be supported by appropriate level of technical support staff for operations, maintenance and network management. Policy guidance shall be provided to the management of the Computer Centre by the Users Advisory Committee on Computer Centre Services.

5.27.3 Space and Manpower Requirement

Requirement of space and manpower for the Computer Centre is as indicated hereunder in Table 5.37:

Table 5.37: Requirement of Space and Manpower for the Computer Centre

Function	Space (Sq. m.)#	Support Staff
PC Cafeteria / Mini Computer Clusters / high Performance Computing Clusters	900	04: Programmers --- Cat. II A/B; 02: Computer Engineers --- Cat. III A/B
Voice-Data-Picture Communication including CATV link	300	04: Network / Computer Engineers --- Cat. III A/B
Reception Lounge	200	01: Executive Assistant --- Cat. IV A/B
Air Conditioning Plant	150	01: A/C Mechanic --- Cat. III A/B
Uninterrupted Power Supply	50	----
Storage space	50	01: Stores Assistant --- Cat. IV A/B
Seminar-cum-Committee Room	100	----
Cubicles for Operating Staff / Programmers	200	----
Administrative Office of the Computer Centre	50	01: Executive Assistant --- Cat. IV A/B
Offices of Chief Systems Manager / Systems Manager / Technology Officer / Programmers	200	03: Chief Systems Manager / Systems Manager / Technology Officer --- Cat. II A/B
Micro-earth Station	Open Air	----
TOTAL (excluding space for toilets)	2200	07: Cat. II A/B;

circulation corridors)		07: Cat. III A/B; 03: Cat. IV A/B
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the space requirement is only. The actual space has been delineated in Chapter 8.

5.28 VIRTUAL LEARNING CENTRE (With Videoconferencing Facility)

5.28.1 Objectives

The objectives of the Virtual Learning Centre are envisaged as follows:

- To undertake the development of learning resources such as video clips, slides, OHP transparencies, models, CAI and multimedia packages for use of the teaching programmes offered by the University;
- To generate a Resource Library of non-print material in the core academic areas of the various constituent academic units by procuring selected software and information resources from a wide range of sources;
- To produce and transmit lectures in the Synchronous (Videoconferencing) mode from an on-campus AV Studio Classroom to campus-based students as part of the Bachelor's and Master's Degree course offerings as well as off-campus to students of the IKGPTU Regional Campuses as well as working professionals under the Continuing Education Programme;
- To bring students in every classroom face-to-face with renowned professors and industry leaders from across the world using videoconferencing.
- To motivate the University Faculty to adopt modern educational pedagogical systems for delivery of courses and to undertake training programmes to develop their skills in the development of educational technology software in co-operation with the Faculty of Teacher Training & Education..

5.28.2 Virtual Learning Centre Management

The day-to-day management of the Virtual Learning Centre is proposed to vest with the Multi-media Manager with assistance of appropriate level of professional and technical support staff for operations and maintenance of the facility. Policy guidance

shall be provided to the management by the Users Advisory Committee for the Virtual Learning Centre.



Candid Classroom Video Recording in Progress



A Typical Incoming Videoconferencing lecture in Progress with a Tutor

5.28.3 Space and Manpower Requirement

Requirement of space and manpower for the Virtual Learning Centre is as indicated hereunder in Table 5.38:

Table 5.38: Requirement of Space and Manpower for the Virtual Learning Centre

Function	Space (Sq. m.)#	Support Manpower
Control Room I: AV Studio Classroom with a seating capacity of 30 students; TV Production in an improvised or candid classroom mode	200	02: AV Production Specialists --- Cat. II A/B; 02: AV Technicians --- Cat. III (A/B); 01: Executive Assistant --- Cat. IV (A/B)
Control Room II: Production Control (power & lighting) for Studio Classroom	50	----
Videoconferencing Hub for Synchronous transmission and reception of Lectures, seminars, conferences, etc.	50	02: AV Production Specialists --- Cat. II A/B; 01: Executive Assistant --- Cat. IV A/B
Hardware infrastructure with control systems and switchers in annex room for security.	50	----
Storage Area: Storage of props / special furniture / blank & source tapes / consumables / recording equipment	50	01: Stores Assistant --- Cat. IV A/B
Editing Bays: AV Post Production --- both on and off line	50	----
Preview Room: AV Post Production --- both on and off line	25	----
Graphic Room: Drawing / Drafting / Graphic Design	25	01: Graphics Technician --- Cat. III A/B
Computer Laboratory: CAI	75	01: CAI Specialist --- Cat. II A/B
Photography Laboratory: Photo Studio / Slide Production	25	01: Photography Technician --- Cat. III A/B
Workshop: Preparation of models / cut outs, etc.	75	01: Mechanic --- Cat. III A/B
Non-Print Media Library: Resource Library / Viewing Cubicles	75	01: Professional Assistant (Library) --- Cat. IV A/B
Maintenance Facility: Service, Maintenance & Calibration	20	----
Utility Room: AC Plant / Pump Room / Service Facilities, etc.	100	01: Mechanic --- Cat. III A/B
Cubicles for Operating Staff	200	----
Office of the Media Manager	20	01: Media Manager --- Cat. II A/B
Administrative Office	50	01: Executive Assistant

		--- Cat. IV A/B
TOTAL	1500	06: Cat. II A/B; 06: Cat. III A/B; 05: Cat. IV A/B

the space requirement is only indicative. The actual space has been delineated in Chapter 8

5.29 CONTINUING EDUCATION CENTRE

5.29.1 It is proposed that a Continuing Education Centre be provided on the University's Main Campus as a central service facility from where education is imparted to all clients who are not registered for a formal degree of the university but are desirous of taking courses on an ad hoc basis to pursue their interests and / or to enhance their professional skills. Such individuals may include working professionals who are engaged in the world of work, housewives, senior citizens, apparel designers and decorators, etc. It shall comprise of a variety of infrastructure like special seminar rooms or classrooms and instructional technologies for face to face learning or for distance communication. It is also recommended that the continuing education centre may also have a videoconferencing room within its precincts, which makes it handy to reach out to people who are located at other places.

5.29.2 It is recommended that the Continuing Education Centre should include:

- (i) Two air conditioned seminar rooms / classrooms each 60 sq. m. (6m x 10m) in size for seating 30 participants networked to the resource library of the Virtual Learning Centre through the campus-wide CATV link for receiving voice, video and slide type information. They may also be provided with facilities for independent playback of CD's, video tapes, slides, OHP Transparencies by the Instructor from the classroom itself. The two seminar rooms / classroom may have a foldable partition between them so that it is possible to combine them together by folding the partition to make one 60-seater classroom, if required.
- (ii) One Videoconferencing Classroom for Synchronous transmission of lectures, seminars, video clips and demonstrations for off-campus transmission to the University's distance education work-study centre.
- (iii) It may also be provided with the following auxiliary facilities:
 - A reception foyer of reasonable size which could be used for serving refreshments and for exhibition display;

- A small office room at one end of the foyer fitted with an internal and external telephone and reprographic and word processing facility;
 - An electronic display facilities in the foyer;
 - A small size participants lounge with an attached kitchenette located near the office room; and
 - A reasonably sized Ladies and Gents Toilets.
- (iv) A Continuing Education Hostel with accommodation for 60 participants in double-seated rooms with attached bathrooms. The hostel may have a dining hall–cum– kitchen complex and a Lounge. Catering during MDP’s may be provided by one of the Student Mess Contractors. The individual residential rooms may be provided Wi-Fi connectivity with the University’s Voice, Data and Picture Communication Network.
- (v) Office Space for the Director Continuing Education Programme (including Distance Education) and his / her staff.
- (vi) It is anticipated that the space requirement for the Continuing Education Centre including the CEC Hostel would be 4000 sq. m. The CEC shall be manned by the staff of the Distance Learning Programme and the additional requirement for the CEC Hostel is proposed to be met by outsourced contract staff.

5.30 TECHNOLOGY INNOVATION-CUM-INCUBATION CENTRE

5.30.1 It is recommended that a technology innovation-cum-incubation centre be established on the IKGPTU Main Campus with the objective of conducting the following programmes:

- The **Punjab Industrial Partnership Programme (PIPP)** --- with a view to accelerate IKGPTU – Industry Cooperation;
- **The Technology Advancement Programme (TAP)** --- with a view to operate an “incubator” for transforming the ideas of IKGPTU students into successful businesses through providing training in the basics of entrepreneurship, lending business and technical support, Providing access to all infrastructural

facilities of the university, providing mentorship by successful entrepreneurs and faculty experts and assisting in securing angel funding;

- **The Product Development Consultancy Programme (PDCP)** --- wherein a total consultancy package is offered at specific request of “start-ups” taking their product from initial concept design through design prototyping and production engineering to final assembly keeping in mind market needs, aesthetic trends, value engineering and quality manufacturability; and
- **The Technology Development Fellowship Programme (TDFP)** ---wherein facilities are provided to leading Indian scholars to work on development projects of their choice but in areas of interest to IKGPTU as Visiting Scholars for a duration of up to 2-3 years on the basis of stipendiary grants.

5.30.2 Keeping in mind the industrial scenario in the State of Punjab and the likely availability of academic expertise at IKGPTU after the launch of the newly proposed academic programmes it is recommended that the various programmes envisaged for the Technology Innovation-cum-Incubation Centre may initially be confined to the mechanical, electronics, textile, food, chemical, waste management, IT and energy & environment sectors. Keeping this in mind the clients of the Technology Innovation-cum-Incubation Centre would need to have access to:

- A Mechanical Workshop;
- An Electronic Fabrication & Testing Facility;
- An Optical Measurement & Testing Laboratory;
- A Food Innovation Centre;
- A Textile Design Centre;
- A Computer-aided Design & Engineering Facility;
- A Product Prototyping Laboratory; and
- A Technical Library & Documentation Centre.

5.30.3 It is highly likely that a large part of the required infrastructure would already be available in the various laboratories of the Faculties of Study and the Central Academic Service Facilities and hence there may not be a need to a priori provide infrastructure to the Centre. Any specific item --- instrumentation and software --- that may be needed to support a desired venture can be acquired as per need. It is, therefore, necessary to have only a Product Prototyping Laboratory to start with.

Existing laboratories may be used with new experimental facilities being added wherever the need arises.

5.30.4 It is thus proposed to allocate a space of 500 sq. m. for the Product Prototyping Laboratory and an additional 500 sq. m. space for offices and meeting rooms. The Entrepreneurship Training Programme may be organized by using the facilities of the Continuing Education Centre. It is further proposed that the following manpower be provided to man the Centre:

- A Director --- Cat. IIA/B (in the rank of a Chief Technology Officer) to serve as the Head of the Centre who has to function as the “**OWNER OF THE CENTRE TO CHAMPION THE CAUSE OF ENTREPRENEURSHIP AMONGST THE UNIVERSITY STUDENTS**”;
- Eight Design Engineers (one for each area of specialization of the Centre) --- Cat. Non-teaching Academic Staff (in the rank of a Assistant Professor).
- One Executive Assistant --- Cat. IVA/B.

5.31 CENTRAL INSTRUMENTATION FACILITY

5.31.1 It is recommended that a Central Instrumentation Facility be established on the IKGPTU Main Campus comprising of:

- (i) an instrument maintenance & repair unit;
- (ii) an analytical instruments facility;
- (iii) centralized plants for gases, etc.; and
- (iv) an industrial test and calibration facility (for testing of industrial equipment like pumps, flow meters, compressors, electric motors, etc. where testing though instrumentation and measurement of physical quantities is essential).

5.31.2 The objectives of the Central Instrumentation Facility shall be:

- To provide specialized services for the repair of instruments and the maintenance of standards of calibration;
- To provide assistance to research investigators for development of prototypes of sophisticated instruments and / or improvement of existing instruments;

- To train institute students in the handling of sophisticated instruments;
- To train institute technicians in fault diagnostics and preventive maintenance of electronic instruments;
- To provide facilities to institute researchers to carry out measurements using sophisticated analytical instruments such as electron microscopes, mass spectrometers, optical spectrometers, etc.;
- To train scientists on the use and operation of sophisticated analytical instruments;
- To carry out sample analysis for outside scientific establishments on charge basis;
- To carry out performance tests on industrial equipment and calibration of instruments as per Indian standards for outside parties on charge basis; and
- To operate and maintain plants / facilities for supply of compressed air, liquid helium / liquid nitrogen / pure gases, chilled water supply, distilled & de-ionized water, gas, etc. needed by researchers;

5.31.3 It is recommended that the individual units of the Central Instrumentation Facility be housed in a 2000 sq. m. centrally air conditioned space within the Central Workshop Complex. Space requirement and salient details are indicated in Table 5.39 hereunder:

Table 5.39: Space requirement for the Central Instrumentation Facility

Function	Space (Sq. m.)#
<p>(i) Instrument Maintenance & Repair Unit comprising:</p> <ul style="list-style-type: none"> • Machine Tool Shop • Electronics Laboratory • Electrical Laboratory • Optics Laboratory • Precision Mechanism Laboratory • Calibration & Test Laboratory • Photography & Reprography Laboratory • Instrument Repair Training Laboratory 	600 sq.m.
<p>(ii) Industrial Testing and Calibration Unit having the following range of instruments and transducers:</p> <ul style="list-style-type: none"> • vernier callipers, outside and inside micrometres, depth meters etc.; • displacement transducers including inductive LVDT, capacitor sensors and Laser sensors; • volumetric and mass measurement facilities such as balances, volumetric flasks, pipettes, electrical gauges, etc.; • instrumentation for measurement of mechanical quantities like velocity, force, acceleration, time, momentum, power, energy, thrust, torque, etc.; • instrumentation for measurement of electrical quantities like charge, current, voltage, frequency, etc.; • instrumentation for optical measurements like luminosity, intensity, spectrum analysis, etc.; • instrumentation for fluid measurements like velocity, direction, discharge, pressure, etc.; • instrumentation for wind velocity measurement with anemometers, wind vanes, etc.; • instrumentation for environmental measurements for water quality, air dust and quality, etc. 	600 sq. m.
<p>(iii) Analytical Instruments Laboratory for housing common analytical instruments such as:</p>	500 sq. m.

<ul style="list-style-type: none"> • SEM & TEM Electron Microscopes; • NMR & IR FT; • DTA – TGA Thermal Analyser; • Mossbauer Spectrophotometer. 	
<p>(iv) Service Facilities for housing common facilities such as:</p> <ul style="list-style-type: none"> • Liquid Nitrogen & Liquid Helium Plants; • AC Plant; • Ovens; • Distilled & De-ionized Water Plant; • Chilled Water Plant; • Compressed Gas Plant. 	200 sq. m.
(v) Staff Offices / Administrative Office / Seminar Room	100 sq. m.

5.31.4 It is recommended that the Central Instrumentation Facility be manned by:

- One Principal Scientific Officer --- Cat. Non-teaching Academic Staff (in a rank equivalent to an Associate Professor);
- One Research Engineer --- Cat. Non-teaching Academic Staff (in a rank equivalent to an Assistant Professor);
- One Scientific Officer --- Cat. Non-teaching Academic Staff (in the rank equivalent to an Assistant Professor);
- Four Laboratory Technicians --- Cat. III A/B Staff; and
- One Executive Assistant --- Cat. IV A/B Staff.

5.31.5 It is recommended that the day-to-day management of the Central Instrumentation Facility be handled by the Principal Scientific Officer under policy guidance of an Users Advisory Committee for the Central Instrumentation Facility appointed by the Vice Chancellor.

5.32 CENTRAL CLASSROOM COMPLEX

5.32.1 A central classroom complex is indeed preferred to scattered classrooms on different floors in various faculties. It is convenient for students to move nearby and for faculty

members to go from one room to another to teach. A central classroom complex can be easily air conditioned and equipped with various facilities including Lockable e-Trolleys and Document Projectors. IITs in India and universities across the world are favouring central classroom complex.



New Lecture Hall Complex at IIT Delhi Inside a Classroom at IIT Madras



A Lockable e-Trolley with Equipment

A Document Projector in a Classroom

5.32.2 Keeping in mind that during the initial 10 years of operation of the Institute it is proposed to offer in all 75 academic programmes out of which 24 are Bachelor's degree programs of 3/4/5 years duration with an annual intake of 30 / 45 students, 16 are PG degree programmes of 1 year duration with and annual intake of 20 students and 34 are Master's degree programmes of 2 years duration with an annual intake of 20 students and 1 is a MBA degree programme of 2 years duration with an annual intake of 45 students as portrayed in Tables 4.1 (A – I), it is recommended that initially classroom accommodation as indicated hereunder may be provided:

- **Lecture Theatres:** One (01) lecture theatre having a size of 240 sq. m. (24m x 10m) with a seating capacity of 120 students, six (06) lecture theatres having a size of 120 sq. m. (12m x 10m) with a seating capacity of 60 students and

twenty (20) lecture theatre having a size of 90 sq. m. (09 m x 10m) with a seating capacity of 45 students may be provided for lectures to students of those programs having an annual intake of 60 / 45 students. Three adjacent pairs of lecture theatres with seating capacity of 45 students each may have a flexible partition between them so that they can be converted to 03 lecture theatres with seating capacity of 90 students for use by combined sections of the first year of the engineering disciplines. All the lecture theatres may be networked through the campus-wide CATV link for receiving voice, video and slide type information from the resource library of the Virtual Learning Centre. They may also be fitted with lockable e-trolleys and document projectors for independent playback of CD's, Video Tapes, Slides and OHP Transparencies by the Instructor from the classroom itself. It is also proposed that the 120-seater lecture theatres may double-up as a conference hall and may therefore be air conditioned and fitted with a desk microphone system.

- **Tutorial Rooms / Small Lecture Rooms:** Fifty (50) classrooms each having a size of 60 sq. m. (6m x 10m) for seating 30 students may be provided for use as small lecture halls for lectures to students of those programs having an annual intake of 20/30 students as well as for tutorials. Each of these classrooms may be provided with facilities for independent playback of CD's, Video Tapes, Slides and OHP Transparencies by the Instructor from the classroom itself as has been proposed in the case of the larger lecture theatres.
- **Drawing Halls:** Four drawing halls each having a size of 240 sq. m. for accommodating 60 students may be provided as drawing halls for use of students undergoing core courses in Graphics, Visual Communication and Elements of Design. Each desk should have a drawing board with an attached drawing storage facility. These halls may also be used for the conduct of minor tests and the trimester-end final examination.

5.32.3 It is suggested that the classrooms may be planned as a combination of a central multi-storey complex housing the lecture theatres of 120 / 60 / 45 seat capacity, the drawing halls and the Virtual Learning Centre plus distributed classrooms with the small lecture rooms / tutorial rooms being located in the individual buildings housing the Faculties of Study and the Laboratories.

5.32.4 The space requirement for the classrooms as outlined hereinabove in sub-section 7.6.1 (b) is summarized hereunder in Table 5.40

Table 5.40: Summary of Space Requirement for Classroom Complex

Facility	Number	Seating Capacity	Total Area (Sq. m.)*
Large Lecture Theatre - cum-Conference Hall	01	120 students	240**
Large Lecture Theatres	06	60 students	720**
Large Lecture Theatres	20	45 students	1800**
Small Lecture Rooms / Tutorial Rooms	50	30 students	3000**
Drawing Halls	04	60 students	960***
TOTAL (excluding circulation corridors & toilets)	-----	-----	6720

* The space requirement is only indicative. The actual requirement of space has been delineated in Chapter 8

** Calculated on the basis of 2 sq. m. per student;

*** Calculated on the basis of 4 sq. m. per student;

5.32.5 The upkeep of the Central Classroom Complex may be assigned to a Caretaker (Cat. IV A/B Staff) assisted by Cleaners (outsourced contract staff)

5.33 AUDITORIUM-CUM-CONFERENCE CENTRE

5.33.1 An auditorium-cum-conference centre has become a standard standalone facility in a university with several fixed equipment and provisions for all types of occasions, e.g., seminars, videoconferencing, conferences, inaugural lectures and extension lectures and other ceremonies with remote controlled adjustable lighting conditions. It is thus proposed that IKGPTU may also have a multi-purpose centrally air conditioned Auditorium-cum-Conference Centre to be used for the following activities:

- Hosting of national and international conferences;
- Serving as a cultural centre for the staging of plays, music and dance recitals, and other cultural activities, etc.;
- Serving as a venue for presentation of guest lectures by invited eminent personalities; and
- Serving as the venue for holding the Annual Convocation of the Institute.

5.33.2 It is proposed that the Auditorium-cum-Conference Centre should consist of:

- A 800 seat air-conditioned auditorium;
- Two small air-conditioned conference rooms having a 75 seat and a 30 seat capacity furnished in the style of a committee room and provided with a desk microphone system and OHP / slide & video playback system;
- A reception foyer of reasonable size which could be used for serving refreshments and for exhibition display;
- A small office room at one end of the foyer fitted with an internal and external telephone and reprographic and word processing facility;
- An electronic display facilities in the foyer;
- A small size delegates lounge with an attached kitchenette located near the office room;
- A reasonably sized Ladies and Gents Toilets; and
- Inter-connection to the university guest house for catering to meal service during conferences.

5.33.3 The conference auditorium should have the following minimum facilities:

- A seating capacity of 800 --- possibly a ground floor hall with a capacity for seating 600 people and a balcony with a capacity for seating 200 people;
- A 12m. x 12m. stage with a pull out dais at the front for cultural events and lectures;
- A audio and light control room facing the stage on its side;
- A green room, a make-up room and prop storage space;
- A projection room for projecting 35 mm films and slides;
- Audio sockets for connection of microphones at various points in the auditorium to facilitate audience participation;

- A 500 cm video projection system with necessary screen and computer interface networked through the CATV link to the Studio Classroom of the Virtual Learning Centre;
- An OHP interfaced with an IBM compatible PC and a 3 projector AV system along with the necessary audio synchronous control unit and audio tape recorder having remote control and telelens projection facilities for possible operation from the film projection room;

5.33.4 It is proposed that the Auditorium-cum-Conference Complex be manned by a full time Caretaker (Cat. IV A/B staff) plus an electrician and an AV technician with expertise to handle audio, video and 16 / 35 mm film projection equipment to be assigned from amongst the staff of the Virtual Learning Centre during duration of conferences and other functions. It is also estimated that the total useable area for the Auditorium-cum-Conference Centre would be 8000 sq. m.

5.34 MISCELLANEOUS MATTERS

5.34.1 It is recommended that the available built up space at Jalandhar and at Mohali available with the University may be profitably utilized to conduct the following activities:

- Skills training programmes for unemployed youth as prescribed by the Central Ministry of Skills Development & Entrepreneurship especially covering the technology, health and services sectors;
- Executive Management Programmes for working professionals;
- Language training programmes covering French and German language teaching;
- E-learning programmes;
- University of the Third Age --- programmes for senior citizens.

Chapter 6

GOVERNANCE AND EXECUTIVE MANAGEMENT

6.1 STRUCTURE OF GOVERNANCE

6.1.1 Current System of Governance

- (a) Clause 13 (1) of **The Punjab Technical University Act, 1997** states that the following shall be the Authorities of the Punjab Technical University (renamed as Inder Kumar Gujral Punjab Technical University):
- i The Board of Governors (B o G);
 - ii The Academic Council (AC);
 - iii The Faculties;
 - iv The Boards of Studies; and
 - v Such other Authorities as may be declared by the Regulations to be Authorities of the University.
- (b) The Authorities listed under sub-clauses (i), (ii) and (iv) hereinabove are currently operational. In addition a Finance Committee has been constituted under clause 16(1) of the PTU Act to advise the Board of Governors on all financial matters although it has not been notified as an Authority of the University under the provision of sub-clause (1) (v) of clause 13 of the PTU Act 1997. Details of the composition, powers and meeting procedure, etc. of the above mentioned Authorities are provided under various clauses of the PTU Act, 1997 including its subsequent amendment vide the PTU (Amendment) Bill, 2011 and the Regulations of the University as cited hereunder:

Authority	Reference to
Board of Governors	<ul style="list-style-type: none"> • Clause 14 --- The PTU Act, 1997; • Clause 2 --- The PTU (Amendment) Bill, 2011; • Regulations Regarding the Constitution and the Meetings of the Board of Governors.
Academic Council	<ul style="list-style-type: none"> • Clause 15 --- The PTU Act, 1997; • Clause 3 --- The PTU (Amendment) Bill, 2011; • Regulations Regarding the Constitution, Powers and Duties of the Academic Council.
Finance Committee	<ul style="list-style-type: none"> • Clauses 16 --- The PTU Act, 1997.
Boards of Study	<ul style="list-style-type: none"> • Regulations Regarding the Constitution and Functions of the Board of Studies.

6.1.2 Proposed System of Governance

- (a) The decision of the Board of Governors to broaden the functioning of IKGPTU into a teaching-cum-affiliating university through the offering of teaching and research programmes at the UG, PG and Doctoral levels on the Main Campus of the University at Kapurthala under the aegis of Faculties of Studies/ Centres of Excellence as well as at off-campus Regional Campus established at various location within the territorial jurisdiction of IKGPTU necessitates modification in the current structure of governance of the University.
- (b) It is proposed that the following additional statutory bodies be constituted as Authorities of the University under Regulations of the University vide clause 13(1)(v) of the PTU Act, 1997:
- An Executive Board for advising the B o G on all human resources matters;
 - A Board of Planning for advising the B o G on all planning matters;
 - Faculty Boards for Executive Management of each of the Faculties of Studies; and
 - Councils of Executive Management for the executive management of each of the Regional Campuses.

- (c) It is also proposed that the Finance Committee as constituted under clause 16 (1) of the PTU Act, 1997 be also declared as an Authority of the University under clause 13 (1) (v) of the PTU Act, 1997.
- (d) It is proposed that the composition and the powers and duties of the Finance Committee, the Executive Board, the Board of Planning, the Faculty Boards and the Councils of Executive Managements be laid down as individual Regulations of the University as per provisions of clause 17 of the PTU Act, 1997.
- (e) It is proposed that the existing Regulation with respect to the Board of Studies be modified to constitute separate Boards of Studies for: (i) the Main Campus (collectively for all Faculties of Study / Centres of Excellence); and (ii) Each Regional Campus.
- (f) The recommended changes indicated under sub-clauses (b) – (e) hereinabove are schematically presented in Fig. 6.1 hereunder.
- (g) Besides the changes recommended under sub-clauses (b) – (e) hereinabove all of which can be readily affected within the existing provisions of the PTU Act 1997 there is need to consider affecting changes in the presently laid down composition of the Board of Governors and the Academic Council in order to reflect the altered academic scenario proposed for IKGPTU. Changes in the composition of these apex bodies can only be affected through an amendment of the existing Act.

6.1.3 Details of the New Authorities

The suggested salient details with respect to each of the proposed new Authorities indicated in clause 6.1.2 (b) are as outlined hereunder:

6.1.3.1 Executive Board

- (1) There shall be an Executive Board which shall be a Standing Committee of the Board of Governors and a Statutory Authority of the University as per provisions of sub-clause 13 (1) (v) of the PTU Act, 1997. The Executive Board shall comprise of the following members:
 - (a) The Vice Chancellor, who shall be the ex-officio Chairperson of the Executive Board;
 - (b) The Dean of Faculty, ex-officio;
 - (c) The Dean of Constituent Colleges, ex-officio;
 - (d) The Secretary to the Government of Punjab, Department of Technical Education & Industrial Training, ex-officio;
 - (g) One Dean of a Faculty of Study and one Principal / Director of a Regional Campus nominated by the Board of Governors by rotation in alphabetic order of the name of the Faculty / Regional Campus; and
 - (h) Two experts in HR Management nominated by the Chairman, Board of Governors.
- (2) The Registrar shall serve as the non-member Secretary of the Executive Board in an ex-officio capacity.
- (3) The Executive Board shall ordinarily **meet four times** in a calendar year just prior to the scheduled meetings of the Board of Governors.
- (4) The tenure of the non ex-officio members nominated in accordance with sub-clauses (1) (g & h) of clause 6.1.3.1 shall be three years from the date of their respective nominations.
- (5) The Executive Board shall broadly be empowered to:
 - (a) Advise and make recommendation to the Board of Governors on all matters pertaining to the HR and Administrative policies of the University;
 - (b) Consider and make recommendation on the general grievances of University employees as well as on any specific representation in the form of an appeal preferred by an individual employee to the Board of

Governors against a decision of any Officer or Authority of the University as the case may be;

- (c) Propose Rules on Personnel and Administrative issues, consistent with the Act and the Regulations of the University, for consideration and adoption of the Board of Governors; and
- (d) Render advice on such other matter in relation to the personnel and administrative management of the University as the Board of Governors may entrust to it from time to time.

6.1.3.2 The Finance Committee

- (1) There shall be a Finance Committee which shall be a Standing Committee of the Board of Governors and a Statutory Authority of the University as per provisions of sub-clause 13 (1) (v) of the PTU Act, 1997. The composition of the Finance Committee shall be as provided under sub-clause 16 (1) of the PTU Act, 1997.
- (2) The Registrar shall serve as the ex-office Secretary of the Finance Committee.
- (3) The Finance Officer shall be a permanent invitee to meetings of the Finance Committee.
- (4) The Finance Committee shall broadly be empowered:
 - (a) To review the operational processes and internal control guidelines in all areas impacting the finances of the University;
 - (b) To advise and make recommendation to the Board of Governors on all financial matters impacting the functioning of the university including the review of its financial performance;
 - (c) To scrutinize the Budget Estimates and the Revised Budget Estimates, if any, as proposed by the Vice Chancellor and recommending the same to the Board of Governors for its consideration and approval;
 - (d) To review and advise the Board of Governors with respect to Financial, Commercial, Academic and Legal Compliances along with the Annual Statement of Accounts and the Audit Report thereto;

- (e) To guide preparation of the Balance Sheet and the maintenance of the Asset Register of the University;
 - (f) To propose regulations for the delegation of financial power to various functionaries of the University and for making of Purchases / Write-off of Assets, etc. for consideration and adoption by the Board of Governors;
 - (g) To review funding proposals of the University, guide efforts for Resource Mobilization and monitor issues relating to Borrowings / Investments and Fund Flow Management ; and
 - (h) To advise on any matter in relation to Financial Management as the Board of Governors may entrust to it from time to time.
- (5) The Finance Committee shall ordinarily meet two times in each calendar year. Additional meetings may, however, be convened at the discretion of the Chairperson of the Committee.

6.1.3.3 The Board of Planning (B o P)

- (1) There shall be a Board of Planning which shall be a Standing Committee of the Board of Governors and a Statutory Authority of the University as provided in sub-clause 13 (1) (v) of the PTU Act. The Board of Planning shall comprise of the following members:
- (a) The Vice Chancellor, who shall be the ex-officio Chairperson of B o P;
 - (b) The Dean of Planning & External Programmes, ex-officio;
 - (c) Five persons of high standing having specialized knowledge in respect of education or research or management in the domain of core knowledge of the University nominated by the Chairman, Board of Governors on the recommendation of the Vice Chancellor;
 - (d) One Dean of a Faculty of Study and one Principal / Director of a Regional Campus nominated by the Chairman, Board of Governors by rotation in alphabetical order of the name of the Faculty of Study / Regional Campus.

- (2) The Registrar shall serve as the ex-officio Secretary of the B o P.
- (3) The term of office of non ex-officio members as at sub-clauses (1) (c & d) of clause 6.1.3.3 hereinabove shall be three years from the date of their respective nominations.
- (4) The functions of the B o P shall be to advise on the planning and development of the University including the standards of education and research in the University and to monitor implementation of its recommendations after they are approved by the appropriate Authorities of the University. The B o P shall coordinate with the Standing Committee on Education & Research Planning of the Academic Council in the discharge of its functions.
- (5) The B o P shall meet as and when necessary at the discretion of the Chairperson of the Committee.

6.1.3.4 The Faculty Boards / Councils of Executive Management

The composition, functions & powers and other details with respect to the Faculty Boards and the Councils of Executive Managements shall be as indicated at a later section entitled “**System of Management of Faculties of Study and Regional Campuses**”.

6.1.4 Modified Composition of the Board of Governors

- (i) The role of the Board of Governors of academic institutions is becoming increasingly professional in nature. Hence there is a need to shift from the current practice of having a composition comprising a range of generalist stakeholders to having governors with appropriate skills --- such as finance, HR, Estate Management, Student Services --- based on an audit of issues generally faced by the Board. Also there is a need to have more compact Governing Boards for greater effectiveness.

(ii) The primary functions of Boards of Governors comprise of:

- **Strategic Management** which calls for setting objectives including determining and reviewing the educational character and mission of the University;
- **Ensuring Accountability** which calls for the asking of difficult questions and guaranteeing that the Vice Chancellor and staff are accountable for how the University runs;
- **Allocation & Control of the Budget** and ensuring that resources are allocated to maximize impact of education of all students;
- **Monitoring & Evaluation of Progress** which calls for asking of important questions such as why are we doing what we do, is the strategy working, what are the outcome for students;
- **Reviewing stakeholder satisfaction** which calls for obtaining views / feedback of staff and students on the University's educational character and mission and keeping an oversight of its activities; and
- **Appointing senior staff** including the Vice Chancellor and setting the framework for the pay and conditions of service of staff.

(iii) In addition to the collective role of members of Boards of Governors indicated hereinabove individual Governors need to take on the responsibility for overseeing specific functions of the Board --- Finance, HR, Estate Management, Student Services, etc. --- on behalf of the Board and to lead discussions and presentation of reports on their allocated supervisory areas at Board meetings. This would call for them individually to familiarize themselves with the particular area of operation of the university for which they are assigned responsibility by occasional visits to the university and discussions with the concerned university functionary while maintaining full respect for the boundaries between the role of the executive management and the governors.

(iv) The prevailing practice in the case of government universities / institutions is to fill governing bodies with political nominees, government bureaucrats and senior functionaries from regulatory agencies many of whom have neither the inclination nor the time to serve as effective governors. The need of the hour is for the Boards to have Trustees comprising of men and women who have gained

distinction in their professional life, who are relatively independent, who are able to provide protection to the university from political and bureaucratic interference, who command public confidence and who understand the true nature and mission of higher education. Furthermore, a trustee should have the ability to take non-consensual and unpopular decisions in the interest of the university / institution, whenever necessary, and to uphold the fundamental ethos of academic life.

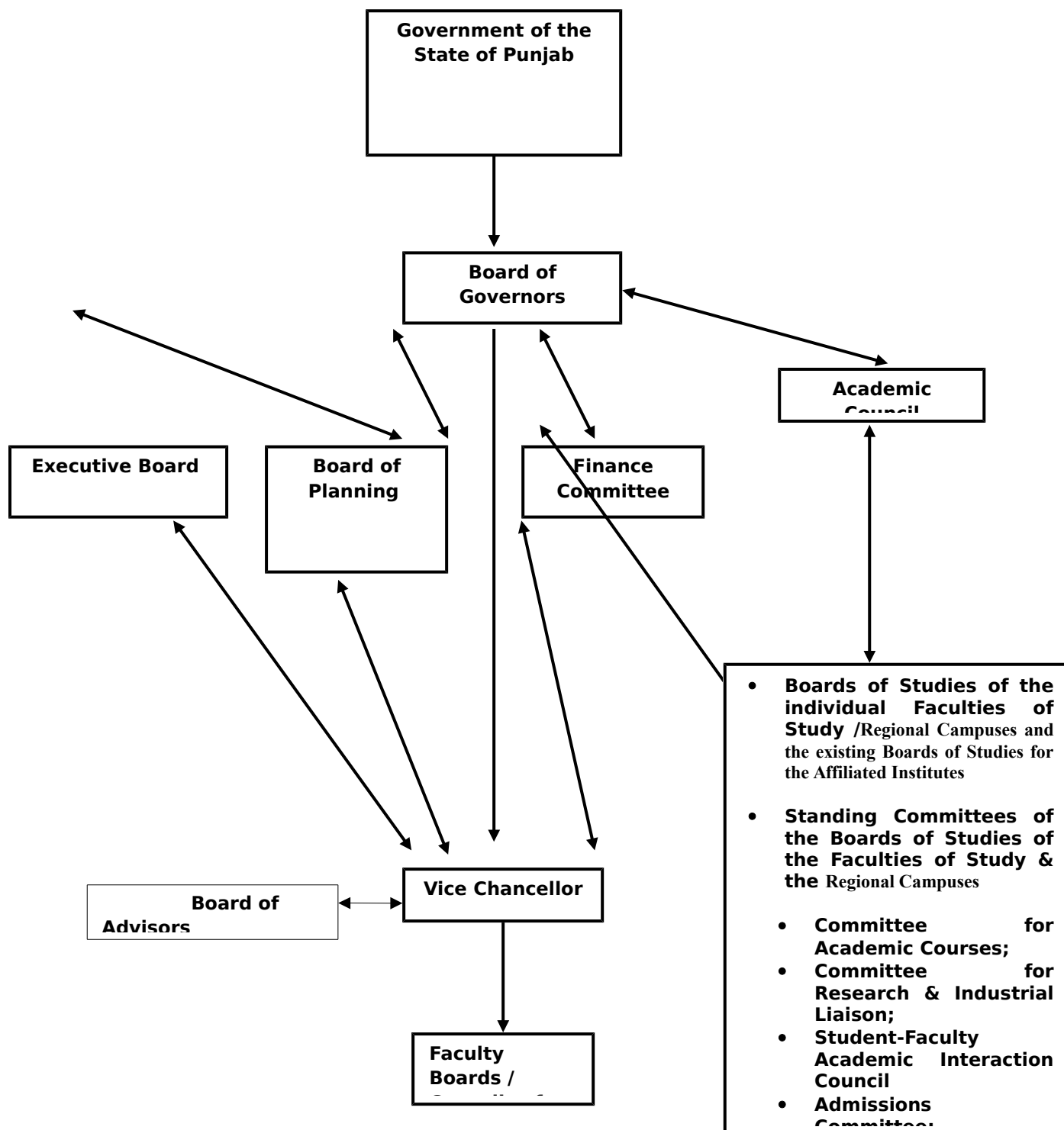
- (v) Keeping the above stated tenets of good governance in mind it is proposed that the membership of the Board of Governors of IKGPTU may comprise of:
- A renowned industrialist or academic as the Chairperson who may be nominated by the Chancellor on the advice of the State Government of Punjab;
 - Two nominees of the State Government of Punjab;
 - The Vice Chancellor IKGPTU, *ex-officio*;
 - Three nominees of the University faculty at the level of Professor with one each from the Main Campus, the Regional Campuses and the Affiliated Institutions nominated as per a procedure to be prescribed in the Regulations;
 - One nominee of the Alumni of the University to be nominated by the Vice Chancellor on the advice of the Alumni Association;
 - Four renowned academics and four renowned industrialists to be nominated by the Chancellor on the recommendation of a Nominations Committee appointed by the Board as per a procedure to be prescribed in the Regulations.

6.1.5 Modified Composition of the Academic Council

- (i) In view of the altered academic scenario envisaged for IKGPTU as a teaching-cum-affiliating university it is recommended that the composition of the Academic Council may be modified as indicated hereunder:
- Vice Chancellor, *ex-officio* Chairperson;
 - The Deans of the Faculties of Study, *ex-officio*
 - The Functional Deans, *ex-officio*;

- One Principal / Director of a Regional Campus nominated, by the Vice Chancellor, in rotation in alphabetic order of the name of the Regional Campus;
 - Five Principals / Directors of Affiliated Institutions with one each being from groups of Engineering & Technology / Management / Pharmacy / Architecture / Hotel Management Institutions to be nominated by the Vice Chancellor as a per procedure to be prescribed in the Regulations;
 - Three nominees of each of the Faculties of Study with one each being from amongst the Professors, the Associate Professors and the Assistant Professors on the rolls of the respective Faculties of Study nominated by the Board of Studies of the concerned Faculty of Study;
 - Two nominees of each of the Regional Campuses with one being the Coordinator (Academic Courses) and the second at the level of Professor nominated by the Board of Studies of the concerned Regional Campus;
 - Ten nominees of Affiliated Institutes at the level of Principal / Director with two each being from groups of Engineering & Technology / Management / Pharmacy / Architecture / Hotel Management Institutions to be nominated as a per procedure to be prescribed in the Regulations;
 - Three educationists / practitioners of repute in the domain of core competence of the University nominated by the Chairman of the Board of Governors on the recommendation of the Vice Chancellor; and
 - Two graduates of the University nominated by the Vice Chancellor on the recommendation of the President, Alumni Association.
- (ii) It is further proposed that the Academic Council may function through inputs from the Boards of Studies of each of the Faculties of Study and the Regional Campuses as well as the existing Boards of Studies for the Affiliated Institutions.

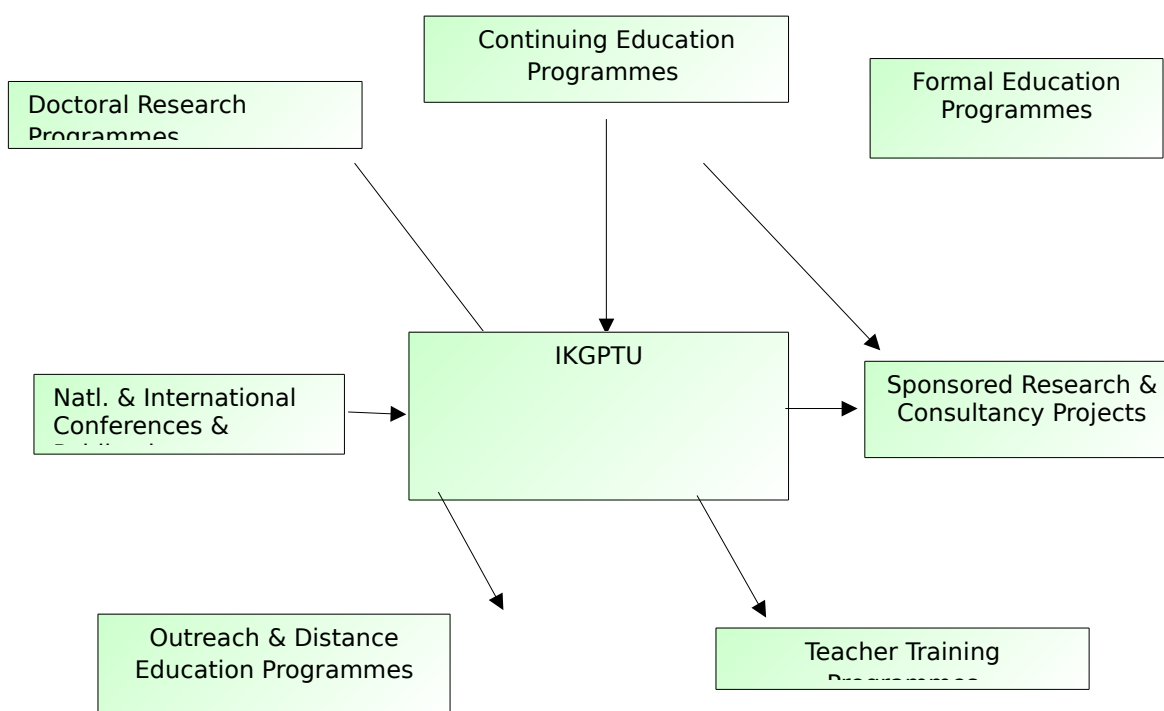
Fig. 6.1: Schematic of the Governance Structure of IKGPTU



6.2 SYSTEM OF EXECUTIVE MANAGEMENT AT THE UNIVERSITY LEVEL

6.2.1 The IKGPTU through its Faculties of Study and the Regional Campuses is expected to carry-out the broad set of activities diagrammatically presented hereunder in Fig. 6.2.

Fig 6.2: Academic Activities of IKGPTU



6.2.2 In order to carry out these multifarious set of activities there is a need to have in place an executive management system which is: (i) self-managed by objectives; (ii) provides for appropriate decentralization of authority and responsibility for decision-making; (iii) places a premium on transparency and the building of harmonious relationship with and between all stakeholders and (iv) is in consonance with the core principles of governance for the University. Furthermore, the design of the organizational framework needs to be totally flexible and thin and sharp in its functioning. It should provide for information access and sharing through a computerized MIS and an inter-office communication system. Also the management hierarchy needs to be thin and straight

with the role & responsibilities of key functionaries and the reporting structure being clearly spelt out.

6.2.3 It is proposed that the day-to-day Executive Management of the University vests in a Vice Chancellor of the University appointed as its Chief Academic & Executive Officer by the Governor of Punjab in his capacity as the Chancellor of the University in accordance with the provisions of clause 10 (1) of the PTU Act, 1997. The Vice Chancellor is expected to be responsible to the Board of Governors of the University for its proper functioning and for implementation of decisions of various Authorities of the University. The responsibilities of the Vice Chancellor is expected to cover all aspects of the operation of the University as indicated hereunder in Table 6.1 in terms of line operations and support operations:

Table 6.1: Line and Support Operations at IKGPTU

LINE OPERATIONS	SUPPORT OPERATIONS
<ul style="list-style-type: none"> • Student Admission; • Teaching and Academic Research; • Examinations; • Applied and Sponsored Research; • Consultancy • Student Internships; • Cross-curricular (Generic Skills) Activities; • Student Discipline; • Non-academic Student Affairs including Management of Student Halls of Residence and Student Co-curricular Activities; • Student Placement; • Library & Information Resource Services; • Computing Services including the Voice, Data & Picture Communication Network / MIS / Web Communication; • Virtual Learning Facilities; • Continuing Education Programmes; • Faculty Development Programmes; • Student Placement; • Student Guidance & Counselling; • Student Mentoring; 	<ul style="list-style-type: none"> • Accounts & Finance including Budgeting and Audit; • Personnel & Administration Matters including Faculty & Staff Recruitment / Discipline / Welfare; Staff Development; • Works & Estate Management; • Stores & Purchase; • Public Relations; • Vigilance & Legal Matters; • Security; • Transport Services; and • Medical Services.

LINE OPERATIONS	SUPPORT OPERATIONS
<ul style="list-style-type: none"> • Resource Planning & Mobilization; • Linkage with research & higher education institutions; and • Linkages with the Government of Punjab/UGC/AICTE/Industry, etc. 	

6.2.4 As an organization the University is expected to perform the following functions from a management cybernetics point of view:

- (a) Operations --- both line and support operations --- for which the University primarily exist;
- (b) Coordination and synergistic control (administrative support functions);
- (c) Execution of present plans;
- (d) Long term planning; and
- (e) Strategic supervision - cum - Strategic and policy management.

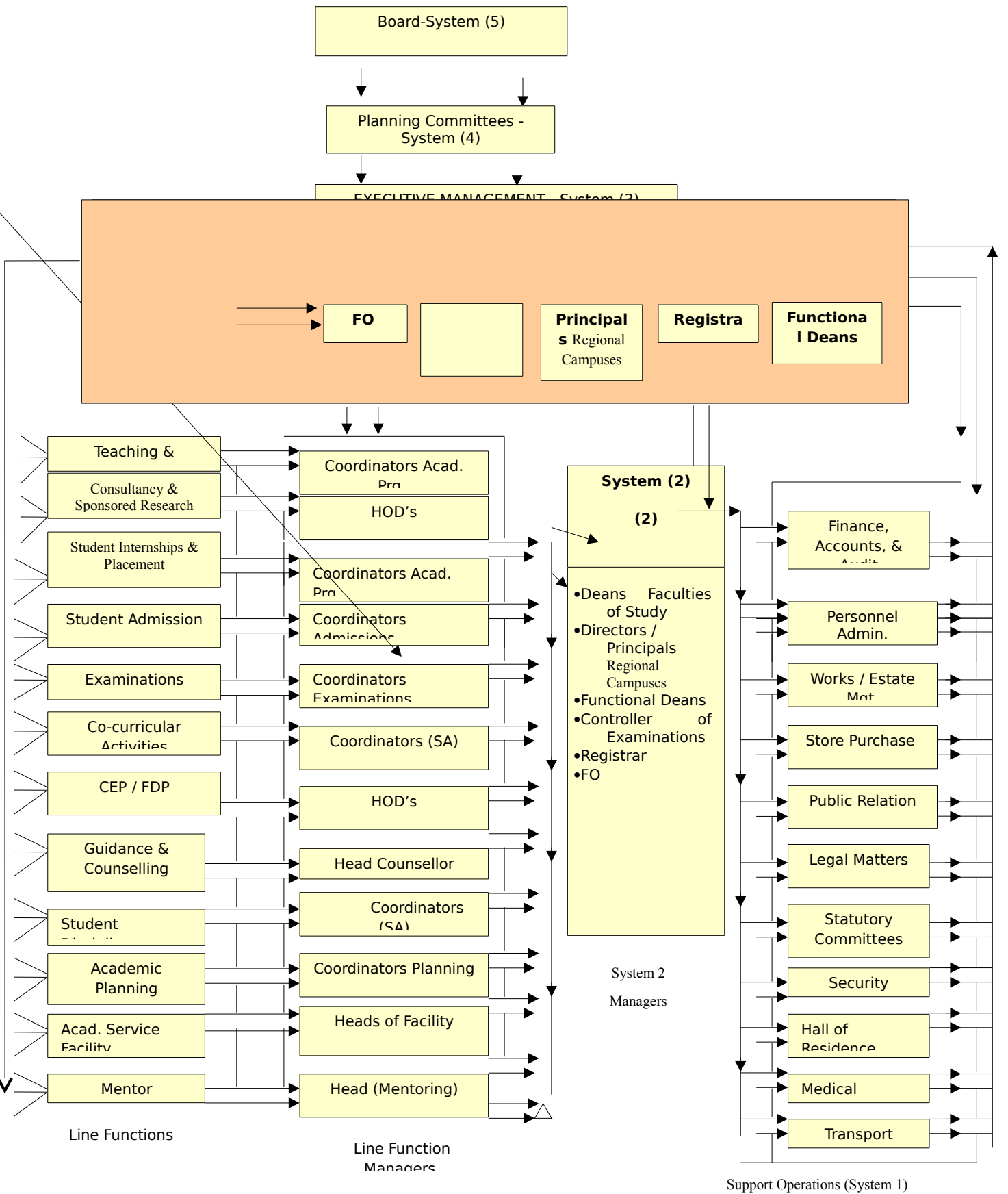
6.2.5 It is proposed to structure the five functions listed in sub-section 6.6.4 hereinabove into a hierarchy of controls with system (1) being concerned with function (a), system (2) with function (b) and so on keeping in mind the ideas presented in sub-section 6.6.2 hereinabove. The main operative functions (the line operations --- indicated in column 1 of Table 6.2) are expected to be carried out by the instructional faculty at each of the Faculties of Study and the individual Regional Campus with the Functional Coordinators serving as the Line Operations Managers under policy guidance of the respective Board of Studies through the set of Standing Committees of the Boards of Studies indicated in Fig. 6.1 subject to overall guidance of the Academic Council. On the other hand, the support functions, i.e., the staff operations, which comprise of functions such as finance, personnel management, administration, estate maintenance, etc., are expected to be carried out by a hierarchy of administrative officers with the Officers of the Registry serving as the Support Operations Managers under policy guidance provided by the Faculty Board / Council of Executive Management under guidance of the Executive Board.

6.2.6 The function of coordination and synergistic control is expected to be carried out by the Deans of the Faculties of Study / Principals or Directors Regional Campuses, the

Functional Deans (one each for Academic Affairs, Examinations, Faculty Affairs, R&D, Students Affairs, Planning & External Programmes and Constituent Colleges), the Controller of Examinations, the Registrar and the Chief Finance Officer who constitute the system (2) Managers. The system (2) Managers are responsible for coordinating decisions and to channelize information between system (1) and system (3). They report to the Vice Chancellor who as the executive head of the University functions as the system (3) Manager on the advice of the System (2) Managers and is responsible to the Board of Governors for the execution of present plans and for implementation of policies as may be laid down by the Board of Governors.

- 6.2.7 The corporate planning activity is proposed to be carried out as an independent system (4) function distinct from that of execution of present plans. For this purpose, as shown in Fig. 6.1, it is recommended that a Board for Planning be constituted as a Standing Committee of the Board of Governors. Likewise, it is recommended that Boards of Planning be constituted as Standing Committees of each of the Boards of Studies under the overall policy guidance of the Academic Council.
- 6.2.8 Responsibility for carrying out the system (5) function, i.e., the function of strategic and policy management is expected to vest on the Board of Governors supported by the Executive Board at the University level and the Faculty Boards / Councils of Executive Management at the level of the individual Faculties of Study and the individual Regional Campus.
- 6.2.9 The proposed systems framework for Executive Management of the University and its individual Faculties of Study and Regional Campuses as outlined in sub-sections 6.2.5. - 6.2.8 is diagrammatically presented in Fig. 6.3.

Fig 6.3: Systems Framework for Executive Management: IKGPTU



6.3 SYSTEM OF MANAGEMENT OF THE FACULTIES OF STUDY/ REGIONAL CAMPUSES

6.3.2 Each of the Faculties of Study at the Main Campus and the Regional Campuses shall respectively be headed by a Dean of Faculty and a Principal (or Director) who shall be deemed to be Statutory Officers of the University in terms of clause 7 (v) of the PTU Act. The Dean / Principal (or Director) shall be the Chief Administrative & Academic Officer of the concerned Faculty of Study / Regional Campus. The Deans of the Faculties of Study / Principals (or Directors) of the Regional Campuses shall be appointed by the Board of Governors for a term of 5 years on the recommendations of Search-cum-Selection Committees appointed in the manner prescribed in the Regulations of the University. Incumbents so appointed shall concurrently be appointed as a tenured Professor in the concerned Faculty of Study / Regional Campus and may, if he/she so chooses, continue to serve as a Professor in the concerned Faculty of Study / Regional Campus after relinquishing charge as the Dean / Principal or Director till the of his/her date of superannuation.

6.3.3 The Deans Faculties of Study / Principal (or Director) Regional Campuses shall be responsible for:

- Control of the academic & administrative functions of the concerned Faculty of Study / Regional Campus subject to the general guidance and supervision of the Vice Chancellor.
- The conduct and management of the standards of teaching and research in their respective Faculty of Study / Regional Campus;
- The execution of policy decisions on academic and student development & welfare issues as may be laid down by the Authorities of the University;
- Ensuring student and employee discipline;
- Making recommendations on behalf of the concerned Faculty of Study / Regional Campus and its constituent Departments on academic issues for consideration of the Academic Council and its Standing Committees;
- Preparation of the annual budget and the formulation of the development plans for the concerned Faculty of Study / Regional Campus in association with the Heads of constituent departments.

- 6.3.4 The Deans/ Principal (or Director) shall be assisted in the discharge of their functions by a set of Functional Coordinators responsible for the management of the functional areas of Academic Courses / Academic & Industrial R&D / Student Affairs / Faculty Affairs / Admissions / Examinations / Planning / T & P) appointed from amongst the faculty of constituent departments by the concerned Dean of Faculty of Study/ Principal (or Director) Regional Campus in the manner prescribed by the Board of Governors on the recommendation of the Academic Council.
- 6.3.5 Each Faculty of Study / Regional Campus shall have a Faculty Board / Council of Executive Management which shall be deemed to be a Statutory Authority of the University in terms of clause 13 (1) (iii) of the PTU Act, 1997. The Faculty Boards / Councils of Executive Management shall serve as the chief executive body for the concerned Faculty of Study / Regional Campus and shall be responsible for overall policy formulation, coordination and review of all activities of the concerned Faculty of Study / Regional Campus subject to the overall control and guidance of the IKGPTU Board of Governors.
- 6.3.5 The Faculty Boards/ Councils of Executive Management shall comprise of the following members:
- Dean of the Faculty of Study / Principal (or Director) Regional Campus who shall be the ex-officio Chairperson of the Faculty Board / Council of Executive Management;
 - Heads of all Constituent Departments, ex-officio;
 - All Functional Coordinators, ex-officio;
 - Three Faculty Nominees, with one each being at the level of Professor, Associate Professor and Assistant Professor, of each Constituent Department nominated in rotation from amongst the faculty of the concerned department for a term of two years by the concerned Department Faculty Board; and
 - One Functional Dean of the University nominated by the Vice Chancellor.
- 6.3.6 Each Faculty of Study / Regional Campus shall have a Board of Studies which shall be a Statutory Authority of the University in terms of clause 13 (1) (iv) of the PTU Act, 1997 and a Standing Committee of the University's Academic Council. The Boards of Study shall serve as the principal academic body of the Faculties of Study / Regional Campuses under the overall guidance of the Academic Council.

6.3.7 The Boards of Study of the Faculty of Studies / Regional Campuses shall comprise of the following members:

- Dean of the Faculty of Study / Principal or Director Regional Campus who shall be the ex-officio Chairperson of the concerned Board of Study;
- Heads of all Constituent Departments, ex-officio;
- Three Faculty Nominees, with one each being at the level of Professor, Associate Professor and Assistant Professor, of each Constituent Department nominated in rotation from amongst the faculty of the concerned department for a term of two years by the concerned Department Faculty Board;
- Two outside experts with one each from industry and academia nominated by the Vice Chancellor on the advice of the concerned Dean of Faculty / Principal (or Director) Regional Campus; and
- One Functional Coordinator (Academic Courses) of a sister Faculty of Study / Regional Campus nominated by the University's Dean of Academic Affairs.

6.3.8 The Boards of Study shall be assisted in carrying out their assigned responsibilities by the following set of Standing Committees appointed by the concerned Boards of Study in the manner prescribed by the Academic Council:

- The Admissions Committee;
- The Faculty Affairs Committee;
- The Planning Committee;
- The Industrial Liaison Committee;
- The Research Committee; and
- The Student-Faculty Academic Interaction Council.

6.4 SYSTEM OF MANAGEMENT OF CONSTITUENT DEPARTMENTS

6.4.1 Each constituent department of a Faculty of Study / Regional Campus shall be headed by a Head of Department who shall be the operations manager for the concerned department and shall be appointed by the Dean of Faculty / Principal or Director Regional Campus for a term of 3 years from amongst the Professors of the concerned

department in the manner prescribed by the Board of Governors on the advice of the Academic Council.

6.4.2 The Head of the Department shall be responsible for all aspects of the working of the concerned department including coordination of its teaching and research activities subject to the general guidance and control of the concerned Dean, Faculty of Study / Principal or Director and the Vice Chancellor. He / she will also be responsible to see that the decisions of the Authorities of the University as may be applicable to the concerned department are faithfully implemented.

6.4.3 Responsibility for overall policy formulation, coordination and review of all activities of the department in conformity with the mission and policy framework for the University as laid down by the Authorities of the University shall vest in an apex committee called the Department Faculty Board (DFB) to be chaired by the concerned Head of Department.

6.4.4 Each DFB shall comprise of:

- The Head of Department who shall be the ex-officio Chairperson of the DFB;
- All full-time tenured and contract faculty having primary affiliation with the given department; and
- All adjunct and visiting faculty attached to the department during their tenure of attachment with the concerned department.

6.4.5 It is recommended that a Standing Review Committee may be constituted by the Vice Chancellor for each department of the Faculties of Study / Regional Campus to carry out a bi-annual review of its functioning and to suggest any remedial action necessary to improve its functioning and to give guidance on future directions.

6.5 SYSTEM OF MANAGEMENT OF NON-ACADEMIC STUDENT AFFAIRS

6.5.1 Responsibility as the Executive Manager to serve as the point's person for handling all issues pertaining to non-academic student affairs at the Main Campus of IKGPTU is proposed to vest in the Dean Student Affairs assisted by the Coordinators (Student Affairs) of the individual Faculties of Study whilst that at each of the Regional

Campuses this responsibility is proposed to be discharged by the Coordinator for Student Affairs. The Dean of Students and the Coordinators Student Affairs at the Regional Campuses shall be assisted by the Faculty Advisors (Student Activities) and the Hostel Wardens.

6.5.2 It is further proposed to constitute a Board of Student Affairs on the Main Campus and at each of the individual Regional Campuses to be respectively chaired by the Dean of Student Affairs /Coordinator (Student Affairs) of the Regional Campuses and comprising both faculty and students as Standing Committees at the Main Campus and the individual Regional Campus. The respective Boards of Student Affairs are proposed to be charged with the responsibility for overall policy formulation, coordination and review of all matters pertaining to non-academic student affairs such as student co-curricular activities, student housing, student counselling, student welfare, student discipline (other than breach of academic integrity), etc. on the Main Campus and the individual Regional Campuses. In addition it is proposed that the Boards of Student Affairs would also serve as a forum to articulate the views of the students with regards programmes of studies and other matters of importance in regards to the working of the Faculties of Study / Regional Campuses in general. It is desirable that the composition of the BSA's be location specific and hence may be drawn up for individual campuses by individual faculty-student committees to be respectively chaired by the Dean of Student Affairs and the concerned Coordinator (Student Affairs) subject to approval of individual constitutions by the Academic Council.

6.5.3 With a view to inculcate qualities of leadership and a spirit of team work in the students it is imperative that the students themselves be an integral part of the process of management of their own affairs with the faculty being involved only as mentors and advisors. Keeping the above stated premise in mind it is recommended that student-faculty committees may be constituted as Standing Committees of each BSA to handle individual aspects of student affairs such as:

- Cultural & Creative Activities;
- Sports Activities;
- Hostel Management;
- Student Discipline;

- Student Welfare; and
- Guidance & Counselling.

6.5.4 Essential details with respect to the composition, procedure for nomination / election of members, duties & responsibilities, procedure for conduct of business, etc. of each of the Standing Committees shall be as may be prescribed by the individual Boards of Student Affairs subject to approval of the Academic Council on the recommendation of the Dean of Student Affairs / Coordinators Student Affairs of the Regional Campuses.

6.6 MANAGEMENT HIERARCHY

Corresponding to the proposed systems framework the management hierarchy at the level of the Faculties of Study and the Regional Campuses is schematically presented in Fig. 6.4 and that at the level of the University in Fig. 6.5.

Fig. 6.4: Management Hierarchy of Faculties of Study / Regional Campuses

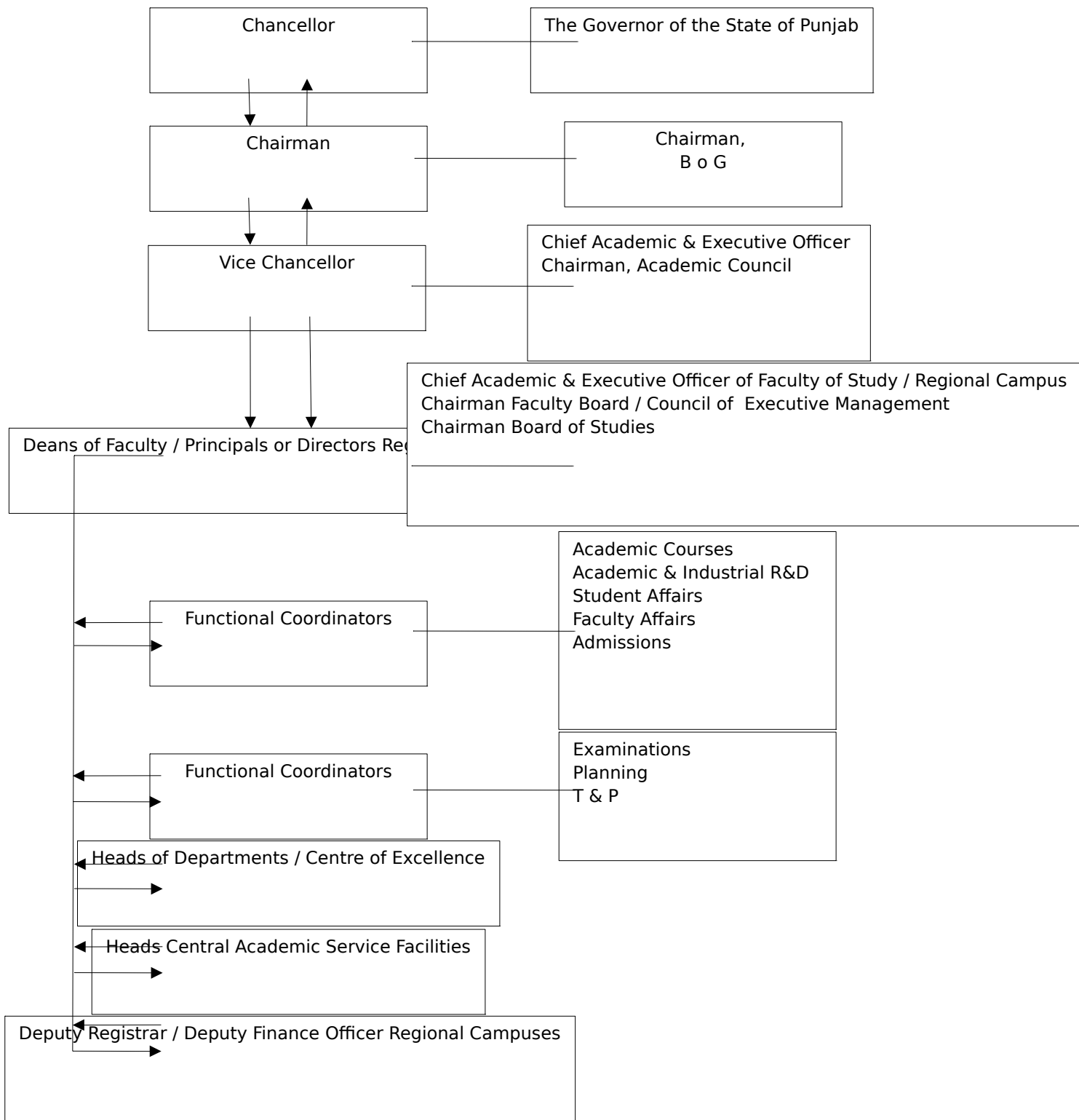
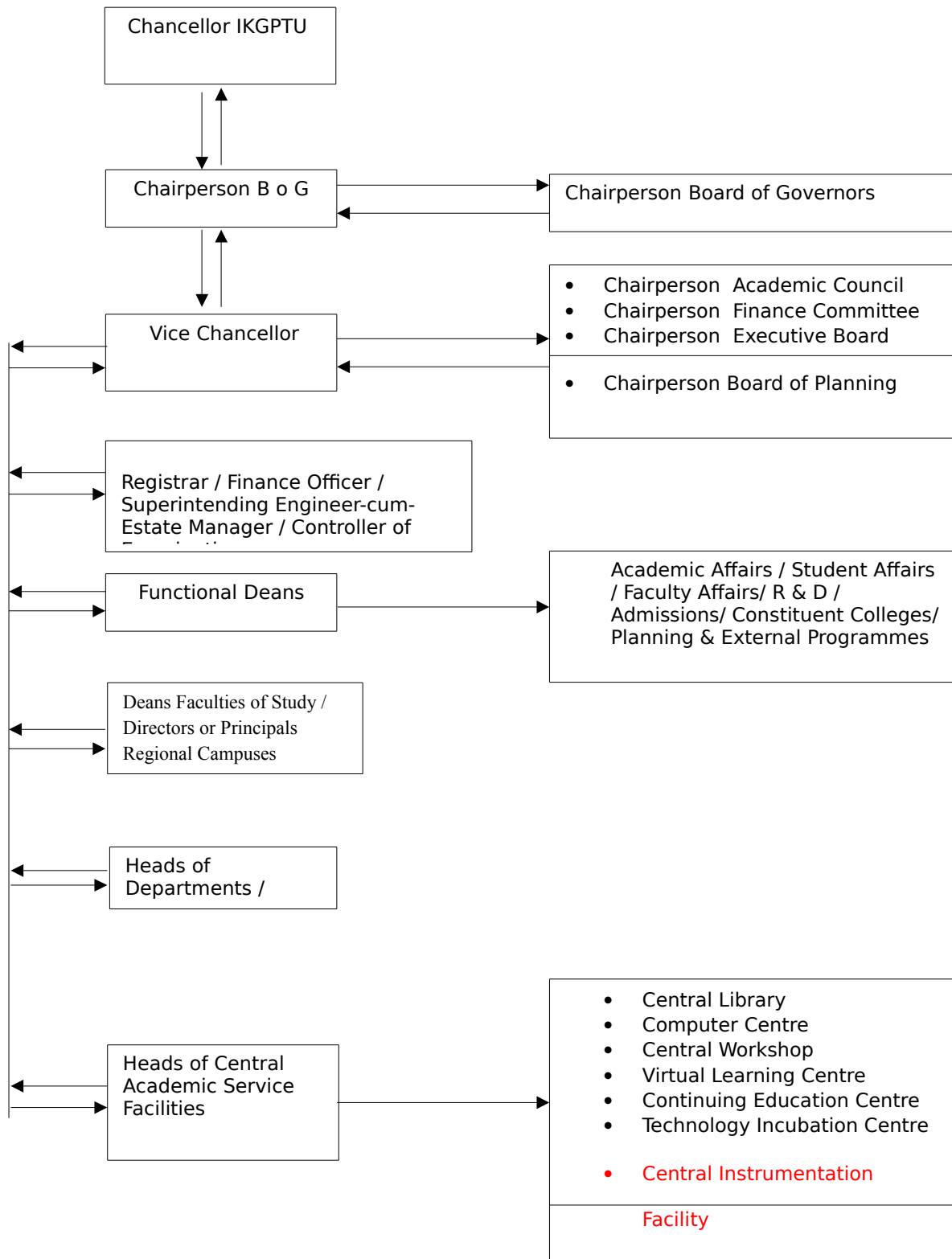


Fig. 6.5: Reporting Hierarchy: IKGPTU



6.7 COORDINATING MECHANISM

6.7.1 In view of the extensive decentralization and delegation of authority and responsibility implicit in the system of executive management proposed hereinabove it is desirable to have in place a mechanism for administrative and academic coordination. It is suggested that the following coordinating meetings may be periodically convened:

- (i) Meetings of System (3) Executive Managers comprising the Vice Chancellor, the Functional Deans, the Deans of the Faculty of Study, the Registrar, the Finance Officer, the Superintending Engineer-cum-Estate Manager, the Functional Coordinators of the Regional Campuses, the Directors / Principals Regional Campuses, the Deputy Registrars Regional Campuses and the Deputy Finance Officers Regional Campuses may be convened twice a month with the objective of sharing information on major issues handled by each functionary during the intervening period between meetings and to seek each other's advise as may be necessary;
- (ii) Meetings of all administrative officers including officers of the Registry on the Main Campus and the Regional Campuses and the System (3) Executive Managers named hereinabove in sub-clause (i) may be convened twice a year. The objective of these meetings may be to discuss common issues concerning the administration of the University, to take stock of the work being done and to nurture greater interaction & communication among the administrative officers as well as between the officers and the System (3) executive managers.

6.7.2 It is recommended that meetings of these coordinating bodies be chaired by the Vice Chancellor and may be convened by the Registrar at the discretion of the Vice Chancellor.

6.8 OFFICERS AND THEIR FUNCTIONS

6.8.1 The following officers have been proposed at the top executive management level for the IKGPTU Main Campus with the reporting hierarchy as indicated in Fig. 6.5:

- i The Vice Chancellor;

- ii The Functional Deans (Planning and External Programmes/ Academic Affairs / Admissions / R & D / Student Welfare / Faculty Affairs / Constituent Colleges);
- iii Deans Faculties of Study;
- iv Heads of Departments/ Centres of Excellence;
- v The Registrar;
- vi The Controller of Examinations;
- vii The Finance Officer;
- viii The Superintending Engineer-cum-Estate Manager; and
- ix Heads of Central Academic Service Facilities.

6.8.2 The role and responsibilities for each of these key positions are indicated hereunder in Table 6.2:

Table 6.2: Role & Responsibilities of Key Officers

Position 6.8.1 (i): VICE CHANCELLOR	
Designation	Vice Chancellor
Method of Appointment	Appointed by the Chancellor as per procedure prescribed in the PTU Act 1997
Salary Scale	Emoluments and terms & conditions of service as prescribed by the Chancellor.
Report to	Chancellor
Reported by	<ul style="list-style-type: none"> • Functional Deans; • Deans Faculties of Study • Heads of Departments; • Controller of Examinations; • Principal / Director Regional Campuses; • Registrar; • Heads of Central Academic Service Facilities; • Finance Officer; • Superintending Engineer-cum-Estate Manager; • Employees of the University and its Regional Campuses through their respective supervisors.
Role & Responsibilities	<ul style="list-style-type: none"> • Chief Academic & Executive Officer; • Chairperson of the Executive Board / the Academic Council / the Finance Committee / the Board of Planning; • To inspire and motivate all constituents of the university to willingly carry out their respective responsibilities with a view to accomplish both their personal and organizational goals;

	<ul style="list-style-type: none"> • To make the Vision Mission Value (VMV) Statement of the University ‘liveable’ by continuously articulating the VMV Statement as well as by setting an example through actually living out the ideas contained in the VMV Statement; • To develop human resource practices at the University with a view towards nurturing excellence; • To plan for the future and to mobilize resources for their fruition; • Public Relations and Networking with Stakeholders and the Community; • To create an enabling environment for academic-value addition; • Inter-personal relations and conflict management; • Building the brand equity of the University; • Financial management; • Nurturing a second-level of leadership; and • Conducting ‘accountability audits’ on an on-going basis for societal confidence-building.
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Position 6.8.1(ii a): DEAN PLANNING & EXTERNAL PROGRAMMES	
Designation	Dean Planning & External Programmes
Method of Appointment Salary Scale	Appointed by the Board of Governors in the manner prescribed in the Regulations of the University
Salary Scale and Terms & Conditions of Service	Emoluments and terms & conditions as prescribed by the Board of Governors
Report to	Vice Chancellor
Reported by	<ul style="list-style-type: none"> • Deputy/Assistant Registrars (Planning); • Deputy/Assistant Registrars (Resource Mobilization); • Deputy/Assistant Registrars (International & Outreach Programs) • PRO; • Manager Guest House;
Role & Responsibilities	<ul style="list-style-type: none"> • Prospective Planning; • International & Outreach Programs; • Alumni Relations; • University Budget in consultation with the Finance Officer;

	<ul style="list-style-type: none"> • Accountability Audit; • Public Relations; • Management of Guest House; • Resource Generation; • Liaising with National & International Institutes of Higher Learning & Research.
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Position 6.8.1 (ii b)	
DEAN ACADEMIC AFFAIRS	
Designation	Dean Academic Affairs
Method of Appointment	Appointed by the Board of Governors in the manner prescribed in the Regulations of the University
Salary Scale / Terms & Conditions of Service	Emoluments and terms & conditions as prescribed by the Board of Governors
Report to	Vice Chancellor
Reported by	<ul style="list-style-type: none"> • Deputy/Assistant Registrars (UG Studies); • Deputy/Assistant Registrars (PG Studies); • Controller of Examinations.
Role & Responsibilities	<ul style="list-style-type: none"> • Chairperson of Academic Council's Academic Affairs Committee; • Course Registration; • Framing of Academic Time Table; • Trimester Schedule; • Academic Discipline (in consultation with the Dean Student Welfare); • Monitoring of Teaching; • Student feedback on Courses; • Student - Faculty Academic Interaction; • New Academic Programs; • Student Exchange Schemes; • Curriculum Development; • Organization of Effective Teaching Workshops; • Liaison with Deans Faculties of Study & Heads of Departments of the Main Campus and the Principals/Directors & Coordinators (Academic Affairs) of the Regional Campuses; • Organization of the Annual Convocation.

Position 6.8.1 (ii c):	
DEAN ADMISISSIONS	
Designation	Dean Admissions

Method of Appointment	Appointed by the Board of Governors in the manner prescribed in the Regulations of the University
Salary Scale / Terms & Conditions of Service	Emoluments and terms & conditions as prescribed by the Board of Governors.
Report to	Vice Chancellor
Reported by	<ul style="list-style-type: none"> • Deputy/Assistant Registrars (Admissions); • Coordinator (Alumni Affairs)
Role & Responsibilities	<ul style="list-style-type: none"> • Chairperson Academic Council's Admissions Committee; • Student Admission; • Preparation/Printing/Sale of Prospectus; • Conduct of Entrance Examination in coordination with the Controller of Examination; • Liaison with Deans Faculties of Study & Heads of Departments of the Main Campus and the Principals / Directors & Coordinator (Admissions) of the Regional Campuses; • Admission Interviews / Counselling; • Issue of Admission Letters.

Position 6.8.1 (ii d) DEAN RESEARCH & DEVELOPMENT	
Designation	Dean R & D
Method of Appointment	Appointed by the Board of Governors in the manner prescribed in the Regulations of the University
Salary Scale / Terms & Conditions of Service	Emoluments and terms & conditions as prescribed by the Board of Governors
Report to	Vice Chancellor
Reported by	<ul style="list-style-type: none"> • Deputy/Assistant Registrars (R&D) • Coordinator CEP • Coordinator Student Training & Placement
Role & Responsibilities	<ul style="list-style-type: none"> • Chairperson Academic Council's R&D Committee; • Promotion of Research; • Faculty Research Initiation Program; • Student Research Opportunities Program; • Management of Sponsored R&D Projects; • Student Industry Internship; • Industry Interaction; • Consultancy; • Business Incubation; • Continuing Education Programs;

	<ul style="list-style-type: none"> • Student Mentoring; • Student Placement including interview schedules; • Maintaining data base and an Information Library on Companies; • Providing logistic support to companies visiting for campus interviews; • Maintaining Placement Statistics; • Liaison with Deans Faculties of Study & Heads of Departments of the Main Campus and the Principals / Directors & the Coordinators (Academic & Industrial Research) of the Regional Campuses; • Advising on the framing of Placement / Training rules; • Seeking training slots and matching student – company interests in consultation with Deans Faculties of Study / Heads of Departments of the Main Campus and the Principals / Directors & Coordinators (R & D) of the Regional Campuses ; • Ascertaining / Analysis feedback from students and companies.
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Position 6.8.1(ii e)	
DEAN STUDENT WELFARE	
Designation	Dean Student Welfare
Method of Appointment	Appointed by the Board of Governors in the manner prescribed in the Regulations of the University
Salary Scale / Terms & Conditions of Service	Emoluments and terms & conditions as prescribed by the Board of Governors
Report to	Vice Chancellor
Reported by	<ul style="list-style-type: none"> • Deputy/Assistant Registrars (Student Affairs); • Proctor; • Wardens; • Sports Officer; • Faculty Advisors Student Co-curricular Activities; • Faculty Advisor Student Counselling Service.
Role & Responsibilities	<ul style="list-style-type: none"> • Chairperson Academic Council’s Student Affairs Council; • Chairperson Board of Student Affairs; • Student Welfare; • Management of Student Hostels & Messing; • Supervision of Student Co-curricular Activities; • Supervision of Student Mentoring Service; • Supervision of Student Guidance & Counselling

	Service; <ul style="list-style-type: none"> • Student non-academic discipline; • Student Health Services; • Foreign Students; • Liaison with Wardens /Activity Advisors on the Main Campus and the Coordinator (Student Affairs) of the Regional Campuses
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Position 6.8.1(ii f) DEAN FACULTY AFFAIRS	
Designation	Dean Faculty Affairs
Method of Appointment	Appointed by the Board of Governors in the manner prescribed in the Regulations of the University
Salary Scale and Terms & Conditions of Service	Emoluments and terms & conditions as prescribed by the Board of
Report to	Vice Chancellor
Reported by	<ul style="list-style-type: none"> • Deputy/Assistant Registrars (Faculty Affairs); • Coordinator Faculty Development Program
Role & Responsibilities	<ul style="list-style-type: none"> • Chairperson Academic Council's Board of Faculty Affairs; • Formulation of manpower policies for faculty including faculty search, creation of posts, recruitment & appointment; • Faculty Development Programme; • Performance Appraisal; • Faculty Welfare; • Grant of medium / short leave to faculty; • Processing requests of faculty for long leave; • Nomination of faculty to attend seminars / conferences in India; • Processing requests of faculty for nomination to attend seminars / conferences abroad; • Liaison with Deans Faculties of Study & Heads of Departments of the Main Campus and the Principals / Directors & Coordinators (Faculty Affairs) of the Regional Campuses

Position 6.8.1 (ii g) DEAN OF CONSTITUENT COLLEGES	
Designation	Dean Constituent Colleges

Method of Appointment	Appointed by the Board of Governors in the manner prescribed in the Regulations of the University
Salary Scale/ Terms & Conditions of Service	Emoluments and terms & conditions as prescribed by the Board of Governors
Report to	Vice Chancellor
Reported by	Deputy/Assistant Registrars (Constituent Colleges)
Role & Responsibilities	<ul style="list-style-type: none"> • Assist the Vice Chancellor with respect to ensuring implementation of University policies in the Regional Campuses; • All aspects of linkage and control of Regional Campuses including approval of new programmes, admission, examinations, academic, faculty & staff recruitment, student welfare, etc. in consultation with concerned Functional Deans. • Liaison with Principals / Director and the Functional Coordinators of the Regional Campuses

Position 6.1.8 (iii) DEANS FACULTIES OF STUDY	
Designation	Deans Faculties of Study
Method of Appointment	Appointed by the Board of Governors in the manner prescribed in the Regulations of the University
Salary Scale and Terms & Conditions of Service	Emoluments and terms & conditions as prescribed by the Board of Governors
Report to	Vice Chancellor
Reported by	Faculty and Support Staff of all Departments affiliated to the concerned Faculty of Study.
Role & Responsibilities	<ul style="list-style-type: none"> • Chairperson of the Faculty Board and the Board of Study of the concerned Faculty; • The conduct and management of the standards of teaching and research in the concerned Faculty; • The execution of policy decisions on academic and student development & welfare issues as may be laid down by the Authorities of the University; • Making recommendations on behalf of the concerned Faculty and its associated Departments on academic issues for consideration of the Academic Council; • Preparation of the annual budget and the formulation of the development plans for the concerned Faculty in consultation with the Heads of Constituent Departments.

Position 6.8.1 (iv) HEADS OF DEPARTMENTS	
Designation	Head of Departments /Centres of Excellence
Method of Appointment	Appointed by the Vice Chancellor from amongst the Professors of the Department/ Centres of Excellence as per procedure laid down by the Board of Governors on the recommendation of the Academic Council.
Salary Scale and Terms & Conditions	Scale as being drawn as a faculty member + honorarium and perquisites as may be decided by the Board of Governors from time to time.
Report to	Vice Chancellor through the Dean Faculty of Study
Reported by	Faculty and Support Staff of the respective Departments / Centre of Excellence
Role & Responsibilities	<ul style="list-style-type: none"> • Responsible for all aspects of the working of the concerned Department/ Centre of Excellence subject to the general control of the Dean Faculty of Study / Vice Chancellor; • Implementation of all applicable policy decisions with respect to academic, personnel and administrative matters as prescribed by the Authorities of the University; • Any other matter as may be specifically assigned by the Vice Chancellor.

Position 6.8.1 (v) REGISTRAR	
Designation	Registrar
Method of Appointment	Appointed on contract for a term of 3 years extendable at most by another 3 years by the Board of Governors on the recommendation of the Vice Chancellor
Salary Scale and terms & conditions of Service	As prescribed by the Board of Governors from time to time.
Report to	Vice Chancellor
Reported by	<ul style="list-style-type: none"> • Deputy/Assistant Registrars (in-charge of various administrative sections under the overall charge of the Registrar); • Coordinator Non-Academic Staff Training
Role & Responsibilities	<ul style="list-style-type: none"> • Secretary of the Board of Governors / Academic Council / Finance Committee Executive Board / Board of Planning; • Notice of Meetings, Circulation of Agenda, Minutes, Follow-up Action, etc. of the above mentioned

	<p>Statutory Committees;</p> <ul style="list-style-type: none"> • General Administration & Discipline; • Manpower Policies for Non-Academic Staff including Creation of Posts, Staff Recruitment and Appointments, etc. • Staff Training & Development; • Service matters and Service Records of Non-Academic Staff --- performance appraisal, mentoring etc.; • Preparation of an Administrative Manual; • Welfare, Health and Safety of Non-Academic Staff; • Implementation of general service and conduct rules. • Security; • Housekeeping; • Vigilance; • Legal Matters; • Central Records; • General Coordination; • Legislature Questions; • Transport Services; • Official language policy & its implementation; • Any other duties as may be assigned by the Vice Chancellor and / or the Board of Governors and / or the Rules & Regulations of the University.
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Position 6.8.1 (vi)	
CONTROLLER OF EXAMINATIONS	
Designation	Controller of Examinations
Method of Appointment	Appointed in the manner prescribed by the Regulations of the University
Emoluments and Terms & Conditions of Service	As prescribed by the Regulations of the University
Report to	Vice Chancellor through the Dean Academic Affairs / Dean Admissions
Reported by	AR/DR (Examinations)
Role & Responsibilities	<ul style="list-style-type: none"> • Arrange for and superintend the Examinations of the University including the IKGPTU Admissions Test in the manner prescribed in the Regulations; • Liaison with the Dean Academic Affairs / Dean Admissions / Heads of Departments / Dean Faculties of Study / Principal Regional Campuses with regards to the conduct of the Examinations.

Position 6.8.1 (vii) FINANCE OFFICER	
Designation	Finance Officer
Method of Appointment	Appointed in the manner prescribed by the Regulations of the University
Emoluments and Terms & Conditions of Service	As prescribed by the Regulations of the University
Report to	Vice Chancellor
Reported by	<ul style="list-style-type: none"> • Deputy/Assistant Finance Officers; • Internal Audit Officer.
Role & Responsibilities	<p>(i) General:</p> <ul style="list-style-type: none"> • Preparation of the Annual Budget of the University in consultation with the Dean Planning & External Programmes; <p>(ii) Finance:</p> <ul style="list-style-type: none"> • Fund mobilization; • Revenue planning; • Grants-in-aid from the government/sponsors; • Co-ordination & liaison with the Department of Finance of the Government of Punjab • Investment monitoring and budgetary control of grants; • Scrutiny of all financial proposal raised by various units of the University. <p>(iii) Accounts:</p> <ul style="list-style-type: none"> • Payments for materials& services; • Payroll; • Maintenance of accounts; • Preparation of financial statements. <p>(iv) Audit:</p> <ul style="list-style-type: none"> • Audit of purchase & works tenders; • Coordination with the internal auditor and the statutory external auditor; • Compliance of audit and inspection reports.

Position 6.8.1 (viii) SUPERINTENDING ENGINEER-CUM- ESTATE MANAGER	
Designation	Superintending Engineer-cum-Estate Manager
Method of Appointment	Appointed in the manner prescribed by the Regulations of

	the University
Emoluments and Terms & Conditions of Service	As prescribed by the Regulations of the University
Report to	Vice Chancellor
Reported by	All staff of the Works & Estate Maintenance Unit through their respective Supervisors.
Role & Responsibilities	<ul style="list-style-type: none"> • Overall planning, contracting, supervision and monitoring of works of construction, renovation and repairs; • Maintenance of Civil / Electrical / Air Conditioning / Central Heating / Horticulture Works; • Monitoring of Housekeeping Contract; • Standardization of norms for space utilization; • Space Audit; • Monitoring of works bills of contractors & suppliers; • House Allotment; • Commercial Establishments.
Position 6.8.1 (ix) HEADS OF CENTRAL ACADEMIC SERVICE FACILITIES	
Designation	Head of Academic Service Facility (Library / Computer Centre / Central Workshop / Virtual Learning Centre) / Continuing Education Centre / Incubation Centre / Central Instrumentation Centre)
Method of Appointment	The Librarian, the Chief Systems Manager, the Workshop Superintendent, the Media Manager, the Coordinator CEP, the Director Incubation Centre / the Principal Scientific Officer Central Instrumentation Facility shall respectively be the ex-officio Heads of the Library / Computer Centre / Central Workshop / the Virtual Learning Centre / the Continuing Education Centre / the Incubation Centre / the Central Instrumentation Facility.
Salary Scale	Scale as being drawn on their respective substantive posts.
Report to	Vice Chancellor
Reported by	All Staff of the concerned Facility
Role & Responsibilities	<ul style="list-style-type: none"> • Responsible for the management of all aspects of the operations of the concerned Facility including liaison with users subject to the policy guidance of the concerned Facility Management Committee.

Chapter 7

HUMAN RESOURCES

7.1 CLASSIFICATION OF STAFF

7.1.1 For purposes of the present report it is proposed to classify all posts at IKGPTU under the heads Faculty, Non-Faculty Academic and Non-Faculty Cadres as indicated hereunder:

Cadres	Posts
Faculty Cadres	i Vice Chancellor ii Dean, Faculties of Study iii Director / Principal IKGPTU Regional Campuses iv Functional Deans (one each for Academic Affairs / Faculty Affairs / Student Affairs / Admissions / R&D / Constituent Colleges / Planning & External Programmes) v Professor vi Associate Professor vii Assistant Professor
Non-Teaching Academic Cadres	i _____ Librarian ii _____ Deputy Librarian iii _____ Assistant Librarian iv _____ Workshop Superintendent v _____ Design Engineer vi _____ Principal Scientific Officer vii _____ Scientific Officer (viii) Research Engineer
Non - Faculty Cadres	i Administrative & Other Support Cadres ii Technical Cadres iii General Support Cadres

7.1.2 It is further proposed to classify the non-faculty cadres into categories depending on the level of staff indicated hereunder:

Category	Level of Staff
I	Statutory Officers (Group 'A' Level Posts)
II A/B	Administration & Technical Officers (Group 'A' Level Posts)
III A/B	Technical Support Staff (Group 'B' & 'C' Level Posts)
IV A/B	Administrative & Other Support Staff (Group 'B' & 'C' Level Posts)

7.2 FACULTY POSTS

- 7.2.1 The teaching faculty is the lifeline of any academic institution. The cornerstone of success in implementing the vision, mission and values of an academic institute and in the nurturing of excellence in whatever it does is critically dependent on the quality of its faculty resources. The novelty and breadth of the academic programs and the challenges faced in their implementation require more than merely bright individuals to man faculty positions. What one requires are people who are passionate about the objectives of the university / constituent college and are prepared to use innovative methods to accomplish the set goals. Recruiting the best-in-class human resources to man faculty positions would therefore be essential for its success.
- 7.2.2 As indicated in Chapter 5 the strength of the teaching faculty for individual Faculties of Study and the Regional Campuses has been benchmarked on the UGC prescribed norms for teaching faculty to student ratio for various sectors of education as indicated hereunder:

Sector of Education	UG Programmes	PG & Doctoral Programmes	IKGPTU Faculties of Study / Centres of Excellence /Regional Campuses covered under the Sector
Technology Sector	1:15	1:10	Engineering & Technology / Lifestyle Design / Hospitality, Tourism & Travel Management / Art& Architecture
Humanities & Social Sector	1:25	1:15	Social & Human Sciences
Commerce & Management Sector	1:15	1:10	Commerce & Management
Media & Mass Communication Sector	1:15	1:10	Media & Mass Communication
Science Sector	1:25	1:10	Mathematical & Applied Science

7.2.3 It is further proposed that IKGPTU adopt a flexible teaching cadre structure. However, for purpose of estimating the annual teaching faculty cost the cadre distribution between the three permanent teaching faculty positions of Professor, Associate Professor and Assistant Professor be notionally based on the UGC norm of 1:2:4.

7.2.4 The cadre-wise and total strength of teaching faculty for individual Faculties of Study required to cater to the number of students proposed to be admitted for various academic programmes determined on the basis of the above stated teaching faculty to student norm and the notional cadre distribution of 1:2:4 has been indicated in various sub-sections of Chapter 5. A summary of the requirements for the Faculties of Study is given hereunder in Tables 7.1(a).

Table 7.1(a): SUMMARY OF CADRE-WISE REQUIREMENT OF TEACHING FACULTY FOR THE FACULTIES OF STUDY/ CENTRE OF EXCELLENCE

UNIT	Professor	Associate Professor	Assistant Professor	Total	Reference
Engineering & Technology	16	31	62	109	Table 5.01
Mathematical & Applied Sciences	07	13	26	46	Table 5.03
Management Studies	07	14	28	49	Table 5.05
Media & Mass Communication	04	07	14	25	Table 5.07
Hospitality, Tourism & Travel Management	04	07	15	26	Table 5.09
Lifestyle Design	05	09	19	33	Table 5.11
Architecture	03	07	13	23	Table 5.13
Social & Human Sciences	03	06	13	22	Table 5.15
Teacher Training & Education	03	06	12	21	Table 5.17
Pharmaceutical Sciences	02	03	07	12	Table 5.19
International Resource Centre for Human Value & Professional Ethics	01	01	01	03	Table 5.21
Central Pool (for Ph. D. Students)	01	03	06	10	-----
TOTAL	56	107	216	379	-----

7.2.5 The consolidated year-wise requirement of faculty positions for the each of the faculty cadre positions to cater to the year-wise student strength indicated in Table 4.4 for the initial 10 years of operation is indicated hereunder in Table 7.1(b) for the Main Campus of the University in its entirety. The corresponding figures for individual Faculties of Study/ Centres of Excellence are given in the concerned sections in Chapter 5.

Table 7.1(b): CONSOLIDATED YEAR-WISE AND CADRE-WISE REQUIREMENT OF FACULTY FOR THE MAIN CAMPUS OF IKGPTU

Post / A. Y.	I	II	III	IV	V	VI	VII	VIII	IX	X
Vice Chancellor	01	01	01	01	01	01	01	01	01	01
Deans Faculties of Study*	10	10	10	10	10	10	10	10	10	10
Functional Deans*	07	07	07	07	07	07	07	07	07	07
Professor	10	17	26	34	44	50	54	55	56	56
Associate Professor	17	33	49	68	86	101	105	107	107	107
Assistant Professor	35	66	97	134	172	207	212	215	216	216
TOTAL	80	134	190	254	320	376	389	395	397	397

* **May be appointed from outside on contract or from amongst IKGPTU Professorial Faculty on a full-time basis for a fixed term as provided in the IKGPTU Regulations**

7.2.6 The position with respect to the faculty for the Regional Campuses corresponding to that indicated in Tables 7.1(a) and 7.1(b) for the Main Campus are indicated in Tables 7.2(a) and 7.2(b):

Table 7.2(a): SUMMARY OF CADRE-WISE REQUIREMENT OF FACULTY FOR THE IKGPTU REGIONAL CAMPUSES

UNIT	Principal / Director	Professor	Associate Professor	Assistant Professor	Total
IKGPTU --- Amritsar campus [Table 5.23]	01	02	05	10	18
IKGPTU --- Batala campus [Table 5.25]	01	04	09	17	31
IKGPTU --- Bhikiwind campus [Table 5.27]	01	03	06	11	21
IKGPTU --- Dinanagar campus [Table 5.29]	01	04	09	19	33
IKGPTU --- Hoshiarpur campus [Table 5.31]	01	06	11	23	41
IKGPTU --- SultanpurLodhi campus [Table 5.33]	01	05	09	18	33
TOTAL	06	24	49	98	177

Table 7.2(b): CONSOLIDATED YEAR-WISE AND CADRE-WISE REQUIREMENT OF FACULTY FOR THE IKGPTU REGIONAL CAMPUSES

Post / A. Y.	I	II	III	IV	V	VI	VII	VIII	IX	X
Principal/ Director	06	06	06	06	06	06	06	06	06	06
Professor	03	09	16	23	24	24	24	24	24	24
Associate Professor	04	16	31	43	47	49	49	49	49	49
Assistant Professor	08	35	60	86	93	98	98	98	98	98
TOTAL	21	66	113	158	170	177	177	177	177	177

7.2.7 It may be noted that the prescribed norm for teaching faculty to student ratio indicated in sub-section 7.2.2 was primarily fixed keeping in mind faculty needed for the teaching functions in fully developed institutions. However, during the initial establishment phase the role of the teaching faculty extends way beyond the teaching function. Hence it is most essential that during this initial phase a critical mass of faculty be on rolls of the university both on the Main Campus at Kapurthala and at the individual Regional Campuses so that development can proceed as planned. It is thus recommended that the teaching faculty strength be quickly built-up to a level of say around 25% of the ultimate faculty strength before basing the teaching faculty strength on the prescribed norm.

7.2.8 The allocation of teaching faculty for individual departments of the Faculties of Study / Centres of Excellence from the overall teaching faculty strength in any given academic year at different cadre levels may be decided by the University's Executive Management within the indicated overall strength for individual Department as per curriculum requirements.

7.3 NON-TEACHING ACADEMIC STAFF

7.3.1 The overall requirement of the academic non-teaching staff posts for each cadre position for the Main Campus and each of the Regional Campuses has been indicated in Chapter 5. The same is summarized hereunder:

Position	No. of Posts (for the Main Campus)	No. of Posts (for the Regional Campuses)	Reference
Librarian	01	-----	Table 5.36
Deputy Librarian	03	-----	Table 5.36
Assistant Librarian	05	06 (one for each Constituent college)	Table 5.36 (for the Main Campus) / Tables 5.24; 5.26; 5.28; 5.30; 5.32; 5.34 (for the Regional Campuses)
Workshop Superintendent	01	-----	Table 5.35
Principal Scientific Officer	01	-----	Section 5.31.4
Scientific Officer	01	-----	Section 5.31.4
Research Engineer	01	-----	Section 5.31.4
Design Engineer	08	-----	Section 5.30.4

7.3.2 The year-wise requirement of non-teaching academic posts is indicated hereunder in Table 7.3:

Table 7.3: YEAR-WISE REQUIREMENT OF NON-TEACHING ACADEMIC STAFF

Position / A.Y.	I	II	III	IV	V	VI	VII	VIII	IX	X
MAIN CAMPUS										
Librarian	01	01	01	01	01	01	01	01	01	01
Deputy Librarian	---	01	02	03	03	03	03	03	03	03
Assistant Librarian	02	02	03	04	05	05	05	05	05	05
Workshop Superintendent	01	01	01	01	01	01	01	01	01	01
Principal Scientific Officer	---	---	01	01	01	01	01	01	01	01
Scientific Officer	---	---	01	01	01	01	01	01	01	01
Research Engineer	---	---	01	01	01	01	01	01	01	01
Design Engineer	---	---	04	04	06	06	08	08	08	08
TOTAL (IKGPTU --MAIN CAMPUS)	04	05	14	16	19	19	21	21	21	21
IKGPTU										

---REGIONAL CAMPUSES										
Assistant Librarian	06	06	06	06	06	06	06	06	06	06

7.4 NON-FACULTY POSTS

7.4.1 Support Manpower for Academic Units

Recommendations with respect to the non-faculty posts attached to various academic units of the IKGPTU Main Campus as well as the totality of the non-academic staff for the individual IKGPTU Regional Campuses have been indicated in various subsections of Chapter 5 and are summarized hereunder in Table 7.4(a) and 7.4(b) respectively:

Table 7.4(a): SUMMARY OF NON-FACULTY SUPPORT STAFF REQUIREMENT FOR ACADEMIC UNITS OF THE IKGPTU MAIN CAMPUS

Academic Unit	Non-faculty Support Manpower	Reference
Faculties of Study		
Engineering & Technology	45: Cat. III A/B; 16: Cat. IV A/B	Table 5.2
Mathematical & Applied Sciences	03: Cat. III A/B; 10: Cat. IV A/B	Table 5.4
Management Studies	01: Cat. III A/B; 06: Cat. IV A/B	Table 5.6
Media & Mass Communication	10: Cat. III A/B; 08: Cat. IV A/B	Table 5.8
Hospitality, Tourism & Travel Management	10: Cat. III A/B; 07: Cat. IV A/B	Table 5.10
Lifestyle Design	10: Cat. III A/B; 10: Cat. IV A/B	Table 5.12
Architecture	06; Cat. III A/B; 05: Cat. IV A/B	Table 5.14
Social & Human Sciences	04; Cat. III A/B; 05: Cat. IV A/B	Table 5.16
Teacher Training & Education	07: Cat. III A/B; 05: Cat. IV A/B	Table 5.18
Pharmaceutical Sciences	03: Cat. III A/B; 04: Cat. IV A/B	Table 5.20
Sub-Total (Faculties of Study)	99: Cat. III A/B; 76: Cat. IV A/B	-----
Centres of Excellence		
International Resource Centre for Human Values & Professional Ethics	01 IV A/B	Table 5.22
Sub-Total (Centres of Excellence)	01 IV A/B	-----
Central Academic Service Facilities		
Central Workshop	23: Cat. III A/B; 02: Cat. IV A/B	Table 5.35

Academic Unit	Non-faculty Support Manpower	Reference
Central Library	01: Cat. II A/B; 02: Cat. III A/B; 11: Cat. IV A/B	Table 5.36
Computer Centre	07: Cat. II A/B; 07: Cat. III A/B; 03: Cat. IV A/B	Table 5.37
Virtual Learning Centre (including Videoconferencing)	06: Cat. II A/B; 06: Cat. III A/B; 05: Cat. IV A/B	Table 5.38
Continuing Education Centre	----- --	-----
Technology Innovation-cum- Innovation Centre	01: Cat. II A/B; 01: Cat. IV A/B	Sub-section 5.30.4
Central Instrumentation Facility	04: Cat. III A/B; 01: Cat. IV A/B	Sub-section 5.30.4
Central Classroom Complex	01: Cat. IV A/B	Sub-section 5.32.5
Auditorium-cum-Conference Centre	01: Cat. IV A/B	sub-section 5.33.4
Sub-Total (Central Academic Facilities)	15: Cat. II A/B; 42:Cat.III A/B; 25: Cat. IV A/B;	-----
TOTAL (All Academic Units: IKGPTU Main Campus)	15: Cat. II A/B; 141:Cat.IIIA/B; 102: Cat. IV A/B;	-----

Table 7.4(b): SUMMARY OF NON-FACULTY SUPPORT STAFF REQUIREMENT FOR THE IKGPTU REGIONAL CAMPUSES

Academic Unit	Non-faculty Support Manpower	Reference
IKGPTU- Amritsar Campus	05: Cat. II A/B; 23: Cat. III A/B; 13; Cat. IV A/B	Table 5.24
IKGPTU- Batala Campus	05; Cat. II A/B; 27; Cat. III A/B; 13: Cat. IV A/B	Table 5.26
IKGPTU-Bhikiwind Campus	05: Cat. II A/B; 23: Cat. III A/B; 13; Cat. IV A/B	Table 5.28
IKGPTU-Dinanagar Campus	05; Cat. II A/B; 23. Cat. III A/B; 13: Cat. IV A/B	Table 5.30

IKGPTU-Hoshiarpur Campus	05: Cat. II A/B; 28: Cat. III A/B; 13: Cat. IV A/B	Table 5.32
IKGPTU-Sultanpur Lodhi Campus	05; Cat. II A/B; 29: Cat. III A/B; 13; Cat. IV A/B	Table 5.34
Sub-Total (IKGPTU Regional Campuses)	30: Cat. II A/B; 153: Cat.III A/B; 78: Cat.IV A/B	-----

7.4.2 Support Manpower for Administrative Sections

It is recommended that at the IKGPTU Main Campus the administrative functions for Executive Management of the IKGPTU Main Campus and the IKGPTU Regional Campuses be grouped into sections / sub-sections with a view to provide administrative support to the Executive Managers in the discharge of their respective functions. The proposed administrative sections, their main functions and requirement of tenured support manpower for manning each of the recommended administrative sections are indicated hereunder in Table 7.5.

Table 7.5: Administrative Sections: Functions & Support Manpower

Name of Section	Main Functions	Staff
Vice Chancellor's Secretariat	Executive Management; Overall University leadership	Cat. II A/B: 01; Cat. IV A/B: 02
Admissions Section (Section I/C: Dean Admissions assisted by the Controller of Examinations)	UG / PG Admissions; Prospectus: preparation & printing; Sale of Application Forms; Issue of Admit Cards for Admission Test; Setting of Admission Test Papers; Conduct of Admission Test; Evaluation of Answer Scripts; Announcement of Results; Admission Interviews / Counselling; Issue of Admission Letters.	Cat. II A/B: 01; Cat. IVA/B: 05
Academic Section (Section I/C: Dean Academic Affairs assisted by the Controller of Examinations)	Course Registration; Semester Schedule; Time Table & Allotment of Classrooms; Scheduling of mid-term & end-semester examinations; Evaluation / Moderation / Re-evaluation of exams.; grade records / grade cards / transcripts; academic discipline & academic	Cat. I: 01; Cat. II A/B: 01; IVA/B: 06.

Name of Section	Main Functions	Staff
	integrity student feedback of teaching / faculty and student – faculty interaction; monitoring of teaching & faculty workload; student exchange; inter-areas of study transfer of students; Convocation; New programs; Logistic support to Academic Program Coordinators.	
Student Welfare Section(Section I/C: Dean Student Welfare)	Hostel Management; Catering & Food Services; Student co- curricular activities including games & sports, cultural & creative activities and community / social service activities; Student Counselling; Management of Student Activity Centre and playing fields / grounds; student discipline other than academic malpractices.	Cat. IIA/B: 03; Cat. IVA/B: 07.
Planning & Resource Generation (Section I/C: Dean Planning & External Programmes)	Planning: Prospective planning; preparation of annual report; budget (jointly with the University Finance Officer); International Linkages; Statistical Information. Resource Planning & Generation: Resource Generation; Investment Planning; Generation & Maintenance of Alumni Database; Liaison with Alumni; Coordination of Alumni supported programs	Cat. II A/B: 01; Cat. IV A/B: 04.
Public Relations & University Publications (Section I/C: Dean Planning & External Programmes through the PRO)	Liaison with public / news media; manning of Reception Desk; Management & Booking of Guest House / Auditorium / Conference Hall / Community Centre; Publication of newsletter & other University publications; Advertisements on request by units of the University.	Cat. IIA/B/: 01; Cat. IVA/B: 02.
Guest House (Section I/C: Dean Planning & External Programmes through the Manager GH)	Operation & upkeep of Guest House including front offices service, housekeeping and Food service.	Cat. IIA/B/:01; Cat. IVA/B: 02
Industrial Liaison & CEP's (Section I/C: Dean R&D)	Industry Institute Interaction: Industrial R&D; Consultancy & Extension Services; Patents & Technology Transfer;	Cat. IIA/B: 01; Cat. IVA/B: 04.

Name of Section	Main Functions	Staff
	Industry Internship for Faculty; Business Incubation; Industrial Interaction. CEP Cell: Continuing Education & Manpower Development for Industry; Satellite / Internet-based Distance Learning Programs.	
Student Training & Placement (T&P) Office (Section I/C: Dean R&D through the Coordinator T&P)	Student Placement including maintenance of industry data base; scheduling of placement interviews; placement of students for industry training; monitoring of training; feedback on training from industry / students; student mentoring; liaison with students / areas of study for training & placement through T & P Advisory Committee.	Cat. IIA/B: 01; Cat. IVA/B: 02.
Faculty Affairs & FDP's (Section I/C: Dean Faculty Affairs)	Faculty Affairs including creation of posts, faculty search, recruitment and appointment; faculty welfare; faculty training & development; faculty performance appraisal; grant of medium & short term leave; nominations for attending seminars & conferences, etc. including travel grants.	Cat.IIA/B: 01; Cat. IVA/B: 03.
Personnel & Administration (Section I/C: Registrar through the Deputy & Assistant Registrars / Coordinator Staff Training)	General administration & discipline: Formulation of manpower-policies for non-academic staff; Human resource management including creation of non-academic staff posts, staff recruitment, and staff training; performance appraisal for staff; instituting procedures for efficiency enhancement; preparation of an Administrative Manual and ensuring its implementation; welfare, health & safety of staff; Service matters of non-academic staff relating to appointments, promotions, transfers, terminations, etc.; maintenance of personal history records of non-academic staff; deal with matters relating to staff entitlements such as advances of various types; maintain and update General Service & Conduct Rules; Advising & mentoring non-academic staff. Staff Training: Conduct NEED ANALYSIS of growth needs; Analysis of Growth Needs and set priorities of	Cat. I: 01; Cat. IIA/B: 02; Cat. IVA/B: 12.

Name of Section	Main Functions	Staff
	<p>in-house group training; Arrange individual training slots in outside organizations; Prepare annual budget for training activities; Provide follow-up support to trainees to implement training interventions; Establish system of incentives linked to growth; Publicize training programs through newsletter; Start Quality Circles in various units of the University; Liaise with Staff Development Advisory Committee.</p> <p><u>Secretariat of University Authorities:</u> Organization of meetings of the Executive Council / the Academic Council / the Finance Committee; Agenda / Minutes of the above bodies; Notification of membership of the Standing Committees of the Academic Council; Notification of appointments of Deans / Heads of Departments / Central Academic Service Facilities.</p> <p><u>Legal Cell:</u> Handling of legal matters including preparation of briefs as required on legal cases involving the University; Liaison with the Institute's Legal Counsellor and any lawyers engaged commercially by the Institute; Cases of Arbitration; Logistic Support to the Vigilance Officer.</p> <p><u>Coordination:</u> Coordination; Notification of non-statutory committees; Receipt & Issue of Mail; General Matters; House building & Conveyance Advances; Group Insurance & Other staff welfare schemes; Legislative Questions.</p> <p><u>Transport Services:</u> Management, Maintenance & Operation of the Institute's Transport Fleet; Arrangement of public transport services; air / rail ticket booking.</p> <p><u>Caretaking & Housekeeping:</u> Locking of rooms; Upkeep & Maintenance of the Academic & Administrative Complex</p>	

Name of Section	Main Functions	Staff
	including Cleaning	
MIS(Section I/C: Chairperson Computing Services through the Coordinator MIS)	Design appropriate database mgt. system for the entire administrative processes of the Institute; carry out its periodic up gradation; maintain information security files; design & implement an office automation system and ensure inter-connectivity of all academic & administrative units through the Institute's communication network; Training of staff for use of MIS & office automation; Liaison with staff of the Computer Centre and the Voice, Data & Picture Network Unit.	Cat. IIA/B: 03; Cat. IIIA/B: 02; Cat. IVA/B: 01.
Stores & Purchase Unit (Section I/C: Registrar through the Assistant Registrar - S&P)	Purchase of equipment & stores; Maintenance of Asset Register; Stock Verification; Maintenance of Control Store; Maintenance of lists of stockists/dealers for various items of regular purchase; Liaison with State Purchase Cell / Customs; Processing of write-off & disposal of unserviceable stores/equipment; Advising in the framing of rules for Purchase / Maintenance of Stock Registers / Stock Verification / write-off, etc.; Advising Schools of Study / Gardens & Centres of Research / Academic Service Facilities with respect to stores & purchase.	Cat. IIA/B: 01; Cat. IVA/B: 03.
Finance & Accounts (Section I/C: Finance Officer)	Fund mobilization & revenue planning; Cash planning & management; Maintenance of accounts; Preparation of Financial Statement; Budgetary control of grants; Scrutiny of financial proposals; Effecting payments for purchases & services; Preparation of Annual Budget in consultation with the Dean (Planning & Resource Generation); Investment Monitoring (in collaboration with the Resource Planning & Generation Section); Coordination with finance units of funding agencies; Coordination with the State Government on all financial matters.	Cat. I: 01; Cat. IIA/B: 01; Cat. IVA/B: 05.
Audit (Internal) --- (Section I/C: Vice Chancellor through	Information Audit; Liaison with Statutory Audit Agency; Review of Personnel, Finance & Accounts and Purchase procedures; Annual	Cat. IIA/B: 01; Cat. IVA/B: 02.

Name of Section	Main Functions	Staff
the Audit Officer)	audit covering aspects of revenue, expenditure, purchase and propriety rules & procedures.	
Outreach & International Programs (Section I/C:Dean Planning & External Programmes)	Outreach Programs; International Collaborations; Alumni Relations.	Cat. II A/B: 01; Cat. IVA/B: 01.
Security (Section I/C: Registrar through the Security Officer)	Watch & Ward including Manning of Campus Entry Points and Traffic Management	Cat. IIA/B: 01; Cat. IVA/B: 01.
Medical Services Unit (Section I/C: Chairperson Medical Services through the CMO)	Outpatient Medical Services & referral of students / staff for Hospitalization to city hospitals; Water Quality Monitoring; Campus cleanliness / sanitation.	Cat. IIA/B: 02; Cat. IIIA/B: 04; Cat. IVA/B: 01.
Communication Services Unit (Section I/C: Registrar)	Management, Maintenance & Operations of telephone services; Installation of telephones in offices; Liaison with Telephone Services Provider.	Cat. IIIA/B: 01; Cat. IVA/B: 03.
Engineering Services & Estate Office (Section I/C: Chairperson Infrastructure through the Superintending Engineer-cum-Estate Manager)	Preparation of Campus Master Plan; Construction Supervision: Buildings & Road Network; Estate Management; Municipal Services: Water Supply, Electric Supply, Sewerage & Garbage Disposal, Drainage; Landscaping & Horticulture; Estate Functions including House Allotment, Collection of License Fees, Commercial Establishments; Secretariat of Building & Works Committee; Work-charged Establishment; Tendering / Liaison with Contractors; Central Heating Plant; Standby Power Generation Plant; Campus Cleanliness.	Cat. IIA/B: 04; Cat. IIIA/B: 02; Cat. IVA/B: 01.
Regional Campuses (Section I/C: Dean Constituent Colleges)	All aspects of linkage and control of Regional Campuses including approval of new programmes, admission, examinations, academic, faculty & staff recruitment, student welfare, etc. in consultation with concerned Functional Deans.	Cat. IIA/B: 01; Cat. IVA/B: 05

Name of Section	Main Functions	Staff
TOTAL	-----	Cat. I: 03; Cat. IIA/B: 30; Cat. IIIA/B: 08 <u>Cat. IVA/B: 72</u> <u>Total: 113</u>

7.4.3 Support Manpower through Outsourcing

It is proposed those routine services that are amendable to outsourcing such as housekeeping / cleaning; hostel messing; horticulture; canteen; guest house services; transport; building maintenance; watch & ward; road cleaning; etc. may be catered to through outsourcing with the tenured staff of the University only being involved as supervisors for such services. Manpower for such services has not been included in Table 7.5 and needs to be provided beyond the numbers indicated.

7.4.4 Summary of Requirement of Support Manpower

- (i) The number of tenured support staff under each of the proposed Categories I-IV required for manning services the central administrative services on the IKGPTU Main Campus has been given in Table 7.5. Likewise, the number of tenured support staff under each of the proposed Categories I-IV required for manning academic and administrative services in the individual academic units on the IKGPTU Main Campus has been given in Table 7.4(a). The overall requirement in terms of the number of tenured support manpower for the Institute as a whole for each of the proposed Categories I-IV has been consolidated from Tables 7.4(a) and 7.5 and is given hereunder in Table 7.6.

Table 7.6: Consolidated Requirement of Tenured Support Manpower

Category	Type of Manpower	Administrative Units --- from Table 7.5	Academic Units ---from Table 7.4 (a)	Total
I	Statutory Officers	03	----	03
II (A / B)	Administration / Technical Supervisory Officers	30	15	45
III (A / B)	Technical Support Staff	08	141	149
IV (A / B)	Administrative & Other Support Staff	72	102	174
	TOTAL	113	258	371

- (ii) Table 7.6 shows that the estimated total requirement of tenured support staff in all Categories I- IV for the IKGPTU Main Campus is 371. The ratio between the tenured support staff plus the non-teaching academic staff to the number of core teaching faculty is 1:1.07 which is within the current UGC norm of 1:1.1 for faculty to support staff. It is suggested that 45 support staff be recruited in A.Y.1 and the balance be recruited over the next five years as indicated hereunder in Table 7.7 so that at the end of A.Y. 6 the full complement of support staff is in place.

**Table 7.7: Year-wise Additions of Support Staff (Categories I-IV)
for the IKGPTU Main Campus**

	I	II	III	IV	V	VI	VII	VIII	IX	X
Number Of Posts	45	65	65	65	65	65	---	---	---	---

- (iii) The recommended designations of posts under each of the Categories I-IV are given hereunder in Tables 7.8. Their respective salary scales may be as prevails in the State University system.

**Table 7.8: Recommended Designations of Category I / II (A/B) / III (A/B) / IV (A/B)
Support Staff Posts**

Category I: Statutory Officers (Group 'A' Posts)	Category II A/B: Administration & Technical Supervisory Officers (Group 'A' Level)	Category III A/B: Technical Support Staff (Group 'B' & 'C' Level)	Category IV A/B: Administrative & Other Support Staff (Group 'B' / 'C' Level)
<ul style="list-style-type: none"> • Registrar • Finance Officer • Controller of Examination 	<ul style="list-style-type: none"> • Deputy Registrar • Assistant Registrar • Chief Technology Officer • Technology Officer • Deputy Finance Officer 	<ul style="list-style-type: none"> • Technical Assistant • Medical Technologist • Junior Engineer (Civil / PH / Horticulture / Heating & Air Conditioning / Electrical) • Foreman • Computer Engineer (S.G.) 	<ul style="list-style-type: none"> • Professional Assistant (Library) • Pharmacist • Nurse • Driver • Accountant

	<ul style="list-style-type: none"> • Assistant Finance Officer • Superintending Engineer-cum-Estate Manager • Resident Engineer • Assistant Resident Engineer • Medical Officer • Assistant Medical Officer • Coordinator Staff Training Program • Coordinator MIS • Coordinator T & P • Chief Systems Manager (Computer Centre) • Systems Manager (Computer Centre) • Systems Programmer • Programmer • Media Manager • Media Executive • Public Relation Officer • Manager Guest House • Secretary to the Vice Chancellor • Security Officer • Senior PTI • Laboratory Supervisor 	<ul style="list-style-type: none"> • Computer Engineer • Telephone Mechanic • Mechanic (Plumber/Mason/Carpenter/Machinist/Electrician) • Laboratory Assistant 	<ul style="list-style-type: none"> • Assistant Accountant • Office Superintendent / Junior Office Superintendent • Hobby Instructor • PTI • Stores Executive • Caretaker • Executive Assistant • Personal Assistant • Accounts Assistant • Telephone Operator
--	--	---	---

iv It is recommended that the actual numbers of support staff to be recruited in individual Categories (I-IV) and their specific designations in a particular year within the overall number recommended for the given category as well as their respective unit of posting may be decided by the University's Executive Management.

Chapter 8

INFRASTRUCTURE

8.1 IKGPTU MAIN CAMPUS KAPURTHALA

8.1.1 Land Allotment

Total land area available is 73 acres. The site is located near Pushpa Gujral Science City, Ibban, Kapurthala.

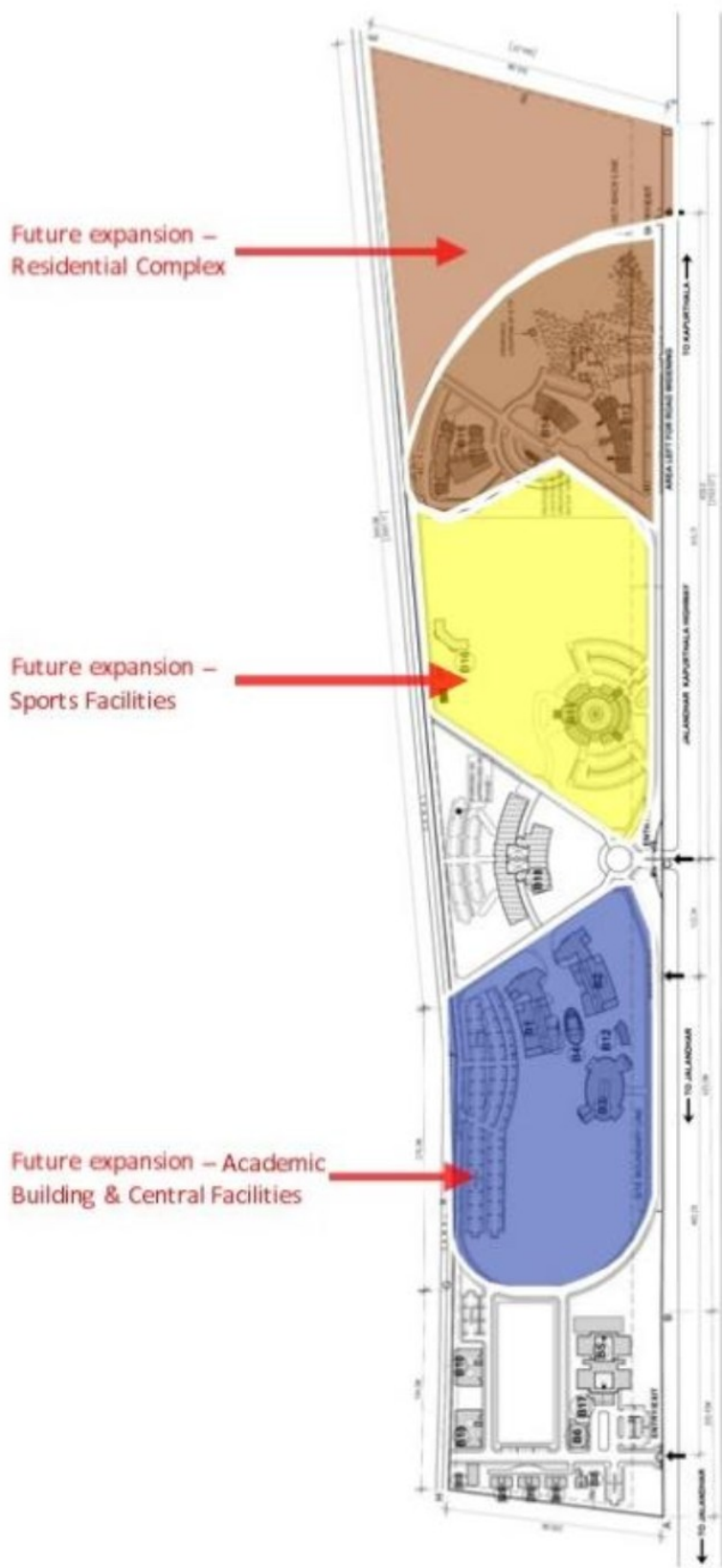
Table 8.1.1: Land Allotment

LAND ALLOTTED (In Acres)			
S. No	Description	Acres	SQM
1	Total Land	73.0	2,95,420.52

8.1.2 Existing Infrastructure

IKGPTU Main Campus Kapurthala, has an existing built up area of 96,361 sqm. The Campus has 3 academic building, main administrative building, seminar hall, library and some residential units. An auditorium and 3 hostel complex are under construction.

For details about existing infrastructure of IKGPTU Kapurthala Campus, please refer Annexure 8.1.



DRG 8.1.1: IKGPTU MAIN CAMPUS KAPURTHALA – SITE PLAN

IKGPTU Main Campus, Kapurthala – Photographs

8.1.3 Area Requirement



Main Administrative Building



College Building 3



Boys Hostel



Girls Hostel



Library



Seminar Hall



College Building 1



College Building 2

The requirements are taken into account as per AICTE guidelines. Other areas are derived as per functional requirement of the space. As per the proposed academic plan for 10 Faculties of Study and 1 center of excellence for 4800 students, the campus shall require:

8.1.3.1 Academic & Faculty Building

The curriculum of the academic programs planned will include Lecture Halls, Tutorial Rooms, Drawing Halls, Laboratories and Faculty offices. Adequate built up space would be provided to cater to all these teaching-learning activities for a student strength of 4800. It is proposed that the instructional spaces would be equipped with modern teaching/demonstration desk, boards, projection sound system, comfortable seating and good acoustics and illumination, computer network connectivity, and wireless connectivity. The tables must be arranged with passages so that the teacher can approach each student comfortably. The classrooms and lecture/drawing halls will also be provided with a platform for the teacher. For Lecture Halls and classroom, the area is calculated @2sqm per students and for drawing halls @4sqm per student. For Laboratories, a sitting space for the technical supporting staff and storage of laboratory consumables and instruments must also be included. It is proposed that the offices of teaching staff and cubicles for research associates are to be planned in the building. Full time faculty are proposed to have a single, private office space. Individual faculty offices are intended to accommodate a desk, files, bookshelf and workspace for the faculty member, plus a meeting area for an additional 2-3 people as needed. Along with the above areas, common facilities like Toilets, Store Room, Reprography and Stationary Store, Common Rooms for boys and girls are also required.

Table 8.1.2: Area Requirement - Academic and Faculty Building

ACADEMIC AND FACULTY BUILDING (Built Up Area)					
S. No	Department	Academic & Faculty Building (A)	Laboratory Complex Area (B)	Total (A + B)	Remarks
		(in SQM)	(in SQM)	(in SQM)	
1	Engineering & Technology	4,420	5,082	9,502	Refer Annexure 8.02
2	Mathematical & Applied Sciences	1,700	2,310	4,010	Refer Annexure 8.04
3	Management Studies	1,435	66	1,501	Refer Annexure 8.06
4	Media & Mass Communication	1,355	462	1,817	Refer Annexure 8.07
5	Hospitality, Tourism & Travel Management	1,165	858	2,023	Refer Annexure 8.08
6	Lifestyle Design	1,325	924	2,249	Refer Annexure 8.09
7	Architecture	1,145	992	2,137	Refer Annexure 8.10
8	Social & Human Sciences	1,110	396	1,506	Refer Annexure 8.11
9	Teacher Training & Education	1,165	462	1,627	Refer Annexure 8.12
10	Pharmaceutical Sciences	940	594	1,534	Refer Annexure 8.13
11	International Resource Centre for Human Values & Professional Ethics	275	-	275	Refer Annexure 8.14
	Carpet Area	16,035	12,146		
	Built Up Area (Carpet Area X 1.4)	22,449	17,004		
	Total Built Up Area required	39453			

8.1.3.2 Central Academic Service Facilities

With the reference to chapter 5, Central Academic Service Facilities comprises of the following:

Table 8.1.3: Area Requirement - Central Academic Service Facilities

CENTRAL ACADEMIC SERVICE FACILITIES (Built Up Area)				
S. No	Department	Carpet Area (A)	Built Up Area (A*1.4)	Remarks
		(in SQM)	(in SQM)	
1	Central Workshop	3,982	5,575	Refer Annexure 8.15
2	Central Instrumentation Centre	2,000	2,800	Refer Annexure 8.16
3	Central Library	-	4,921	As per existing building
4	Computer Centre	1,915	2,681	Refer Annexure 8.17
5	Virtual Learning Centre (Including Videoconferencing)	1,192	1,669	Refer Annexure 8.18
6	Continuing Education Centre	305	427	Refer Annexure 8.19
7	Technology Innovation-Cum-Innovation Centre	750	1,050	Refer Annexure 8.20
8	Central Classroom Complex	6,720	9,408	Refer Annexure 8.21
9	Auditorium-Cum-Conference Centre	2,616	3,663	Refer Annexure 8.22
10	Seminar Hall/Conference	-	340	As per existing building
11	Student Activity Centre	-	250	Assumption
12	Canteen	-	1,725	Refer Annexure 8.23

8.1.3.3 Administrative Building

The Administrative Building would cater to all the managerial staff of the campus. It will have offices of Vice Chancellor, the Board room, offices of Administration, Human Resources, Security, Alumni & International Relations, Industry Relations, Placement Office and Controller of Examination.

Table 8.1.4: Area Requirement - Administrative Section

AREA REQUIREMENT - ADMINISTRATIVE SECTION				Annexure 8.24
(Carpet Area)				
S. n o	Department	As per DPR	No. of Room	Area
		SQM		SQM
1	Vice Chancellor's Secretariat	80	1	80
2	Admissions Section (Section I/C: Dean Admissions assisted by the Controller of Examinations)	175	1	175
3	Academic Section (Section I/C: Dean Academic Affairs assisted by the Controller of Examinations)	200	1	200
4	Student Welfare Section (Section I/C: Dean Student Welfare)	150	1	150
5	Planning & Resource Generation (Section I/C: Dean Planning & External Programmes)	200	1	200
6	Public Relations & University Publications (Section I/C: Dean Planning & External Programmes through the PRO)	150	1	150
7	Industrial Liaison & CEP's (Section I/C: Dean R&D)	150	1	150
8	Student Training & Placement (T&P) Office (Section I/C: Dean R&D through the Coordinator T&P)	150	1	150
9	Faculty Affairs & FDP's (Section I/C: Dean Faculty Affairs)	150	1	150
10	Personnel & Administration (Section I/C: Registrar through the Deputy & Assistant Registrars / Coordinator Staff Training)	400	1	400
11	MIS (Section I/C: Chairperson Computing Services through the Coordinator MIS)	100	1	100
12	Stores & Purchase Unit (Section I/C: Registrar through the Assistant Registrar - S & P)	100	1	100
13	Finance & Accounts (Section I/C: Finance Officer)	100	1	100
14	Audit (Internal) --- (Section I/C: Vice Chancellor through the Audit Officer)	100	1	100
15	Outreach & International Programs (Section I/C: Dean Planning & External Programmes)	100	1	100
16	Security (Section I/C: Registrar through the Security Officer)	50	1	50
17	Medical Services Unit (Section I/C: Chairperson Medical Services through the CMO) (Office in the Health Centre)	-	1	-
18	Communication Services Unit (Section I/C: Registrar)	100	1	100
19	Engineering Services & Estate Office (Section I/C: Chairperson Infrastructure through the Superintending Engineer-cum-Estate Manager) (Includes Workshop + Shed, Excludes Open Yard)	2,250	1	2,250
20	Regional Campuses (Section I/C: Dean Regional)	100	1	100

0	Campuses)			
Total				4,805

8.1.3.4 Residential Complex

The Campus shall have a residential complex wherein the following provision are to be considered:

- Student Hostel:
 - UG and PG Program: 50% of 3220 students (Double Occupancy)
 - Masters and Doctoral Program: 40% of 1580 students (Single Occupancy)
 - Masters and Doctoral Program: 10% of 1580 students (Studio Apartments)
 - Continuing Education Centre: 30 Room Hostel (Single Occupancy)
- Vice Chancellor: 01
- Faculty Residences: 35% of 379 Faculty
- Deans – Faculties of Study: 10
- Functional Deans: 01
- Guest Houses: 15
- Non-Faculty Support Staff:
 - Category I: 100% of 3 Staff
 - Category II and III: 10% of 156 Staff
- Academic Non-Teaching: 6 for 32 staff
- Barrack: 200sqm for contractual staff.

The area requirements for Faculty Residences are taken as per CPWD, New Plinth Area Norms – for General Pool Residential Accommodation (GPRA).

The number of entry points into a hostel should be at a minimum for better security. Each residential hostel should be provided with an underground sump, an overhead tank and a pumping system of sufficient capacity to ensure continuous supply of water. Sufficient number of toilets and baths would need to be provided along with a suitable hot water system. Solar Heating System is provided in the hostels for the same. Each hostel should have a reasonably large enclosed lawn for hosting functions.

General Facilities in each hostel:

- An attached covered shed for the parking of cycles and scooters / motorcycles and a suitable car parking area;
- A well-designed reception area along with a proper display board indicating room numbers and the names of occupants;
- A mail box with separate pigeon holes with locking facilities for the mail of each student;
- A TV lounge for entertainment on each floor in each residential hall.
- Some group study rooms.
- A small canteen for snacks, tea, coffee etc.
- Internal telephones-one on each floor, one in the dining hall, one in the Hostel staff's office and two at the reception desk having direct inward dialing facility;
- Three offices rooms – one for the officer, one for the manager and one for the staff;
- A small kitchenette with kitchen equipment like- fridge, microwave etc. on each floor for self-cooking by residences.
- A laundromat for washing and drying clothes.

It is proposed that the residential campus should have commercial shops having an area of 350 sqm. like provision store, consumer products, fruits and vegetables, meat, stationery, books and periodicals and ATM etc.

The campus must provide facilities for recreation and leisure-time activities for the faculty, support staff and their families. The Community Centre (with a built-up area of 500 sqm.) should be equipped to cater to the needs of men, ladies and children. The facilities should cover both outdoor and indoor activities. A non-denominational meditation / prayer hall may be provided for use as a place of worship for all religious groups on campus on basis of prior reservation with the Caretaker. This would cater to the demand by followers of individual religious faiths for allotting to them on-campus land for construction of specific religion-based places of worship.

15 Guest houses shall be provided in the campus for visiting faculties and guests. These houses shall have a common Kitchenette, Dining Area and other recreational areas like TV Room, Lawns, etc. to facilitate to the visitors.

A Playschool/ crèche (with a built-up area of 300 sqm.) is also provided within the campus for the children of faculties.

A Health center including a pharmacy (with a built-up area of 250 sqm.) shall to be provided in the campus where first aid facilities can be availed by all campus residents. The following facilities may be provided at the Medical Center:

- Pharmacy;
- First aid room;
- Nutritionist (to advise on residential hall mess, menus, etc.)

Table 8.1.5: Area Requirement – Residential Complex

AREA REQUIREMENT - RESIDENTIAL COMPLEX (Built Up Area)						
S. No	Department	No. (Y)	Carpet Area of Each Unit(Z)	Carpet Area (A=Y*Z)	Built Up Area (B=A*1.4)	Remarks
			(in SQM)	(in SQM)	(in SQM)	
1	Guest House	11	30	330	462	Assumption
2	Boy's Hostel - UG and PG Program	403	25	10,063	14,088	Assumption, Double Occupancy Rooms Annexure 8.25
3	Girl's Hostel - UG and PG Program	403	25	10,063	14,088	
4	Boy's Hostel -Masters & Doctoral Program	316	25	7,900	11,060	Assumption, Single Occupancy Rooms Annexure 8.25
5	Girl's Hostel -Masters & Doctoral Program	316	25	7,900	11,060	
6	Hostel for Married/ Studio Apartment	158	40	6,320	8,848	Assumption, for Married / Studio Unit Annexure 8.25
7	Hostel for CEC	30	25	750	1,050	Assumption, Single Occupancy
	Faculty Housing	No. (Y)	Built Up Area of Each Unit (W)		Built Up Area (B=Y*W)	Annexure 8.27
8	Vice Chancellor	1	370	-	370	CPWD, PAR Norms, Type-7
9	Professor	19	200	-	3,800	CPWD, PAR Norms, Type-5
10	Associate Professor	38	200	-	7,600	CPWD, PAR Norms, Type-5
11	Assistant Professor	76	128	-	9,728	CPWD, PAR Norms, Type-4
12	Deans Faculties of Study*	10	200	-	2,000	CPWD, PAR Norms, Type-5a
13	Functional Deans	1	258	-	258	As per existing building
	Non Faculty Support Staff Housing					Annexure 8.27
14	Category I	3	200	-	600	CPWD, PAR Norms, Type-5
15	Category II	2	80	-	160	CPWD, PAR Norms, Type-3
16	Category III	14	70	-	980	CPWD, PAR Norms, Type-2
17	Category IV	-	57	-	-	-
18	Academic Non-Teaching	2	200	-	400	CPWD, PAR Norms, Type-5
19	Academic Non-Teaching (for Central Instrumentation)	4	128	-	512	CPWD, PAR Norms, Type-4

	Centre)					
20	Warden	-	-	-	-	Have to be incorporated in the faculty residences.
21	Care Taker	-	-	-	-	
22	Barracks	20	10	-	200	Lump sum
23	Community Centre (For Faculty)	-	-	-	500	Assumption
24	Play School	-	-	-	300	Assumption
25	Utilities and Services	-	-	-	200	Assumption
26	Shopping Centre	-	-	-	350	Assumption
27	Health Centre	-	-	-	250	Assumption

8.1.3.5 Sports Facilities

Sports facilities like Football, Badminton, Basketball, Cricket, Volley Ball, Tennis Court, Swimming Pool and Sports Track are proposed within the campus.

Table 8.1.6: Area Requirement – Sports Facilities

AREA REQUIREMENT - SPORTS FACILITIES		
S. No	Description	Nos/Area
1	Sports Track (8 Tracks)	1
2	Football Ground	1
3	Basketball	1
4	Badminton	1
5	Cricket	1
6	Volley Ball	1
7	Tennis Court	1
8	Swimming Pool (Half Olympic Size)	1
9	Indoor Sports Stadium(Assumption)	200 sqm

8.1.3.6 Utilities and Services

A Utilities and services area may be set up in the campus to exclusively attend to the civil, electrical, water supply, sewerage, telecommunications, and maintenance problems. Water treatment facilities would also be provided to ensure availability of safe drinking water. Furthermore, a water harvesting system would be in place to ensure replenishment of the underground aquifer.

It is suggested that a system of separation of solid waste in terms of recyclables, bio-degradable and other material at source should be introduced in the University. Also incinerators for disposal of bio-degradable garbage and a mechanized collection system catering to the Hostels (including the messes) and households should be provided. Furthermore, a system for disposal of chemical/ biological/ radio-active waste may be provided close to the Laboratory Complex and the Health Centre.

The campus should have several gardens, parks, lawns and a nursery for the enjoyment of all its residents. Trees must be planted along all campus roads to provide shade and for conferring other benefits of vegetation. Waste water recycling may be explored for the watering of gardens.

8.1.3.7 Disabled Friendly Campus

The built environment should be designed such that it eliminates all barriers and allows people with disabilities to use the building and its facilities like other people. In order to achieve this, designed recommendation for the building will be as per NBC 2005 ANNEXURE-D (clause 12.21) on ‘Special requirement for planning of public buildings meant for use of physically challenged’.

8.1.4 Area Analysis

On study of the existing infrastructure available and the area requirement, the proposed area analysis for the campus is indicated hereunder

:

- **Academic Building:** Apart from the existing CB1, CB2 and CB3, additional area is required for laboratories and faculty. Classrooms and Lecture Rooms are part of CB1, CB2 and CB3 and hence, the Central Classroom Complex (which is mentioned in Central Academic Service Facilities) is included in the Academic Building.
- **Central Academic Services Facilities:** Computer Centre, Virtual Learning Centre, Continuing Education Centre and Technology Innovation cum

Incubation Centre can be accommodated in the surplus area of the existing Administration Building. Central Workshop, Central Instrumentation Centre and Student Activity Center are proposed. Central Library and an Auditorium for 800 persons are already existing in the campus. The workshops to be constructed must be located at some distance from the instructional and administrative complex to reduce disturbance from noise.

- **Administrative Building:** It is surplus in area and the remaining area can be used for the above mentioned Central Academic Service Facilities. It would also house an area for the existing 400 staff for distance learning.
- **Residential Complex:** Few Hostel and Faculty Residences are already available in the campus (refer Annexure 8.1), the remaining are proposed as per following:
 - Hostel B10a and B10b have 76 rooms each (16 double seater, 60 single seater) which accommodates 92 boys and 92 girls respectively. Hostel B13 and B15 has 116 rooms (single seater) and 201 rooms (single seater) which accommodates 116 girls and 201 boys respectively. The total required hostel facilities for UG and PG students is for 805 boys and 805 girls (Refer Annexure 8.25). Hence, 256 hostel rooms for 512 boys (double seater) and 299 hostel rooms for 597 girls (double seater) are proposed.
 - For Masters and Doctoral program, 316 hostel rooms for boys and 316 hostel rooms for girls are proposed on single seater basis. (Refer Annexure 8.25)
 - Hostel B14 has 52 studio apartments. The total required hostel Facilities for Married/Studio apartment is 158 rooms (Refer Annexure 8.25). Hence 106 additional apartments are being proposed.
 - An additional 30 room hostel for 30 people (single seater) is proposed for students in Continuing Education Centre.
 - 15 guest house are being proposed in the campus. 4 of these are for the Faculty of Hospitality, Tourism & Travel Management and the remaining 11 for visiting faculties. (Refer Annexure 8.8 and 8.27)
 - One Vice Chancellor's residence is proposed.
 - The existing director's residence is allocated to the Functional Dean.
 - With reference to Annexure 8.27, the area requirement of faculty in residential complex (Table 8.1.5) and the existing staff quarters (refer

Annexure 8.1 - B9), residence for 19 professors, 38 associate professors, 76 assistant professors and 25 non-faculty staff are proposed. Residence for Warden, Care takers and Faculty equivalent to Professor HAG is incorporated in the above residences itself.

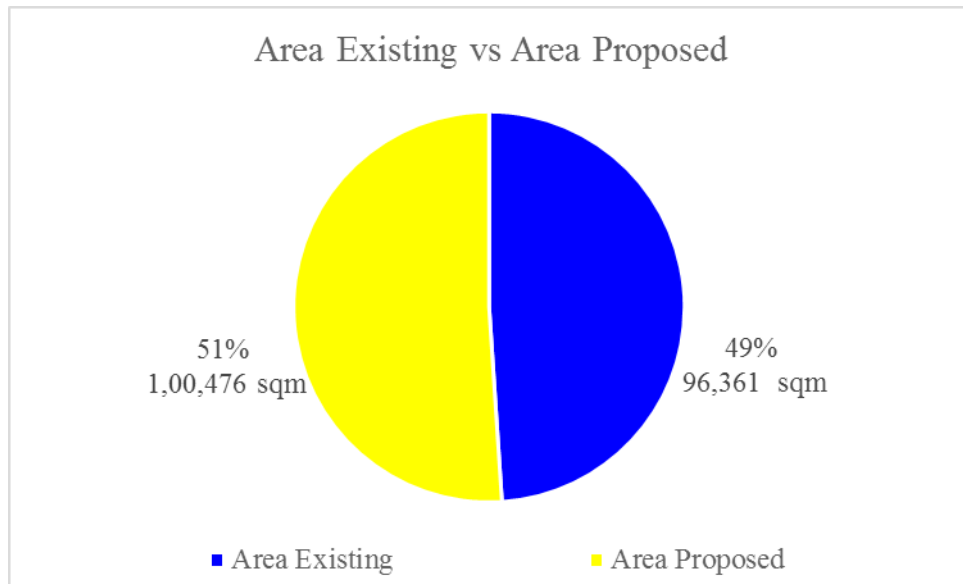
- Barracks of 200sqm is proposed for the contractual staff.
- Bank, Post Office and 3 commercial shops (near library) are already existing (refer Annexure 8.1). Additionally, a Commercial Centre/Shopping Centre, Health Centre, Community Centre (for faculty), Playschool and an area for Utilities and Services is proposed as per the area requirement of faculty in residential complex (Refer Table 8.1.5).
- **Sports Facilities:** Football, Basketball, Badminton, Cricket, Volleyball, Tennis Court, Swimming Pool, Sports Track and an indoor Sports Stadium are proposed for the campus (Refer Table 8.1.6).

Table 8.1.7 indicates the summery of Area Analysis. The total built-up area of IKGPTU, Main Campus, Kapurthala shall be 1,96837.70 sqm to meet the above requirements. For details area program, refer to Annexure 8.29.

Table 8.1.7: Area Analysis

SUMMARY - AREA ANALYSIS (Built Up Area)					
S. No	Description	Area Requirement	Area Existing	Area Proposed	Remarks
		SQM	SQM	SQM	
REQUIRED					
1	Academic Building	48,861.40	32,607.39	16,254.01	New Building proposed for the Remaining Area. (Refer Annexure 8.29 for Detail)
2	Administrative Building	6,727.00	24,717.00	-	Surplus Area used for Central Academic Service Facilities and Existing Staff of Distance Learning (Refer Annexure 8.29 for Detail)
3	Central Academic Services Facilities	25,100.60	10,649.00	8,624.80	New construction - Central Workshop, Central Instrumentation Centre and Student Activity Centre only (Refer Annexure 8.29 for Detail)
4	Residential and Hostel Complex	88,913.00	28,388.00	75,597.50	Based on Detailed Area Program: Refer Annexure 8.29
	TOTAL		96,361.39	1,00,476.31	
	Total Area Existing (Built Up Area)			96,361.39	
	Total Area Proposed (Built Up Area)			1,00,476.31	
	TOTAL BUILT-UP AREA OF IKGPTU KAPURTHALA			1,96,837.70	

Fig 8.1.1: IKGPTU Main Campus Kapurthala: Area Existing Vs Area Proposed



8.1.5 Capital Cost

8.1.5.1 Infrastructure Cost

Central Academic Facilities like the Seminar Hall-cum-Conference, Auditorium, Canteen and Library, Residential Complexes like the staff quarter, boys hostel, girls hostel and hostel for married/studio apartment are existing/ newly constructed/ work in progress. Hence, there is no cost implication.

To reorganize the proposed Laboratories, Classrooms, Faculty Rooms and Administrative Area in existing CB1, CB2 and CB3 and Main Administrative Building, 5% renovation cost is assumed for re-routing engineering services like electrical, HVAC, plumbing etc. and adaptation of the existing buildings as per proposed requirement.

As proposed, some of the Central Academic Service Facilities can to be accommodated in the surplus area of the Main Administrative Building, a renovation cost of 25 % is assumed as per the cost of new construction CPWD PAR 2012 for re-

routing engineering services like electrical, HVAC, plumbing etc. and adaptation of the existing buildings as per proposed requirement.

To upgrade the existing Director's Residence, renovation cost of 10% is assumed.

The Cost of new Academic Building, Administrative Building, Central Academic Service Facilities and Residential Complex are calculated as per CPWD PAR 2012.

For development of site, 50% cost of development of the site is taken into consideration (refer Annexure 8.107) as the site is in reasonably good condition. The boundary wall of the campus is existing and not considered in the costing.

After reviewing the existing allied provisions available, certain assumptions are considered for calculating the cost of allied provision (refer Annexure 8.30, 8.105).

PMC and Architect's fees is considered as 5.75% (including Service Tax) as per COA guidelines.

Service Tax -6%, Labour Cess -1%, Punjab Infrastructure Fund- 1%, Heritage Cess-1%(for projects above 50 crores) are applicable as per government regulations.

8.1.5.2 Equipment Cost

For calculating the Equipment Cost, following assumption are made (Refer Annexure 8.30, 8.109):

- Engineering Laboratory: 20 Lakhs per laboratory
- Other Courses Laboratories: 5 Lakhs per laboratory
- Workshop Equipment: 5 Lakhs per engineering course
- Central Instrumentation Centre: 30 Lakhs per shop
- IT Infrastructure: 21 Crores
- Vehicles: 75 Lakhs (02 buses, 04 cars)
- Health Centre Equipment: 10 Lakhs

8.1.5.3 Furniture Cost

Furniture Cost for the following areas are taken in consideration as per the indicated

Annexures:

- Faculty/Non-Teaching Staff Academic Furniture: Annexure 8.113
- Lecture Room for 120 Students: Annexure 8.115
- Lecture Room for 60 Students: Annexure 8.115
- Lecture Room for 45 Students: Annexure 8.115
- Tutorial Room for 30 Students: Annexure 8.116
- Drawing Hall for 60 Students: Annexure 8.116
- Library Furniture: Annexure 8.111
- Auditorium Furniture: Annexure 8.111
- Hostel furniture for Students: Annexure 8.112
- Guest House Furniture: Annexure 8.114
- Furniture for Contractual Staff: Annexure 8.111

Contingency- 3% is considered on Capital Cost i.e. Infrastructure Cost, Equipment Cost and Furniture Cost.

Total project cost for upgrading the entire campus at par with the level of excellence shall be 499.80 crores. For detail of Capital Cost calculation, refer Annexure 8.30.

Table 8.1.8: Summary – Capital Cost

SUMMARY - CAPITAL COST (Refer Annexure 8.30 for Detail)			
S. No	Description	Total Area	Total Cost
		SQM	(In Crores.)
(I)	EXISTING AREA (No Cost Implication)		
C	Central Academic Service Facilities	10,649.00	-
D	Residential and Hostel Complex	28,130.00	-
(II)	EXISTING AREA (Renovation Cost)		14.35
A	Academic Building	32,607.39	5.83
B	Administrative Building	18,890.20	3.30
C	Central Academic Service Facilities	5,826.80	5.15
D	Residential and Hostel Complex	258.00	0.06
(III)	PROPOSED AREA		341.68
A	Academic Building	16,254.01	58.64
B	Administrative Building	-	-
C	Central Academic Service Facilities	8,624.80	33.46
D	Residential and Hostel Complex	75,597.50	191.41
E	Development of Site		14.03
F	Allied provision		37.74
G	Sports Infrastructure		6.41
H	TOTAL (I + II + III)	1,96,837.70	356.03
J	Cost Index	102	363.15
K	PMC, Architect's fees (5.75%), Taxes [Service Tax (6%), Labour Cess (1%), Punjab Infrastructure Fund (1%), Heritage Cess (1%)]	14.75%	53.56
L	TOTAL COST OF INFRASTRUCTURE	(I + II)	416.71
M	TOTAL COST OF EQUIPMENT		44.20
N	TOTAL COST OF FURNITURE		24.33
Q	CAPITAL COST (L+M+N)		485.24
R	Contingency (Calculated on Q)	3%	14.56
S	TOTAL CAPITAL COST (Q + R)	In Crores	499.80

Fig 8.1.2: Infrastructure Cost Breakup

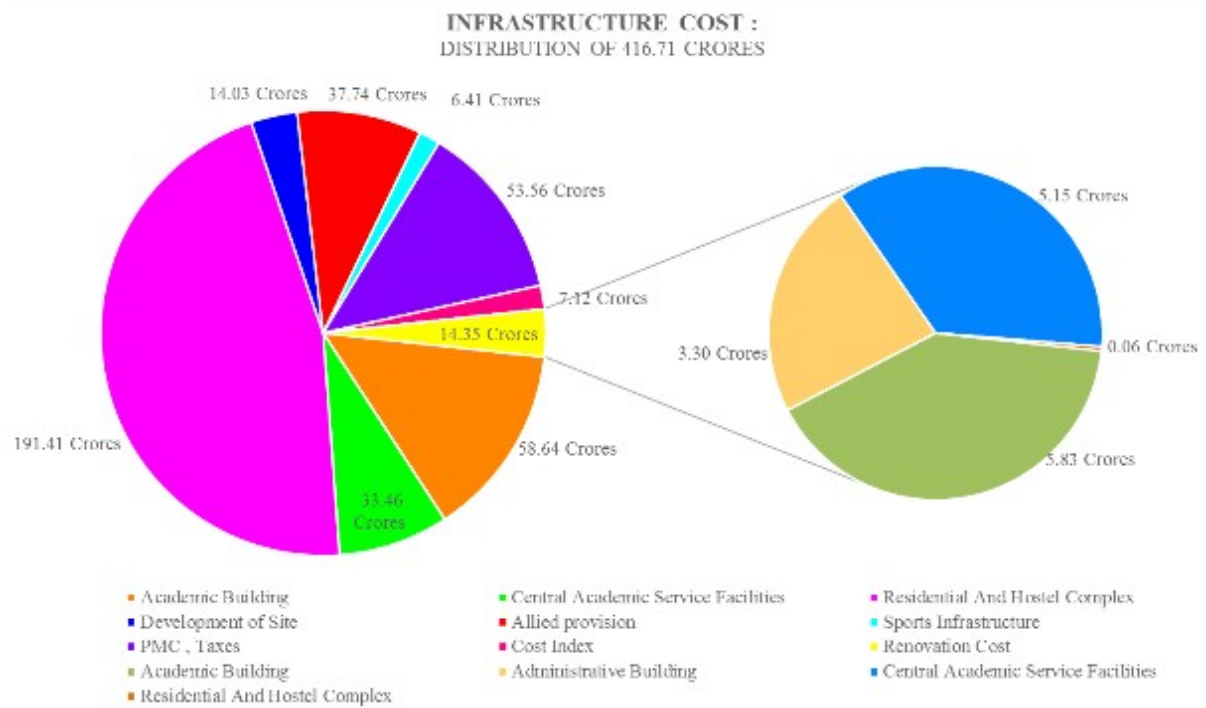
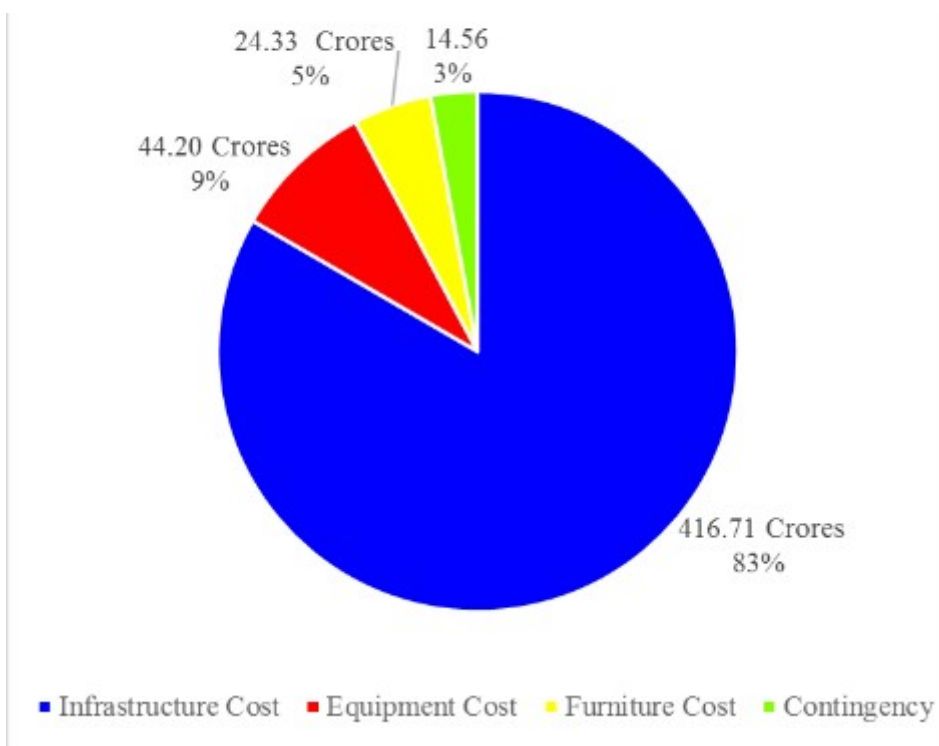


Fig 8.1.3: Capital Cost Breakup

CAPITAL COST :
DISTRIBUTION OF 499.80 CRORES



8.2 IKGPTU AMRITSAR CAMPUS

8.2.1 Land Allotment

Total land area available is 27.54 acres. 22.54 acres belongs to IKGPTU Amritsar Campus and the remaining 5 acres belongs to Amritsar Polytechnic College.

Table 8.2.1: Land Allotment

LAND ALLOTTED			
S. No	Description	Acres	SQM
1	Total Land	27.54	1,11,450.43

2	IKGPTU Amritsar Campus	22.54	91,216.14
3	Amritsar Polytechnic College	5.00	20,234.28

8.2.2 Existing Infrastructure and Facilities Shared with Amritsar Polytechnic College

IKGPTU Amritsar Campus has 3 buildings with an overall carpet area of 3,459 sqm. Building 1 is with IKGPTU Amritsar where the ongoing engineering courses are running. Part of second and third floor of Building 1, Building 2 and Building 3 are given to IIM Amritsar as transit campus.

There are certain facilities that are to be shared with the Amritsar Polytechnic College. 2 Lecture Halls and 4 Classrooms with an area of 500 sqm shall be shared. A workshop comprising of area 150 sqm is also available. 10 hostel rooms on triple sharing basis for 30 boys and 5 hostel room on triple sharing basis for 15 girls are available. 2 faculty housing of 75sqm each are also available.

For details about Existing Infrastructure of IKGPTU Amritsar Campus and facilities to be shared with Amritsar Polytechnic College, please refer Annexure 8.37 and Annexure 8.38.

	Existing Area with IKGPTU Amritsar Campus
	Area to be shared with Polytechnic College
	Area available for Future Expansion

IKGPTU Amritsar Campus – Photographs



Building 1 (IKGPTU Amritsar Campus)



Building 1, part of 2nd and 3rd floor is shared with IIM Amritsar



Building 2 (IIM Amritsar)



Building 3 (IIM Amritsar)



Chemistry Laboratory



Computer Laboratory



Facilities shared with Amritsar Polytechnic College - Photographs



Boys Hostel



Girls Hostel: Internal



Girls Hostel: External



Guest House



Lecture Hall



Sports Complex



Staff Quarter: Internal



Staff Quarter: External

8.2.3 Area Requirement

As per the proposed academic plan for 5 courses with the overall student strength of 250, the institute shall require:

8.2.3.1 Administrative & Faculty Building

Table 8.2.2: Area Requirement - Administrative & Faculty Building

S. No	Description	As per AICTE	As Per DPR	No. of Rooms	Total Area
		SQM	SQM		SQM
ADMINISTRATIVE & FACULTY BUILDING (Carpet Area)					
1	Office of the Principal / Director IKGPTU Amritsar	30	30	1	30
2	Administrative Offices of IKGPTU Amritsar (For 8 no. of staff)	-	80	1	80
3	Offices of the Heads of Department	10	15	2	30
4	Reception Lounge	-	20	1	20
5	Faculty Offices	5	10	17	170
6	Cubicles for Project Staff & Post-Doctoral Fellows (1 room with 5 cubicles)	5	25	1	25
7	Cubicles for Research Scholars (05 cubicles) (1 room with 5 cubicles)	5	25	1	25
8	Offices for Visiting Faculty (1 room with 3 visiting faculty)	5	20	1	20
9	Seminar – cum - Committee Rooms (Seating capacity of 12 to 15 people)	-	40	1	40
10	First Aid Medical Room	10	10	1	10
11	Common Room for Students / Faculty	100	100	2	200
12	Pantry (Only for Staff)	10	10	1	10
13	Reprography and Stationary Store	10	10	1	10
14	Strong Room	30	30	1	30
15	Examination Control Room	30	30	1	30
16	Store	10	10	2	20
17	Toilets (Faculty)	-	25	1	25
Total (A)		Carpet Area (C)			775
		Built Up Area (C * 1.4)			1,085

8.2.3.2 Classroom & Laboratory Complex

Table 8.2.3: Area Requirement -Classroom & Laboratory Complex

S. No	Description	As per AICTE	As Per DPR	No. of Rooms	Total Area
		SQM	SQM		SQM
CLASSROOM & LABORATORY COMPLEX (Carpet Area)					
1	Lecture Halls for 60 students (@ 2 sqm per person)	90	120	2	240
2	Lecture Halls for 45 students (@ 2 sqm per person)	66	90	4	360
3	Tutorial Rooms for 30 students (@ 2 sqm per person)	33	60	6	360
4	Drawing Halls for 60 students (@ 4 sqm per person)	132	240	1	240
5	Language Laboratory	66	66	1	66
6	Applied Sciences Laboratories	66	66	2	132
7	Engineering Sciences Laboratories	66	66	2	132
8	CSE Laboratories	66	66	3	198
9	Plastics Engineering & Technology Laboratories	66	66	6	396
10	Toilets (Students)	-	100	1	100
Total(B)		Carpet Area (C)			2,224
		Built Up Area (C * 1.4)			3,114

8.2.3.3 Central Academic Service Facilities

Table 8.2.4: Area Requirement - Central Academic Service Facilities

S. No	Description	As per AICTE	As Per DPR	No. of Rooms	Total Area
		SQM	SQM		SQM
CENTRAL ACADEMIC SERVICES FACILITIES (Carpet Area)					
1	Central Computing Facility	150	150	1	150
2	Central Library Facility	400	400	1	400
3	Educational Technology & Video Conferencing Facility	0	100	1	100
4	Central Workshop Facility	200	200	1	200
5	Hobby-cum-Innovation Centre	0	50	1	50
6	Auditorium: to seat 300 persons (@ 2 sqm per person)	600	600	1	600
7	Canteen	150	150	1	150
8	Sport's Club	200	200	1	200
9	Student Activities Centre/ Community Centre/ Daily Needs Shop	0	250	1	250
Total (C)		Carpet Area (C)			2100

	Built Up Area (C * 1.4)	2940
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8.2.3.4 Residential Complex

The Campus will require a residential complex wherein the following provision are considered (refer Annexure 8.40):

- Student Hostel: 50% of the total student's intake, boys-girl's ratio as 50:50.
- Faculty Residence: 35%
- Principal Quarter: 01
- Guest House: 02

The area requirement is taken as per CPWD, New Plinth Area Norms-for General Pool Residential Accommodation (GPRA).

Table 8.2.5: Area Requirement – Residential Complex

S. No	Description	As per AICTE	As per DPR/CPW D	No. of Rooms	Total Area
		SQM	SQM		SQM
RESIDENTIAL COMPLEX (Built Up Area) (Built Up Area = Carpet Area * 1.4)					
1	Principal's Quarter	0	268	1	268
2	Guest House (Carpet Area = 30sqm)	42	42	2	84
3	Boy's Hostel (Carpet Area of 1 Room = 25sqm)	0	35	31	1085
4	Girl's Hostel (Carpet Area of 1 Room = 25sqm)	0	35	31	1085
5	Faculty Residence				
a	Professor	0	200	1	200
b	Associate Professor	0	200	2	400
c	Assistant Professor	0	128	4	512
Total (D)		Built Up Area			3634

8.2.3.5 Sports Facilities

Sports facilities like a Cricket, Athletic Track, Hockey, Table Tennis and Badminton are proposed within the campus.

8.2.4 Area Analysis

On study of the existing infrastructure available, facilities shared with Amritsar Polytechnic College and the area requirement, the proposed space analysis is as indicated:

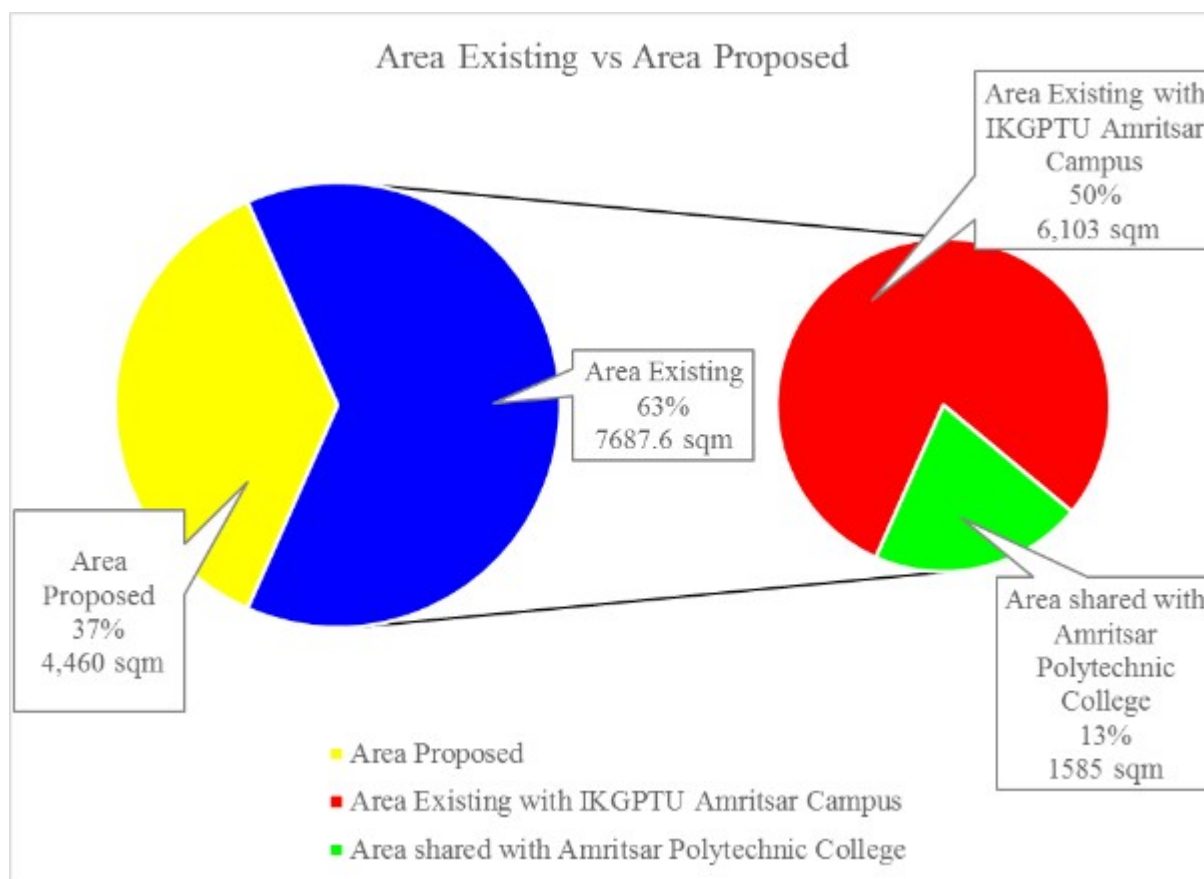
- **Administrative and Faculty Building** along with **Classrooms and Laboratory Complex** can be accommodated in the existing buildings within IKGPTU Amritsar Campus. The surplus area can be used for some of the Central Academic Service Facilities, future expansion and the area lost due to inefficiency in design.
- **Central Academic Service Facilities** like Central Computing Centre, Central Library, Educational Technology & Video Conferencing, Central Workshop and Hobby-cum-Innovation Centre can be accommodated in the existing buildings within IKGPTU Amritsar Campus. An auditorium for 300persons, canteen, sports club and a community center are proposed.
- **Residential Complex:** Few hostels and faculty residences are already available that can be shared with Amritsar Polytechnic College (Annexure 8.37), the remaining are proposed as per following:
 - Hostel facilities for 30 boys (10 rooms on triple seater) and 15 girls (5 rooms on triple seater) are available. Hence 16 rooms on double seater for 32 boys and 24 rooms on double seater for 47 girls are proposed.
 - 2 existing faculty housing shall be allocated to guest house.
 - 7 Faculty Residences are required for the Professor, 2 Associate Professors and 4 Assistant Professor.
 - Principal/ Director's Residence is also proposed with the Campus.
- **Sports Facilities:** Cricket, Athletic Track, Hockey, Table Tennis and Badminton are existing and can be shared with Amritsar Polytechnic College.

Table 8.2.6 indicates the summary of Area Analysis. The total built-up area of IKGPTU Amritsar Campus shall be 12,147.60 sqm to meet the above requirements. For details of area analysis, refer Annexure 8.39.

Table 8.2.6: Area Analysis

SUMMARY- AREA ANALYSIS (Built Up Area)					
S. No	Description	Area Requirement	Area Existing	Area Proposed	Remarks
		SQM	SQM	SQM	
	REQUIRED				(Refer Annexure 8.39 for Details)
1	Administrative & Faculty Building	4,198.60	5,752.60	-	The surplus existing area to be used for Future Expansion and for certain Central Academic Service Facilities.
2	Classroom & Laboratory Complex				
3	Central Academic Services Facilities	2,940.00	1,260.00	1,680.00	Carpet Area of Central Computing Facility, Central Library Facility, Workshop, Educational Technology & Video Conferencing Facility = 900sqm. (Surplus Area of Administrative & Faculty Building and Classroom & Laboratory Complex shall be used) Built Up Area = 900 * 1.4 = 1260sqm. Auditorium, Canteen, Sports Club and Community Centre are proposed.
4	Residential Complex	3,634.00	675.00	2,780.00	2 Guest House and Hostel for 30 boys and 15 girls existing (on Triple sharing basis). Principal's Residence, Hostel for 32 boys and 47 girls (on double sharing basis) and 7 Faculty Residences are proposed.
	TOTAL		7,687.60	4,460.00	
	Total Area Existing (Built Up Area)			7,687.60	
	Total Area Proposed (Built Up Area)			4,460.00	
TOTAL BUILT-UP AREA OF IKGPTU AMRITSAR CAMPUS				12,147.60	

Fig 8.2.1: Area Existing Vs Area Proposed



8.2.5 Capital Cost

8.2.5.1 Infrastructure Cost

After reviewing the condition of existing buildings, following assumptions are made as per the cost of new construction CPWD PAR 2012:

- IKGPTU Amritsar Campus – 20% Renovation Cost
- Amritsar Polytechnic College –
 - Academic/Laboratory Complex: 20% Renovation Cost
 - Central Academic Service Facilities: 10% Renovation Cost
 - Residential Complex: 40% Renovation Cost

Proposed infrastructure cost for Central Academic Service Facilities and the Residential Complex are calculated as per the cost of new construction CPWD PAR 2012.

For development of site, 25% cost of development of the site is taken into consideration (refer Annexure 8.38, 8.107) as the site is in reasonably good condition. The boundary wall of the campus is existing and not considered in the costing.

After reviewing the existing allied provisions available, certain assumptions are considered for calculating the cost of allied provision (refer Annexure 8.38, 8.105).

PMC, Architect's fees is considered as 5.75%(including Service Tax) as per COA guidelines.

Service Tax -6%, Labour Cess -1%, Punjab Infrastructure Fund -1% are applicable as per government regulations.

8.2.5.2 Equipment Cost

For calculating the Equipment Cost, following assumption are made (Refer Annexure 8.108):

- Engineering Laboratory: 20 Lakhs per laboratory
- Other Courses Laboratories: 5 Lakhs per laboratory
- Workshop Equipment: 5 Lakhs per engineering course
- IT Infrastructure: 1.5 Crores.

8.2.5.3 Furniture Cost

Furniture Cost for the following areas are taken in consideration as per the indicated Annexures:

- Faculty/Non-Teaching Staff Academic Furniture: Annexure 8.113
- Lecture Room for 60 Students: Annexure 8.115
- Lecture Room for 45 Students: Annexure 8.115
- Tutorial Room for 30 Students: Annexure 8.116
- Drawing Hall for 60 Students: Annexure 8.116
- Library Furniture: Annexure 8.111
- Auditorium Furniture: Annexure 8.111

- Hostel furniture for Students: Annexure 8.112
- Guest House Furniture: Annexure 8.114
- Furniture for Contractual Staff: Annexure 8.111

Contingency- 3% is considered on Capital Cost i.e. Infrastructure Cost, Equipment Cost and Furniture Cost.

Total project cost for upgrading the entire campus at par with the level of excellence shall be 37.68 crores. For detail Capital Cost calculation, refer Annexure 8.44

Table 8.2.7: Summary - Capital Cost

SUMMARY - CAPITAL COST (Refer Annexure 8.44 for Details)			
S. No	Description	Total Area	Total Cost
		SQM	(In Crores)
(I)	Existing Area (Renovation Cost)	7,687.60	5.25
(II)	Proposed Area (New Building Cost)		
A	Central Academic Services Facilities	1,680.00	6.26
B	Residential Complex	2,780.00	6.79
D	Development of Site		2.17
E	Allied Provisions		4.28
F	Sports Infrastructure		-
G	Total (I + II)	12,147.60	24.74
H	Cost Index	107	26.47
J	PMC, Architect's fees (5.75%), Taxes [Service Tax (6%), Labour Cess (1%), Punjab Infrastructure Fund (1%)]	13.75%	3.64
K	Total Cost of Infrastructure	(I + II)	30.11
L	Total Cost of Equipment		3.95
M	Total Cost of Furniture		2.53
P	CAPITAL COST	(K+L+M)	36.58
Q	Contingency (Calculated on P)	3%	1.10
R	TOTAL CAPITAL COST (P + Q)	In Crores	37.68

Fig 8.2.2: Infrastructure Cost Breakup

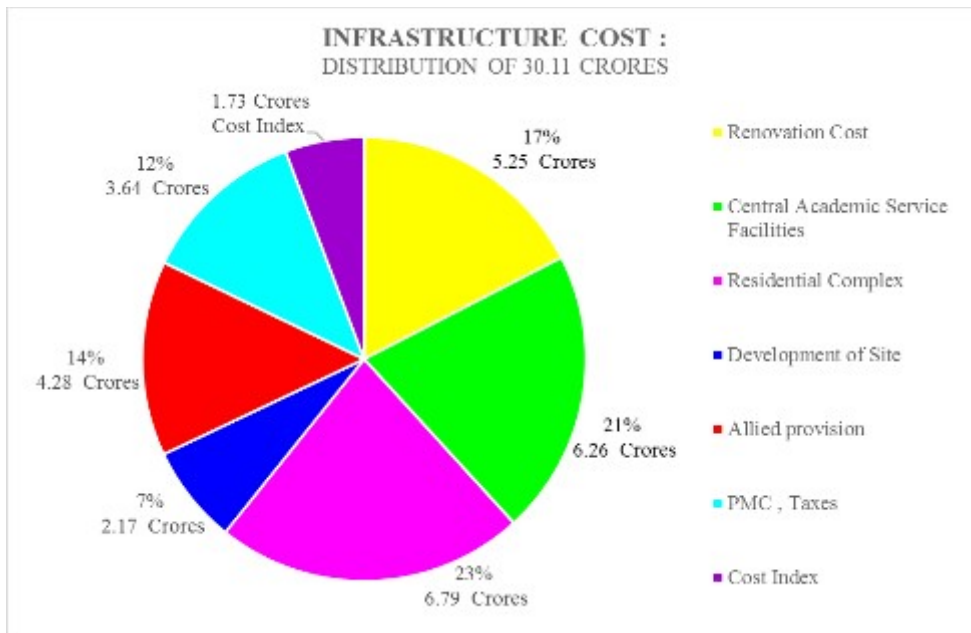
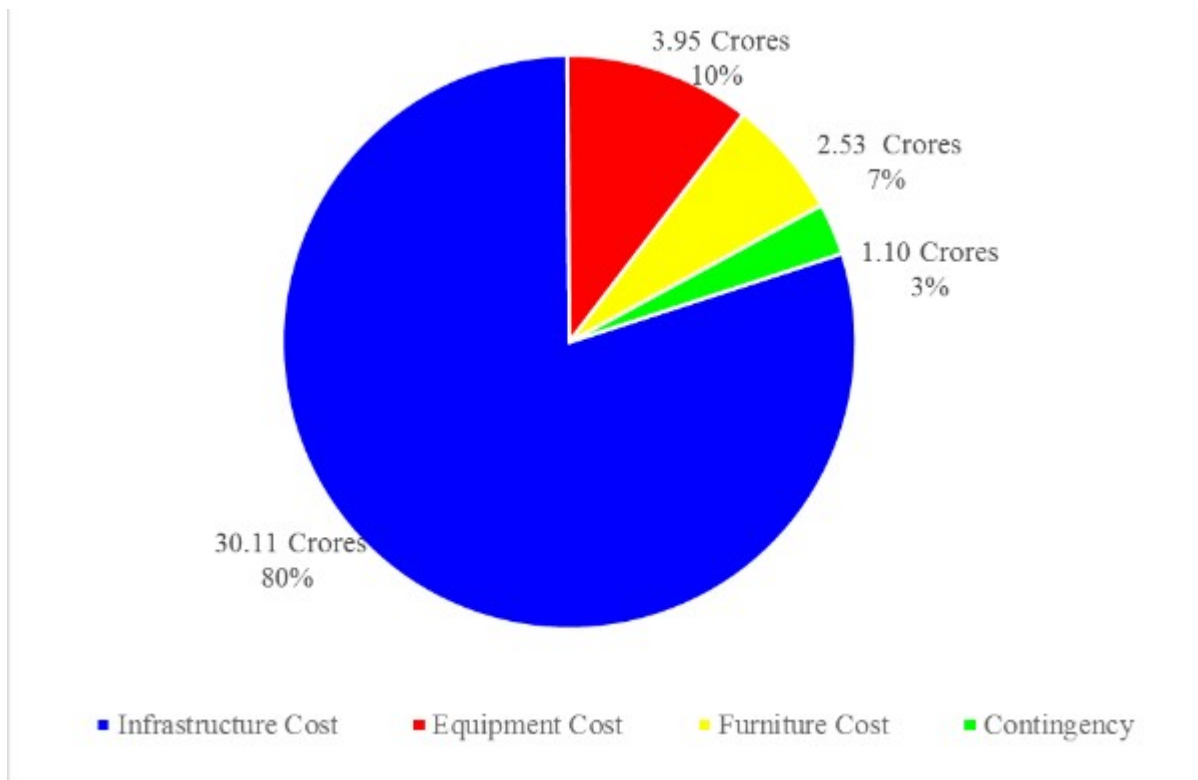


Fig 8.2.3: Capital Cost Breakup

CAPITAL COST :
DISTRIBUTION OF 37.68 CRORES



8.3 IKGPTU BATALA CAMPUS

8.3.1 Land Allotment

Total land area available is 24.6 acres. 19.6 acres belongs to IKGPTU Batala Campus and the remaining 5 acres belong to Batala Polytechnic College.

Table 8.3.1 Land Allotment

LAND ALLOTTED			
S. No	Description	Acres	SQM
1	Total Land	24.64	99,715
2	IKGPTU Batala Campus	19.64	79,480
3	Batala Polytechnic College	5.00	20,234

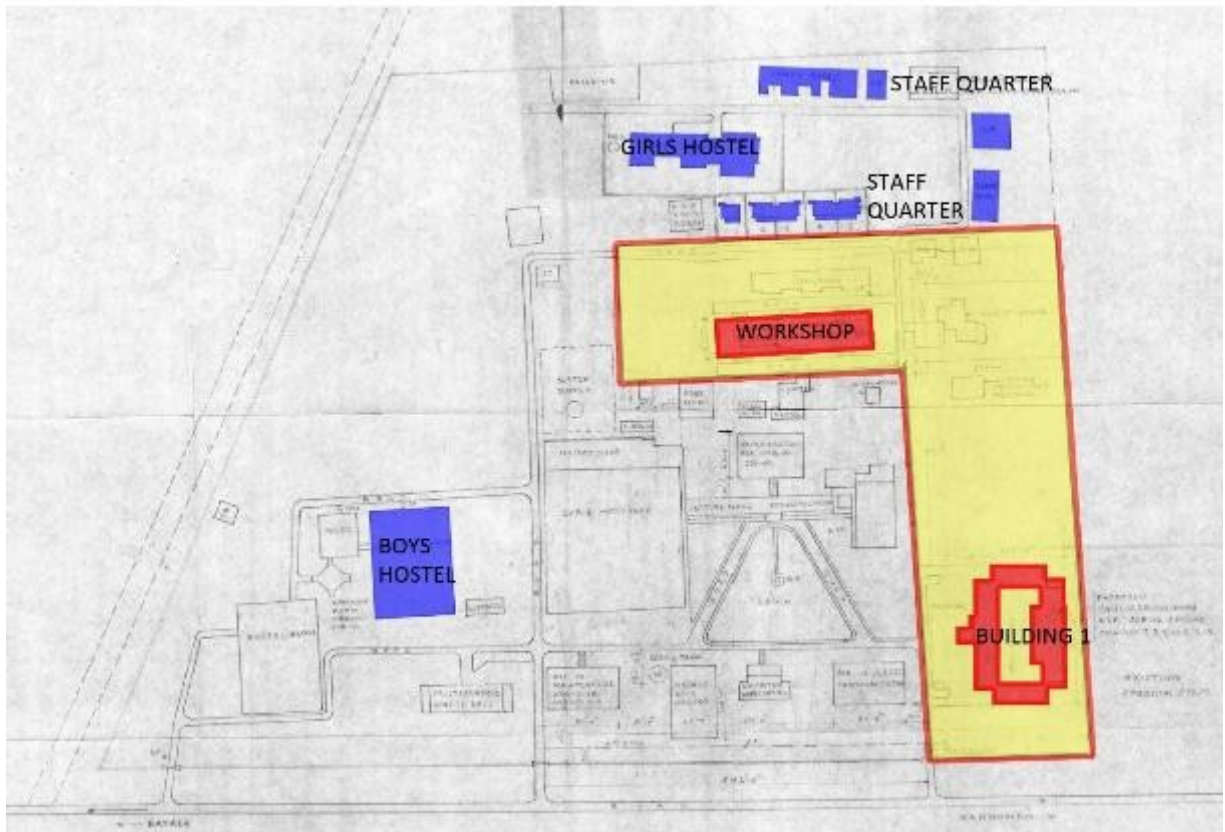
8.3.2 Existing Infrastructure and Facilities Shared with Batala Polytechnic College




IKGPTU Batala Campus has 2 buildings with an overall carpet area of 3,804 sqm. Building 1 is the main academic and administrative building where the ongoing engineering courses are running. Building 2 is a separate building which has 6 workshops.

There are certain facilities that are to be shared with the Batala Polytechnic College. 23 hostel rooms for 69 boys (triple sharing basis) and 18 rooms for 54 girls (triple sharing basis) are available. 14 faculty residences with a combine area of 1375sqm are also available. A Cricket and Volleyball Court is also available for sharing.

For details about existing infrastructure of IKGPTU Batala Campus and facilities to be shared with Batala Polytechnic College, please refer Annexure 8.45 and 8.46.

DRG 8.3.1: IKGPTU BATALA CAMPUS – SITE PLAN



	Existing Area with IKGPTU Batala Campus
	Area to be shared with Polytechnic College
	Area available for Future Expansion

IKGPTU Batala Campus – Photographs



Main Building: Entrance



Main Building: Another View



Workshop Building: Internal



Workshop Building: External View



Main Building: Internal Courtyard



Main Building: Classroom View



Main Building: Computer Laboratory



Main Building: Seminar Room

Facilities shared with Batala Polytechnic College - Photographs



Hostel: External View



Hostel: External View



Hostel: Internal View



Hostel: Internal View



Faculty Residence



Faculty Residence



Sports Ground



Sports Ground

8.3.3 Area Requirement

As per the proposed academic plan for 5 courses with the overall student strength of 450, the institute shall require:

8.3.3.1 Administrative & Faculty Building

Table 8.3.2: Area Requirement - Administrative & Faculty Building

S. No	As per AICTE SQM	As per AICTE	As Per DPR	No. of Rooms	Total Area
		SQM	SQM		SQM
ADMINISTRATIVE & FACULTY BUILDING (Carpet Area)					
1	Office of the Principal / Director IKGPTU Batala	30	30	1	30
2	Administrative Offices of IKGPTU Batala (For 8 no. of staff)	-	80	1	80
3	Offices of the Heads of Department	10	15	3	45
4	Reception Lounge	-	20	1	20
5	Faculty Offices	5	10	30	300
6	Cubicles for Project Staff & Post-Doctoral Fellows (1 room with 5 cubicles)	5	25	1	25
7	Cubicles for Research Scholars (05 cubicles) (1 room with 5 cubicles)	5	25	1	25
8	Offices for Visiting Faculty (1 room with 3 visiting faculty)	5	20	1	20
9	Seminar – cum - Committee Rooms (Seating capacity of 12 to 15 people)	-	40	1	40
10	First Aid Medical Room	10	10	1	10
11	Common Room for Students / Faculty	100	100	2	200
12	Pantry (Only for Staff)	10	10	1	10
13	Reprography and Stationary Store	10	10	1	10
14	Examination Control Room	30	30	1	30
15	Strong Room	30	30	1	30
16	Store	10	10	2	20
17	Toilets (Faculty)	-	25	1	25
Total(A)		Carpet Area			920
		Built Up Area (Carpet *1.4)			1,288

8.3.3.2 Classroom & Laboratory Complex

Table 8.3.3: Area Requirement - Classroom and Laboratory Complex

S. No	Description	As per AICTE	As per DPR	No. of Room	Total Area
		SQM	SQM		SQM
CLASSROOM & LABORATORY COMPLEX (Carpet Area)					
1	Lecture Halls for 60 students (@ 2 sqm per student)	90	120	3	360
2	Lecture Halls for 45 students (@ 2 sqm per student)	66	90	6	540
3	Tutorial Rooms for 30 students (@ 2 sqm per student)	33	60	9	540
4	Drawing Halls for 60 students (@ 4 sqm per student)	132	240	2	480
5	Language Laboratory	66	66	1	66
6	Applied Sciences Laboratories	66	66	2	132
7	CE Laboratories	66	66	6	396
8	EE Laboratories	66	66	3	198
9	ME Laboratories	66	66	6	396
10	Toilets (Students)	-	100	1	100
Total (B)		Carpet Area			3208
		Built Up Area (Carpet *1.4)			4491.2

8.3.3.3 Central Academic Service Facilities

Table 8.3.4: Area Requirement - Central Academic Service Facilities

S. No	Description	As per AICTE	As per DPR	No. of Room	Total Area
		SQM	SQM		SQM
CENTRAL ACADEMIC SERVICES FACILITIES (Carpet Area)					
1	Central Computing Facility	150	150	1	150
2	Central Library Facility	400	400	1	400
3	Educational Technology & Video Conferencing Facility	-	100	1	100
4	Central Workshop Facility	200	200	1	200
5	Hobby-cum-Innovation Centre	-	50	1	50
6	Auditorium: to seat 300 persons (@ 2 sqm per student)	600	600	1	600
7	Canteen	150	150	1	150
8	Sport's Club	200	200	1	200
9	Student Activities Centre/ Community Centre/ Daily Needs Shop	-	250	1	250
Total (C)		Carpet Area			2100

	Built Up Area (Carpet *1.4)	2940
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8.3.3.4 Residential Complex

The campus will a residential complex wherein the following provisions are considered:

- Student Hostel: 50% of the total student's intake, boys-girl's ratio as 50:50.
- Faculty Residence: 35%
- Principal Quarter:01
- Guest House: 02

The area requirement is taken as per CPWD, New Plinth Area Norms-for General Pool Residential Accommodation(GPRA).

Table 8.3.5: Area Requirement – Residential Complex

S. No	Description	As per AICTE	As per DPR/CPWD	No. of Room	Total Area
		SQM	SQM		SQM
RESIDENTIAL COMPLEX (Built Up Area) (Built Up Area = Carpet Area * 1.4)					
1	Principal's Quarter	-	268	1	268
2	Guest House (Carpet Area = 30sqm)	42	42	2	84
3	Boy's Hostel (Carpet Area = 25sqm)	-	35	56	1960
4	Girl's Hostel (Carpet Area = 25sqm)	-	35	56	1960
5	Faculty Residence				
a	Professor	-	200	2	400
b	Associate Professor	-	200	3	600
c	Assistant Professor	-	128	6	768
Total (D)					6040

8.3.3.5 Sports Facilities

Sports facilities like Volleyball and Cricket are proposed within the campus.

8.3.4 Area Analysis

On study of the existing infrastructure available, facilities shared with Batala Polytechnic College and the area requirement, the proposed space analysis is as indicated:

- Certain areas of **Administrative and Faculty Building** along with **Classrooms and Laboratory Complex** can be accommodated in the existing

buildings within IKGPTU Batala Campus. Some additional area would also be needed. Hence a new building is proposed.

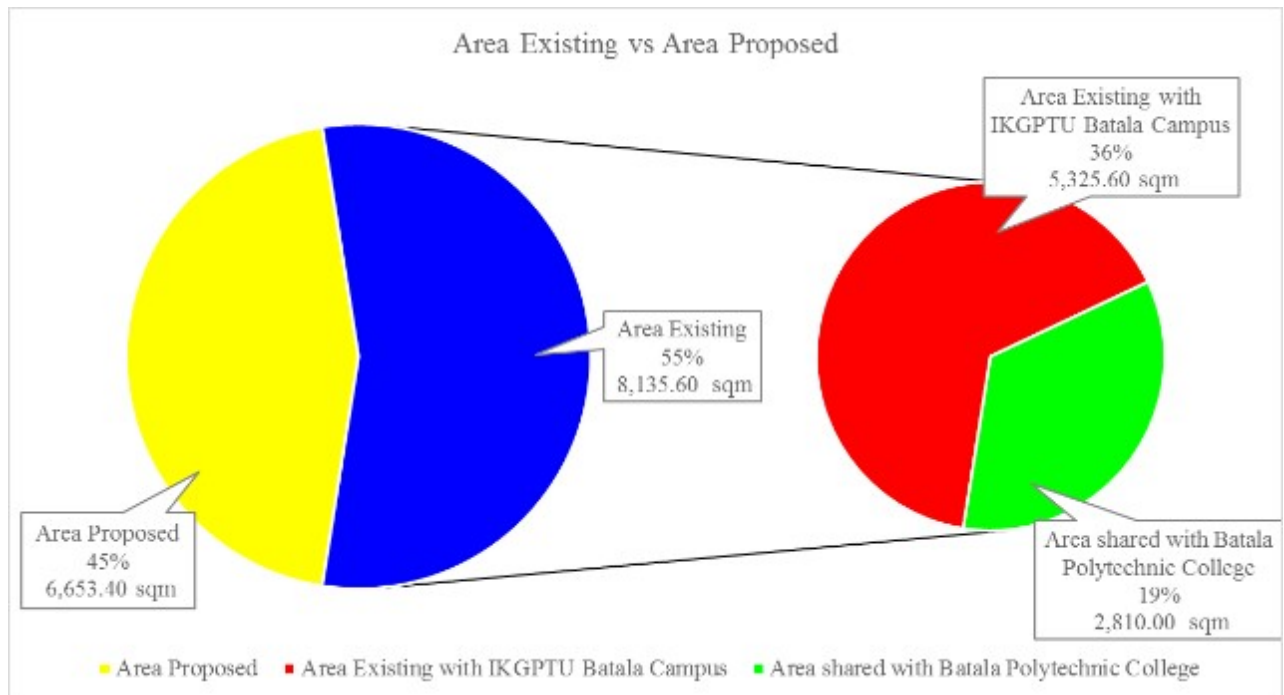
- **Central Academic Service Facilities** like Central Computing Centre, Central Library, Educational Technology & Video Conferencing, Hobby-cum-Innovation Centre, Auditorium for 300 persons, Canteen, Sports Club and a Community Center are proposed. A large Central workshop is existing which caters to the current area requirement and the surplus area can be used for future expansion.
- **Residential Complex:** Few Hostels and faculty residence are already available that can be shared with Batala Polytechnic College (Annexure 8.45), the remaining are proposed as per following:
 - Hostel Facilities for 69 boys (23 rooms on triple seater) and 54 girls (18 rooms on triple seater) are available. Hence 22 rooms on double seater for 43 boys and 29 rooms on double seater for 58 girls are proposed.
 - 14 existing Faculty Residences to be used for the Faculty requirements.
 - A principal's quarter and 2 guest house are proposed in the campus.
- **Sports Facilities:** Volley Ball and Cricket ground are existing and can be shared with Batala Polytechnic College.

Table 8.3.6 indicates the summary of Area Analysis. The total built-up area of IKGPTU Batala Campus shall be 14,789.00 sqm to meet the requirements. For detail of Area Analysis, refer Annexure 8.47.

Table 8.3.6: Summary - Area Analysis

SUMMARY- AREA ANALYSIS (Built Up Area)					
S. No	Description	Area Requirement	Area Existing	Area Proposed	Remarks
		SQM	SQM	SQM	
	REQUIRED				(Refer Annexure 8.47 for Details)
1	Administrative & Faculty Building	5,779.20	3,922.80	1,856.40	New Building proposed for the Remaining Area.
2	Classroom & Laboratory Complex				
3	Central Academic Services Facilities	2,940.00	1,402.80	2,660.00	Excess Workshop Area shall be used for Future Expansion. Other Facilities are proposed.
4	Residential Complex	6,040.00	2,810.00	2,137.00	14 Faculty Residence to be renovated. Hostels for 69 boys and 54 girls (on triple sharing basis) existing and to be renovated. Additional hostel for 43 boys and 58 girls (on double sharing basis) proposed. Principal's Residence and Guest House also proposed.
	TOTAL		8,135.60	6,653.40	
	Total Area Existing (Built-up Area)			8,135.60	
	Total Area Proposed (Built-up Area)			6,653.40	
	TOTAL BUILT-UP AREA OF IKGPTU BATALA CAMPUS			14,789.00	

Fig 8.3.1: Area Existing Vs Area Proposed



8.3.5 Capital Cost

8.3.5.1 Infrastructure Cost

After reviewing the condition of the existing buildings, following assumptions are made as per the cost of new construction CPWD PAR 2012:

- IKGPTU Batala Campus –
 - Admin-Faculty & Classroom-Laboratory Complex: 25% Renovation Cost
 - Central Academic Service Facilities: 20% Renovation Cost
- Batala Polytechnic College –
 - Residential Complex: 75% Renovation Cost

Proposed infrastructure cost for Administrative-Faculty Building, Classroom-Laboratory complex, Central Academic Service Facilities and the Residential Complex are calculated as per the cost of new construction CPWD PAR 2012.

For development of site, 40% cost of development of the site is taken into consideration (refer Annexure 8.107) as the site needs major upgradation. The boundary wall of the campus is existing and not considered in the costing.

After reviewing the existing allied provisions available, certain assumptions are considered for calculating the cost of allied provision (refer Annexure 8.52, 8.105)

PMC, Architect's fees is considered as 5.75%(including Service Tax) as per COA guidelines.

Service Tax -6%, Labour Cess -1%, Punjab Infrastructure Fund -1% are applicable as per government regulations.

8.3.5.2 Equipment Cost

For calculating the Equipment Cost, following assumption are made (Refer Annexure 8.108):

- Engineering Laboratory: 20 Lakhs per laboratory
- Other Courses Laboratories: 5 Lakhs per laboratory
- Workshop Equipment: 5 Lakhs per engineering course
- IT Infrastructure: 1.5 Crores.

8.3.5.3 Furniture Cost

Furniture Cost for the following areas are taken in consideration as per the indicated Annexures:

- Faculty/Non-Teaching Staff Academic Furniture: Annexure 8.113
- Lecture Room for 60 Students: Annexure 8.115
- Lecture Room for 45 Students: Annexure 8.115
- Tutorial Room for 30 Students: Annexure 8.116
- Drawing Hall for 60 Students: Annexure 8.116
- Library Furniture: Annexure 8.111
- Auditorium Furniture: Annexure 8.111
- Hostel furniture for Students: Annexure 8.112
- Guest House Furniture: Annexure 8.114

- Furniture for Contractual Staff:

Annexure 8.111

Contingency- 3% is considered on Capital Cost i.e. Infrastructure Cost, Equipment Cost and Furniture Cost.

Total project cost for upgrading the entire campus at par with the level of excellence shall be 57.38 crores. For detail Capital Cost calculation, refer Annexure 8.52.

Table 8.3.7: Summary - Capital Cost

SUMMARY - CAPITAL COST (Refer Annexure 8.52 for Details)			
S. No	Description	Total Area	Total Cost
		SQM	(In Crores)
(I)	Existing Area (Renovation Cost)	8,135.60	9.74
(II)	Proposed Area (New Building Cost)		
A	Administrative -Faculty & Classroom-Laboratory Complex	1,856.40	6.63
B	Central Academic Services Facilities	2,660.00	9.80
C	Residential Complex	2,137.00	5.39
D	Development of Site		3.02
E	Allied Provisions		5.93
F	Sports Infrastructure		-
G	Total (I + II)	14,789.00	40.51
H	Cost Index	102	41.32
J	PMC, Architect's fees (5.75%), Taxes [Service Tax (6%), Labour Cess (1%), Punjab Infrastructure Fund (1%)]	13.75%	5.68
K	Total Cost of Infrastructure	(I + II)	47.01
L	Total Cost of Equipment		4.80
M	Total Cost of Furniture		3.90
P	CAPITAL COST	(K+L+M)	55.71
Q	Contingency (Calculated on P)	3%	1.67
R	TOTAL CAPITAL COST (P + Q)	In Crores	57.38

Fig: 8.3.2: Infrastructure Cost Breakup

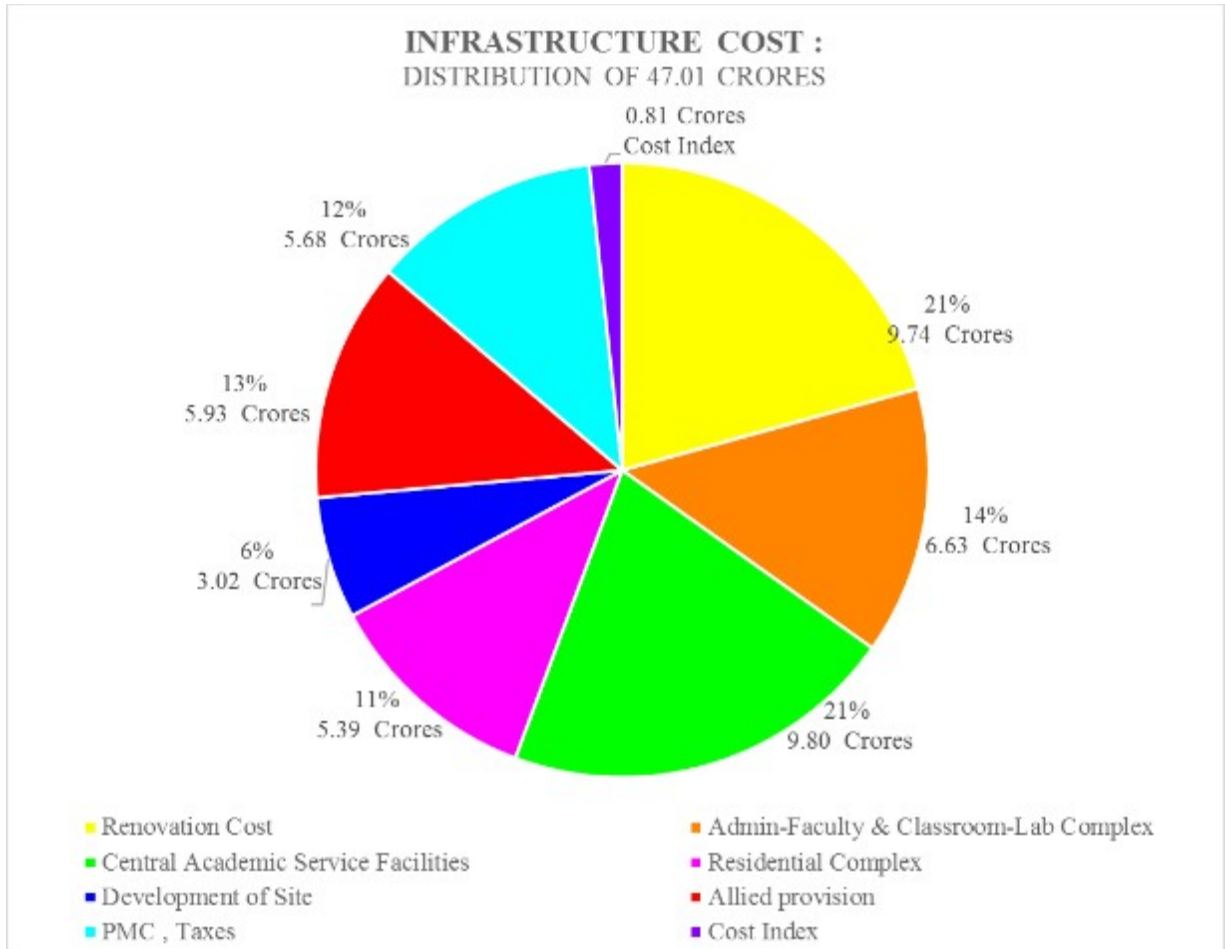
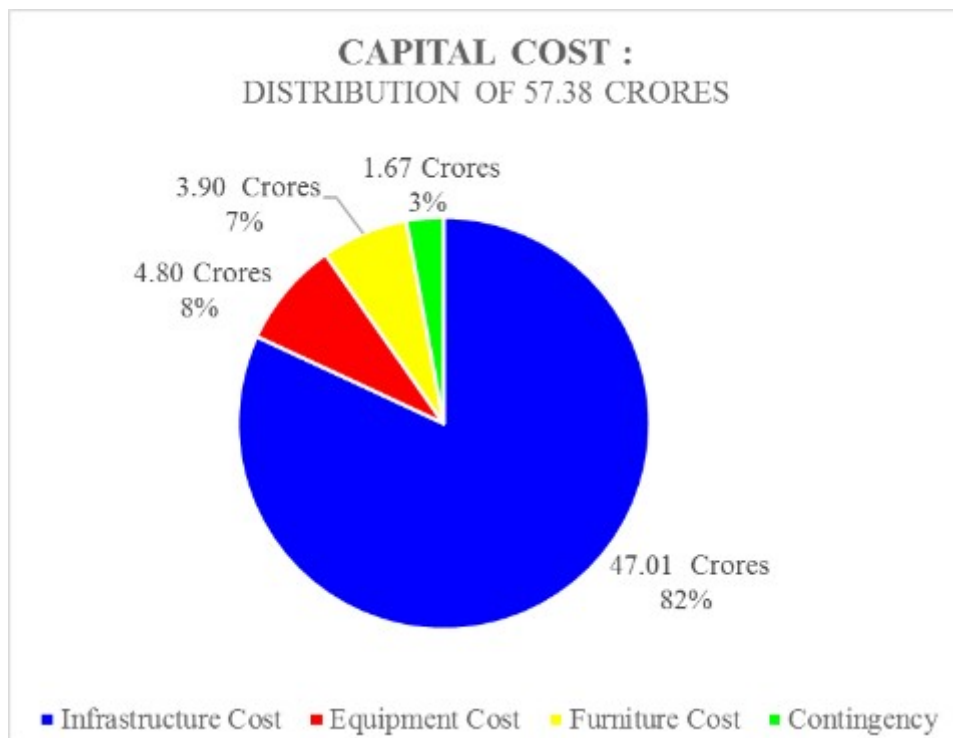


Fig 8.3.3: Capital Cost Breakup



8.4. IKGPTU BHIKIWIND

8.4.1 Land Allotment

Total land area available is 14 acres. 9 acres belongs to IKGPTU Bhikiwind Campus and the remaining 5 acres belongs to Bhikiwind Polytechnic College.

Table 8.4.1: Land Allotment

LAND ALLOTTED			
S.no	Description	Acres	SQM
1	Total Land	14.0	56,656
2	IKGPTU Bhikiwind Campus	9.0	36,422
3	Bhikiwind Polytechnic College	5.0	20,234

8.4.2 Existing Infrastructure and Facilities Shared with Bhikiwind Polytechnic College




IKGPTU Bhikiwind Campus has 2 buildings with an overall carpet area of 2,431 sqm. Building 1 is a G+1 structure housing some faculty area, some classrooms and laboratory and a seminar -cum-conference hall. Building 2 is a ground only structure with similar facilities.

There are certain facilities that are to be shared with the Bhikiwind Polytechnic College. 30 hostel rooms for 60 boys (double sharing basis) are available. 24 faculty residences with a combine area of 2400sqm are also available. A Cricket, Basket Ball, Badminton and Volleyball Court is also available for sharing.

For details about existing infrastructure of IKGPTU Bhikiwind Campus and facilities to be shared with Bhikiwind Polytechnic College, please refer Annexure 8.53 and 8.54.

DRG 8.4.1: IKGPTU BHIKIWIND CAMPUS – SITE PLAN



	Existing Area with IKGPTU Bhikwind Campus
	Area to be shared with Polytechnic College
	Area available for Future Expansion

IKGPTU Bhikiwind Campus – Photographs



Building 2: External View



Main Building: External View



Main Building: Internal Courtyard



Main Building: External View

Facilities shared with Bhikiwind Polytechnic College - Photographs



Hostel Interior



Hostel Interior



Staff Residence: External



Staff Residence: External



Site Condition



Play Ground



Staff Quarter: Interior



Staff Quarter: Interior

8.4.3 Area Requirement

As per the proposed academic plan for 5 courses with the overall student strength of 300, the institute shall require:

8.4.3.1 Administrative & Faculty Building

Table 8.4.2: Area Requirement – Administrative & Faculty Building

S. No	Description	As per AICTE	As per DPR	No. of Room	Total Area
		SQM	SQM		
ADMINISTRATIVE & FACULTY BUILDING (Carpet Area)					
1	Office of the Principal / Director IKGPTU Bhikiwind	30	30	1	30
2	Administrative Offices of IKGPTU Bhikiwind (For 8 no. of staff)	-	80	1	80
3	Offices of the Heads of Department	10	15	2	30
4	Reception Lounge	-	20	1	20
5	Faculty Offices	5	10	20	200
6	Cubicles for Project Staff & Post-Doctoral Fellows (1 room with 5 cubicles)	5	25	1	25
7	Cubicles for Research Scholars (05 cubicles) (1 room with 5 cubicles)	5	25	1	25
8	Offices for Visiting Faculty 1 room with 3 visiting faculty)	5	20	1	20
9	Seminar – cum - Committee Rooms (Seating capacity of 12 to 15 people)	-	40	1	40
10	First Aid Medical Room	10	10	1	10
11	Common Room for Students / Faculty	100	100	2	200
12	Pantry (Only for Staff)	10	10	1	10
13	Reprography and Stationary Store	10	10	1	10
14	Examination Control Room	30	30	1	30
15	Strong Room	30	30	1	30
16	Store	10	10	2	20
17	Toilets (Faculty)	-	25	1	25
Total(A)		Carpet Area			805
		Built Up Area (Carpet *1.4)			1,127

8.4.3.2 Classroom & Laboratory Complex

Table 8.4.3: Area Requirement – Classroom & Laboratory Complex

S. No	Description	As per AICTE	As per DPR	No. of Room	Total Area
		SQM	SQM		
CLASSROOM & LABORATORY COMPLEX (Carpet Area)					
1	Lecture Halls for 60 students (@ 2 sqm per student)	90	120	2	240
2	Lecture Halls for 45 students (@ 2 sqm per student)	66	90	4	360
3	Tutorial Rooms for 30 students (@ 2 sqm per student)	33	60	6	360
4	Drawing Halls for 60 students (@ 4 sqm per student)	132	240	1	240
5	Language Laboratory	66	66	1	66
6	Applied Sciences Laboratories	66	66	2	132
7	Engineering Sciences Laboratories	66	66	2	132
8	CSE Laboratories	66	66	3	198
9	ME Laboratories	66	66	6	396
10	Toilets (Students)	-	100	1	100
Total (B)		Carpet Area			2,224
		Built Up Area (Carpet *1.4)			3,114

8.4.3.3 Central Academic Service Facilities

Table 8.4.4: Area Requirement – Central Academic Service Facilities

S. No	Description	As per AICTE	As per DPR	No. of Room	Total Area
		SQM	SQM		
CENTRAL ACADEMIC SERVICES FACILITIES (Carpet Area)					
1	Central Computing Facility	150	150	1	150
2	Central Library Facility	400	400	1	400
3	Educational Technology & Video Conferencing Facility		100	1	100
4	Central Workshop Facility	200	200	1	200
5	Hobby-cum-Innovation Centre	-	50	1	50
6	Auditorium: to seat 300 persons (@ 2 sqm per student)	600	600	1	600
7	Canteen	150	150	1	150
8	Sport's Club	200	200	1	200
9	Student Activities Centre/ Community Centre/ Daily Needs Shop	-	250	1	250
Total (C)		Carpet Area			2,100

	Built Up Area (Carpet *1.4)	2,940
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8.4.3.4 Residential Complex

The campus will require a residential complex wherein the following provision are considered:

- Student Hostel: 50% of the total student's intake, boy-girl ratio as 50:50.
- Faculty Residence: 35%
- Principal Quarter: 01
- Guest House: 02

The area requirement is taken as per CPWD, New Plinth Area Norms-for General Pool Residential Accommodation(GPRA).

Table 8.4.5: Area Requirement – Residential Complex

S. No	Description	As per AICTE	As per DPR/CPWD	No. of Room	Total Area
		SQM	SQM		SQM
RESIDENTIAL COMPLEX (Built Up Area) (Built Up Area = Carpet Area * 1.4)					
1	Principal's Quarter	-	268	1	268
2	Guest House (Carpet Area = 30sqm)	42	42	2	84
3	Boy's Hostel (Carpet Area = 25sqm)	-	35	38	1,330
4	Girl's Hostel (Carpet Area = 25sqm)	-	35	38	1,330
5	Faculty Residence				
a	Professor	-	200	1	200
b	Associate Professor	-	200	2	400
c	Assistant Professor	-	128	4	512
Total (D)					4,124

8.4.3.5 Sports Facilities

Sports facilities like a Badminton, Basketball, Cricket and Football are proposed within the campus.

8.4.4 Area Analysis

On study of the existing infrastructure available, facilities shared with Bhikiwind Polytechnic College and the area requirement, the proposed area analysis is as indicated:

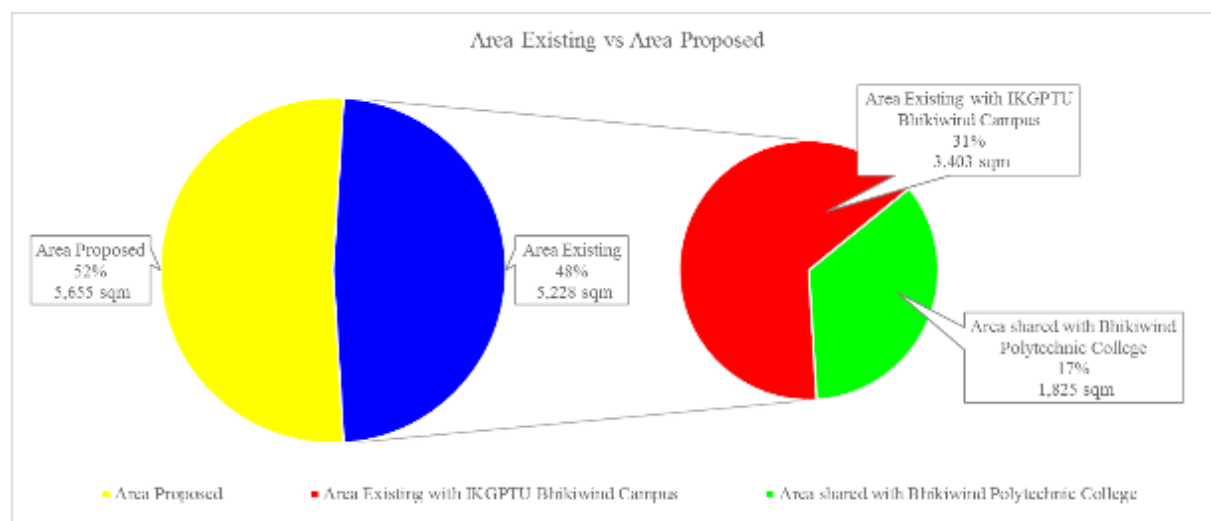
- Certain areas of **Administrative and Faculty Building** along with **Classrooms and Laboratory Complex** can be accommodated in the existing buildings within IKGPTU Bhikiwind Campus. Some additional area would also be needed. Hence a new building is proposed.
- **Central Academic Service Facilities** like Central Computing Centre, Central Library, Educational Technology and Video Conferencing Centre, Central Workshop, Hobby-cum-Innovation Centre, Auditorium for 300 persons, Canteen, Sports Club and a Community Centre is proposed in the campus.
- **Residential Complex:** Few hostels and faculty residences are already available that can be shared with Bhikiwind Polytechnic College (Annexure 8.53), the remaining are proposed as per following:
 - Hostel facilities for 60 boys (30 rooms on double seater) are available. Hence 8 rooms on double seater for 16 boys and 38 rooms of double seater for 75 girls are proposed.
 - 2 out of the 24 existing Faculty Residence (Type-II) allocated as Guest houses.
 - 7 out of the 24 existing Faculty Residence (Type-II, III and IV) allocated to the Professor, 2 Associate Professor and 4 Assistant Professors.
 - Principal/Director's Residence is also proposed in the campus.
- **Sports Facilities:** Cricket, Basketball, Badminton and Volleyball are existing and can be shared with Bhikiwind Polytechnic College.

Table 8.4.6 indicates the summary of Area Analysis. The total built-up area of IKGPTU Bhikiwind shall be 10,883.60 sqm to meet the above requirements. For detail of Area Analysis calculation, refer to Annexure 8.55.

Table 8.4.6: Area Analysis

SUMMARY- AREA ANALYSIS (Built Up Area)					
S. No	Description	Area Requirement	Area Existing	Area Proposed	Remarks
		SQM	SQM	SQM	
	REQUIRED				Refer Annexure 8.55 for Details
1	Administrative & Faculty Building	4,240.60	3,403.40	837.20	New Building proposed for the Remaining Area.
2	Classroom & Laboratory Complex				
3	Central Academic Services Facilities	2,940.00	-	2,940.00	New Building proposed.
4	Residential Complex	4,124.00	1,825.00	1,878.00	30 Hostel Rooms for 60 Boys and 7 Faculty Residence and 2 Guest House to be renovated. Principal's Residence, 8 Hostel rooms for 16 boys and 38 Hostel rooms for 75 girls proposed.
	TOTAL		5,228.40	5,655.20	
	Total Area Existing (Built Up Area)			5,228.40	
	Total Area Proposed (Built Up Area)			5,655.20	
	TOTAL BUILT-UP AREA OF IKGPTU BHIKIWIND			10,883.60	

Fig 8.4.1: Area Existing Vs Area Proposed



8.4.5 Capital Cost

8.4.5.1 Infrastructure Cost

After reviewing the existing buildings, following assumptions are made as per the cost of new construction CPWD PAR 2012:

- IKGPTU Bhikiwind Campus – 25% Renovation Cost
- Bhikiwind Polytechnic College –
 - Residential Complex: 75% Renovation Cost

Proposed infrastructure cost for the additional Administrative-Faculty Building, Classroom-Laboratory complex, Central Academic Service Facilities and the Residential Complex are calculated as per the cost of new construction CPWD PAR 2012.

For development of site, 40% cost of development of the site is taken into consideration (Refer Annexure 8.107) as the site condition needs uplifting. The boundary wall of the campus is existing and not considered in the costing.

After reviewing the existing allied provisions available, certain assumptions are considered for calculating the cost of allied provision (refer Annexure 8.105)

PMC, Architect's fees is considered as 5.75% (including Service Tax) as per COA guidelines.

Service Tax -6%, Labour Cess -1%, Punjab Infrastructure Fund -1% are applicable as per government regulations.

8.4.5.2 Equipment Cost

For calculating the Equipment Cost, following assumption are made (Refer Annexure 8.108):

- Engineering Laboratory: 20 Lakhs per laboratory
- Other Courses Laboratories: 5 Lakhs per laboratory

- Workshop Equipment: 5 Lakhs per engineering course
- IT Infrastructure: 1.5 Crores.

8.4.5.3 Furniture Cost

Furniture Cost for the following areas are taken in consideration as per the indicated Annexures:

- Faculty/Non-Teaching Staff Academic Furniture: Annexure 8.113
- Lecture Room for 60 Students: Annexure 8.115
- Lecture Room for 45 Students: Annexure 8.115
- Tutorial Room for 30 Students: Annexure 8.116
- Drawing Hall for 60 Students: Annexure 8.116
- Library Furniture: Annexure 8.111
- Auditorium Furniture: Annexure 8.111
- Hostel furniture for Students: Annexure 8.112
- Guest House Furniture: Annexure 8.114
- Furniture for Contractual Staff: Annexure 8.111

Contingency- 3% is considered on Capital Cost i.e. Infrastructure Cost, Equipment Cost and Furniture Cost.

Total project cost for upgrading the entire campus at par with the level of excellence shall be 46.46 crores. For detail Capital Cost calculation, refer Annexure 8.60.

Table 8.4.7: Summary - Capital Cost

SUMMARY - CAPITAL COST (Refer Annexure 8.60 for Details)			
S. No	Description	Total Area	Total Cost
		SQM	(In Crores)
(I)	Existing Area (Renovation Cost)	5,228.40	6.40
(II)	Proposed Area (New Building Cost)		
A	Administrative -Faculty & Classroom-Laboratory Complex	837.20	2.99
B	Central Academic Services Facilities	2,940.00	10.89
C	Residential Complex	1,878.00	4.75
D	Development of Site		1.38
E	Allied Provisions		5.14
F	Sports Infrastructure		-
G	Total (I + II)	10,883.60	31.55
H	Cost Index	107	33.76
J	PMC, Architect's fees (5.75%), Taxes [Service Tax (6%), Labour Cess (1%), Punjab Infrastructure Fund (1%)]	13.75%	4.64
K	Total Cost of Infrastructure	(I + II)	38.40
L	Total Cost of Equipment		3.95
M	Total Cost of Furniture		2.75
P	CAPITAL COST	(K+L+M)	45.11
Q	Contingency (Calculated on P)	3%	1.35
R	TOTAL CAPITAL COST (P + Q)	In Crores	46.46

Fig 8.4.2: Infrastructure Cost Breakup

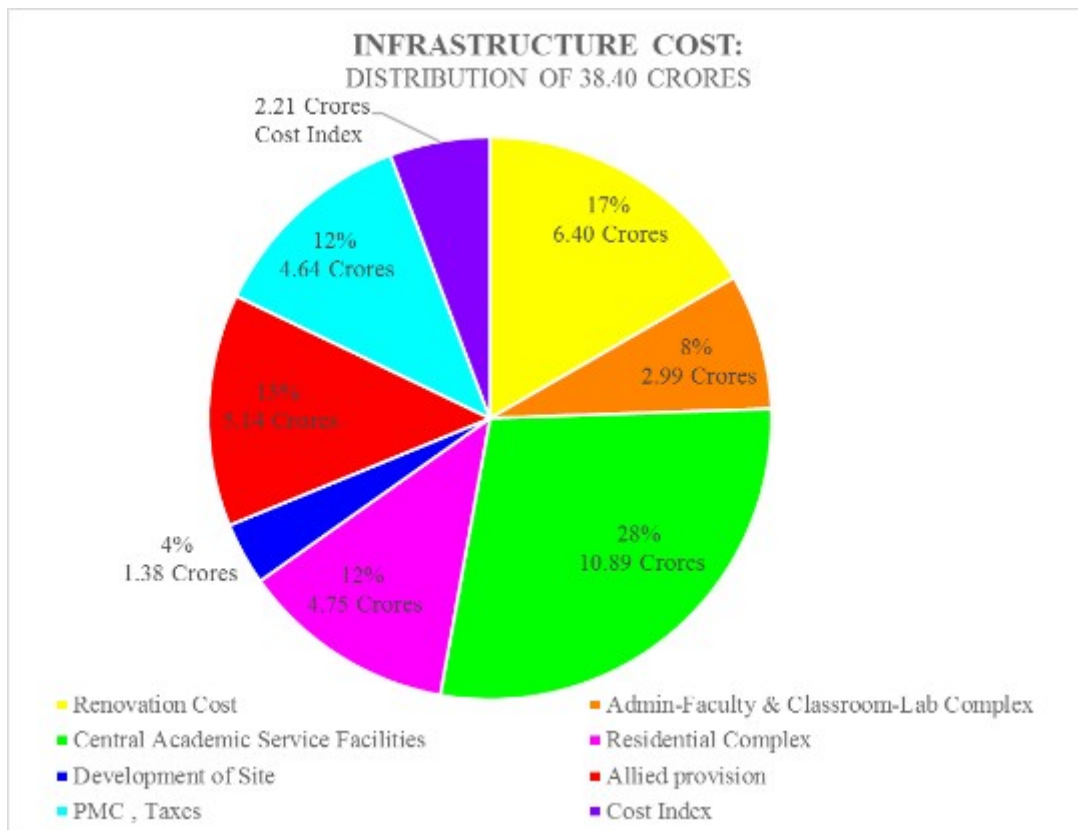
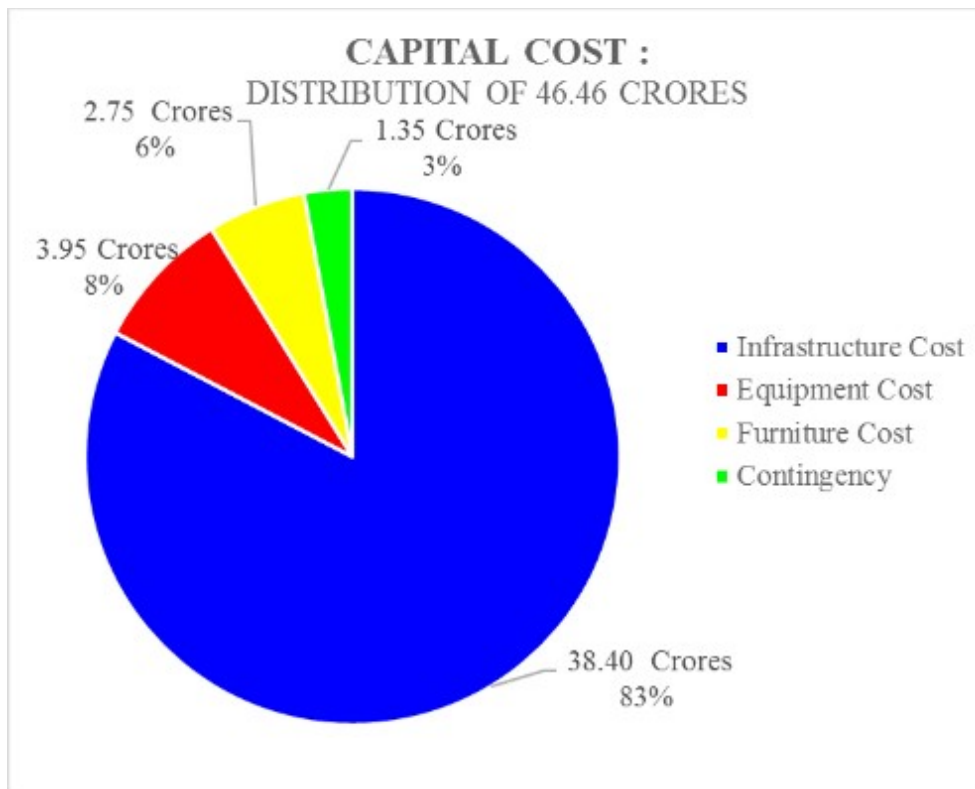


Fig 8.4.3: Capital Cost Breakup



8.5 IKGPTU DINANAGAR CAMPUS

8.5.1 Land Allotment

Total land area available is 14 acres. 9 acres belongs to IKGPTU Dinanagar Campus and the remaining 5 acres belongs to Dinanagar Polytechnic College.

Table 8.5.1: Land Allotment

LAND ALLOTTED			
S. No	Description	Acres	SQM
1	Total Land	14.00	56,655.99
2	IKGPTU Dinanagar Campus	9.00	36,421.71
3	Dinanagar Polytechnic College	5.00	20,234.28

8.5.2 Existing Infrastructure and Facilities Shared with Dinanagar Polytechnic College




IKGPTU Dinanagar has one building with an overall carpet area of 2,538 sqm.

There are certain facilities that are to be shared with the Dinanagar Polytechnic College. 42 hostel room on triple seater for 126 girls are available. 18 faculty housing of an overall area of 1550 sqm is also available for sharing.

For details about Existing Infrastructure of IKGPTU Dinanagar Campus and facilities to be shared with Dinanagar Polytechnic College, please refer Annexure 8.61 and Annexure 8.62.

DRG 8.5.1: IKGPTU DINANAGAR CAMPUS – SITE PLAN



	Existing Area with IKGPTU Dinanagar Campus
	Area to be shared with Polytechnic Collage
	Area available for Future Expansion

IKGPTU Dinanagar Campus – Photographs



Academic/Administrative Building



Existing Condition of the Site



Existing Condition of the Site



Classroom

Facilities shared with Dinanagar Polytechnic College – Photographs



Existing Hostel



Staff Quarters: External



Staff Quarters: External



Staff Quarters: Internal



Staff Quarters: Internal



Staff Quarters: Internal

8.5.3 Area Requirement

As per the proposed academic plan for 5 courses with the overall student strength of 480, the institute shall require:

8.5.3.1 Administrative & Faculty Building

Table 8.5.2: Area Requirement – Administrative & Faculty Building

S. No	Description	As per AICTE	As per DPR	No. of Room	Total Area
		SQM	SQM		SQM
ADMINISTRATIVE & FACULTY BUILDING (Carpet Area)					
1	Office of the Principal / Director IKGPTU Dinanagar	30	30	1	30
2	Administrative Offices of IKGPTU Dinanagar (For 8 no. of staff)	-	80	1	80
3	Offices of the Heads of Department	10	15	3	45
4	Reception Lounge	-	20	1	20
5	Faculty Offices	5	10	38	380
6	Cubicles for Project Staff & Post-Doctoral Fellows (1 room with 5 cubicles)	5	25	1	25
7	Cubicles for Research Scholars (05 cubicles) (1 room with 5 cubicles)	5	25	1	25
8	Offices for Visiting Faculty (1 room with 3 visiting faculty)	5	20	1	20
9	Seminar – cum - Committee Rooms (1 seminar room with seating capacity of 12 to 15 people)	-	40	1	40
10	First Aid Medical Room	10	10	1	10
11	Common Room for Students / Faculty	100	100	2	200
12	Pantry (Only for Staff)	10	10	1	10
13	Reprography and Stationary Store	10	10	1	10
14	Examination Control Room	30	30	1	30
15	Strong Room	30	30	1	30
16	Store	10	10	2	20
17	Toilets (Faculty)	-	25	1	25
Total(A)		Carpet Area (C)			1,000
		Built Up Area (C * 1.4)			1,400

8.5.3.2 Classroom & Laboratory Complex

Table 8.5.3: Area Requirement - Classroom & Laboratory Complex

S. No	Description	As per AICTE	As per DPR	No. of Room	Total Area
		SQM	SQM		SQM
CLASSROOM & LABORATORY COMPLEX (Carpet Area)					
1	Lecture Halls for 60 students (@ 2 sqm per student)	90	120	3	360
2	Lecture Halls for 45 students (@ 2 sqm per student)	66	90	6	540
3	Tutorial Rooms for 30 students (@ 2 sqm per student)	33	60	9	540
4	Drawing Halls for 60 students (@ 4 sqm per student)	132	240	2	480
5	Language Laboratory	66	66	1	66
6	Applied Sciences Laboratories	66	66	2	132
7	CE Laboratories	66	66	6	396
8	CSE Laboratories	66	66	3	198
10	Toilets (Students)	-	100	1	100
Total (B)		Carpet Area (C)			2,812
		Built Up Area (C * 1.4)			3,937

8.5.3.3 Central Academic Service Facilities

Table 8.5.4: Area Requirement: Central Academic Service Facilities

S. No	Description	As per AICTE	As per DPR	No. of Room	Total Area
		SQM	SQM		SQM
CENTRAL ACADEMIC SERVICES FACILITIES (Carpet Area)					
1	Central Computing Facility	150	150	1	150
2	Central Library Facility	400	400	1	400
3	Educational Technology & Video Conferencing Facility	-	100	1	100
4	Central Workshop Facility	200	200	1	200
5	Hobby-cum-Innovation Centre	-	50	1	50
6	Auditorium: to seat 300 persons (@ 2 sqm per student)	600	600	1	600
7	Canteen	150	150	1	150
8	Sport's Club	200	200	1	200
9	Student Activities Centre/ Community Centre/ Daily Needs Shop	-	250	1	250
Total (C)		Carpet Area (C)			2,100
		Built Up Area (C * 1.4)			2,940

8.5.3.4 Residential Complex

The Campus will require a residential complex wherein the following provision are considered:

- Student Hostel: 50% of the total student's intake, boys-girl's ratio as 50:50.
- Faculty Residence: 35%
- Principal Quarter: 01
- Guest House: 02

The area requirement is taken as per CPWD, New Plinth Area Norms-for General Pool Residential Accommodation (GPRA).

Table 8.5.5: Area Requirement - Residential Complex

S. No	Description	As per AICTE	As per DPR/CPWD	No. of Room	Total Area
		SQM	SQM		SQM
RESIDENTIAL COMPLEX (Built Up Area) (Built Up Area = Carpet Area * 1.4)					
1	Principal's Quarter	-	268	1	268
2	Guest House (Carpet Area = 30sqm)	42	42	2	84
3	Boy's Hostel (Carpet Area = 25sqm)	-	35	60	2,100
4	Girl's Hostel (Carpet Area = 25sqm)	-	35	60	2,100
5	Faculty Residence				
a	Professor	-	200	2	400
b	Associate Professor	-	200	4	800
c	Assistant Professor	-	128	8	1,024
Total (D)					6,776

8.5.3.5 Sports Facilities

Sports facilities like a Badminton, Basketball, Cricket and Football are proposed within the campus.

8.5.4 Area Analysis

On study of the existing infrastructure available, facilities shared with Dinanagar Polytechnic College and the area requirement, the proposed area analysis is as indicated:

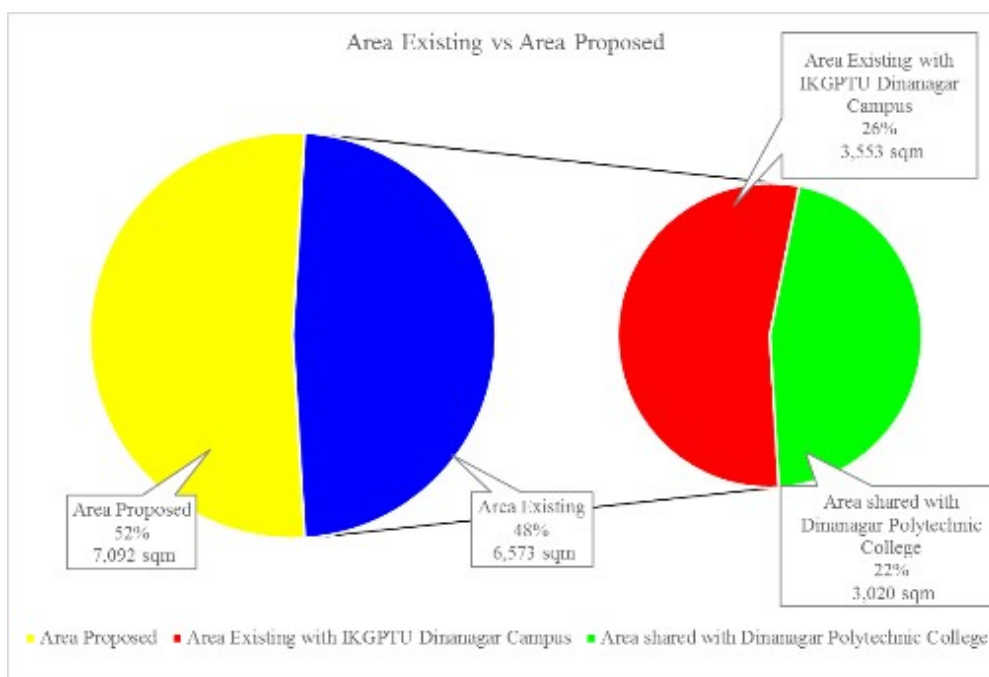
- Certain areas of **Administrative and Faculty Building** along with **Classrooms and Laboratory Complex** can be accommodated in the existing buildings within IKGPTU Dinanagar Campus. Some additional area would also be needed. Hence a new building is proposed.
- **Central Academic Service Facilities** like Central Computing Centre, Central Library, Educational Technology and Video Conferencing Centre, Central Workshop, Hobby-cum-Innovation Centre, Auditorium for 300 persons, Canteen, Sports Club and a Community Centre is proposed in the campus.
- **Residential Complex:** Few hostels and faculty residences are already available that can be shared with Dinanagar Polytechnic College (Annexure 8.61), the remaining are proposed as per following:
 - Hostel facilities for 126 girls (42 rooms on triple seater) are available. Hence 60 rooms on double seater for 120 boys are proposed.
 - 2 out of the 6 existing Faculty Residence (Type-IV) allocated as Guest houses.
 - Remaining 14 existing Faculty Residence (Type-II, III and IV) area allocated to 2 Professors, 4 Associate Professors and 8 Assistant Professors.
 - Principal/Director's Residence is also proposed in the campus.
- **Sports Facilities:** Basketball and Badminton are existing and can be shared with Dinanagar Polytechnic College.

Table 8.5.6 indicates the summary of Area Analysis. The total built-up area of IKGPTU Dinanagar Campus shall be 13,664.80 sqm to meet the requirements. For detail of Area Analysis, refer Annexure 8.63.

Table 8.5.6: Area Analysis

SUMMARY- AREA ANALYSIS (Built Up Area)					
S. No	Description	Area Requirement	Area Existing	Area Proposed	Remarks
		SQM	SQM	SQM	
	REQUIRED				Refer Annexure 8.63 for Details
1	Administrative & Faculty Building	5,336.80	3,553.20	1,783.60	New Building proposed for the Remaining Area.
2	Classroom & Laboratory Complex				
3	Central Academic Services Facilities	2,940.00	-	2,940.00	New Building proposed.
4	Residential Complex	6,776.00	3,020.00	2,368.00	Girls Hostel (42 rooms for 126 girls) and 16 Staff Residence to be Renovated. Boys Hostel (60 rooms for 120 boys) and Principal's Residence to be proposed.
	TOTAL		6,573.20	7,091.60	
	Total Area Existing (Built Up Area)			6,573.20	
	Total Area Proposed (Built Up Area)			7,091.60	
	TOTAL BUILT-UP AREA OF IKGPTU DINANAGAR			13,664.80	

Fig 8.5.1: Area Existing Vs Area Proposed



8.5.5 Capital Cost

8.5.5.1 Infrastructure Cost

After reviewing the condition of existing buildings, following assumptions are made as per the cost of new construction CPWD PAR 2012:

- IKGPTU Dinanagar Campus – 40% Renovation Cost
- Dinanagar Polytechnic College –
 - Residential Complex: 75% Renovation Cost

Proposed infrastructure cost for the additional Administrative-Faculty Building, Classroom-Laboratory complex, Central Academic Service Facilities and the Residential Complex are calculated as per the cost of new construction CPWD PAR 2012.

For development of site, 75% cost of development of the site is taken into consideration (refer Annexure 8.107) as the site is not developed at par. The boundary wall of the campus is existing and not considered in the costing.

After reviewing the existing allied provisions available, certain assumptions are considered for calculating the cost of allied provision (refer Annexure 8.105)

PMC, Architect's fees is considered as 5.75%(including Service Tax) as per COA guidelines.

Service Tax -6%, Labour Cess -1%, Punjab Infrastructure Fund -1% are applicable as per government regulations.

8.5.5.2 Equipment Cost

For calculating the Equipment Cost, following assumption are made (Refer Annexure 8.108):

- Engineering Laboratory: 20 Lakhs per laboratory
- Other Courses Laboratories: 5 Lakhs per laboratory
- Workshop Equipment: 5 Lakhs per engineering course
- IT Infrastructure: 1.5 Crores.

8.5.5.3 Furniture Cost

Furniture Cost for the following areas are taken in consideration as per the indicated Annexures:

- Faculty/Non-Teaching Staff Academic Furniture: Annexure 8.113
- Lecture Room for 60 Students: Annexure 8.115
- Lecture Room for 45 Students: Annexure 8.115
- Tutorial Room for 30 Students: Annexure 8.116
- Drawing Hall for 60 Students: Annexure 8.116
- Library Furniture: Annexure 8.111
- Auditorium Furniture: Annexure 8.111
- Hostel furniture for Students: Annexure 8.112
- Guest House Furniture: Annexure 8.114
- Furniture for Contractual Staff: Annexure 8.111

Contingency- 3% is considered on Capital Cost i.e. Infrastructure Cost, Equipment Cost and Furniture Cost.

Total project cost for upgrading the entire campus at par with the level of excellence shall be 58.19 crores. For detail Capital Cost calculation, refer Annexure 8.68.

Table: 8.5.7: Summary - Capital Cost

SUMMARY - CAPITAL COST (Refer Annexure 8.68 for Details)			
S. No	Description	Total Area	Total Cost
		SQM	(In Crores)
(I)	Existing Area (Renovation Cost)	6,573.20	10.60
(II)	Proposed Area (New Building Cost)		
A	Administrative -Faculty & Classroom-Laboratory Complex	1,783.60	6.37
B	Central Academic Services Facilities	2,940.00	10.89
C	Residential Complex	2,368.00	6.00
D	Development of Site		2.60
E	Allied Provisions		5.80
F	Sports Infrastructure		-
G	Total (I + II)	13,664.80	42.25
H	Cost Index	102.00	43.10
J	PMC, Architect's fees (5.75%), Taxes [Service Tax (6%), Labour Cess (1%), Punjab Infrastructure Fund (1%)]	13.75%	5.93
K	Total Cost of Infrastructure	(I + II)	49.02
L	Total Cost of Equipment		3.50
M	Total Cost of Furniture		3.98
P	CAPITAL COST	(K+L+M)	56.50
Q	Contingency (Calculated on P)	3%	1.69
R	TOTAL CAPITAL COST (P + Q)	In Crores	58.19

Fig 8.5.2: Infrastructure Cost Breakup

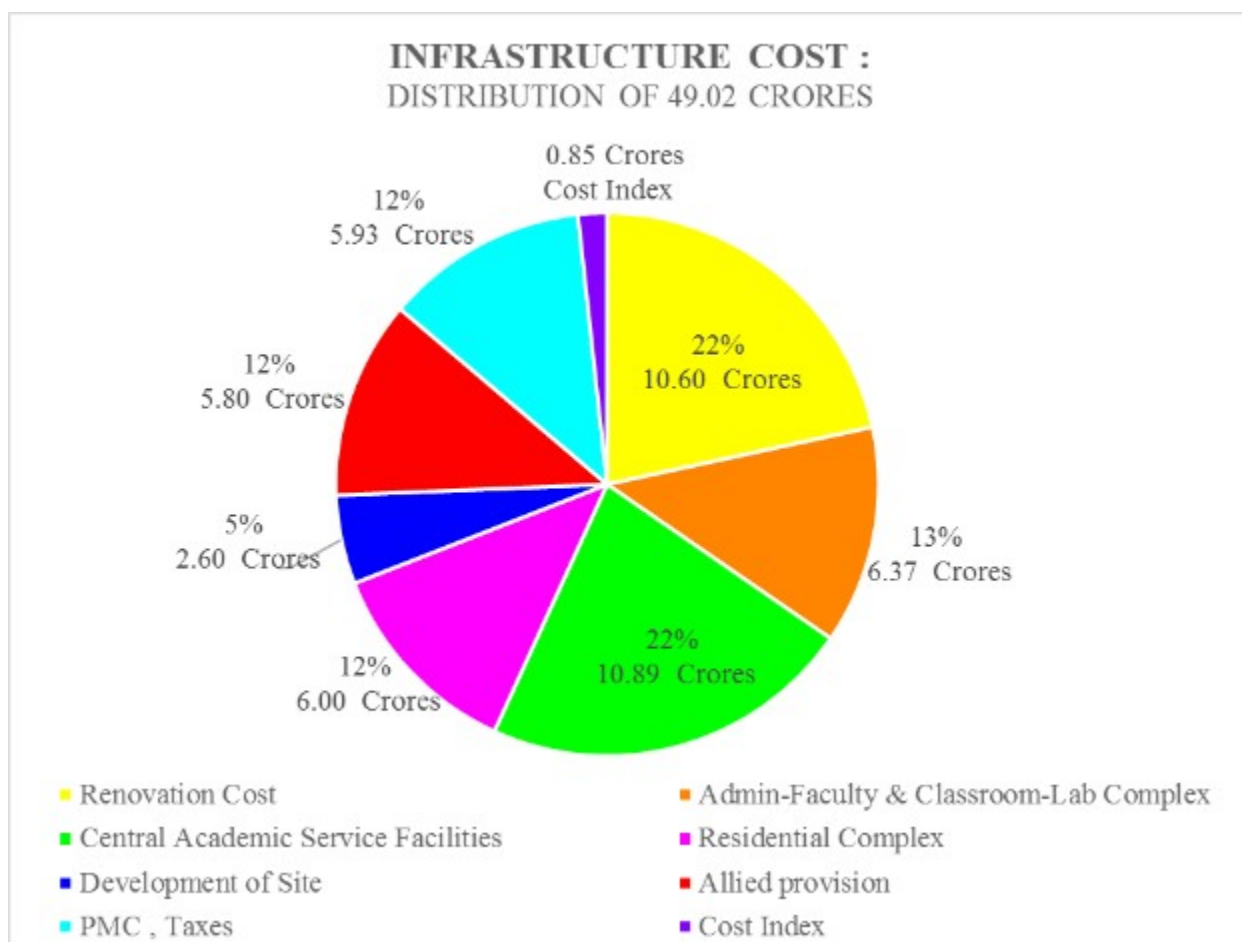
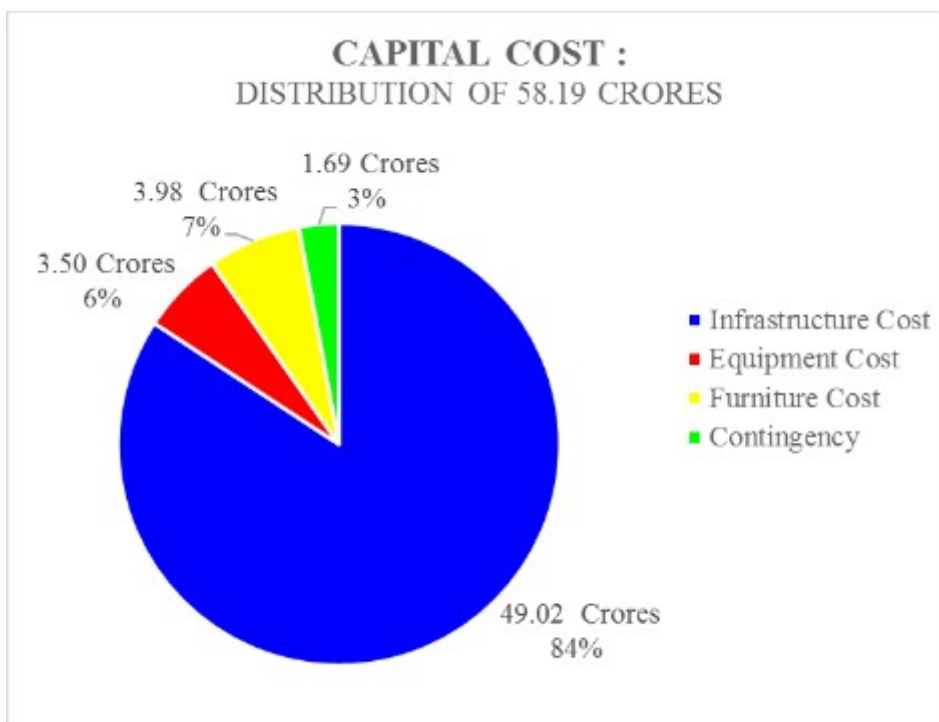


Fig 8.5.3: Capital Cost Breakup



8.6 IKGPTU HOSHIARPUR CAMPUS

8.6.1 Land Allotment

Total land area available is 27.6 acres. 22.6 acres belongs to IKGPTU Hoshiarpur and the remaining 5 acres belongs to Hoshiarpur Polytechnic College.

Table 8.6.1: Land Allotment

LAND ALLOTTED			
S. No	Description	Acres	SQM
1	Total Land	27.6	1,11,693
2	IKGPTU Hoshiarpur Campus	22.6	91,459
3	Hoshiarpur Polytechnic College	5.0	20,234

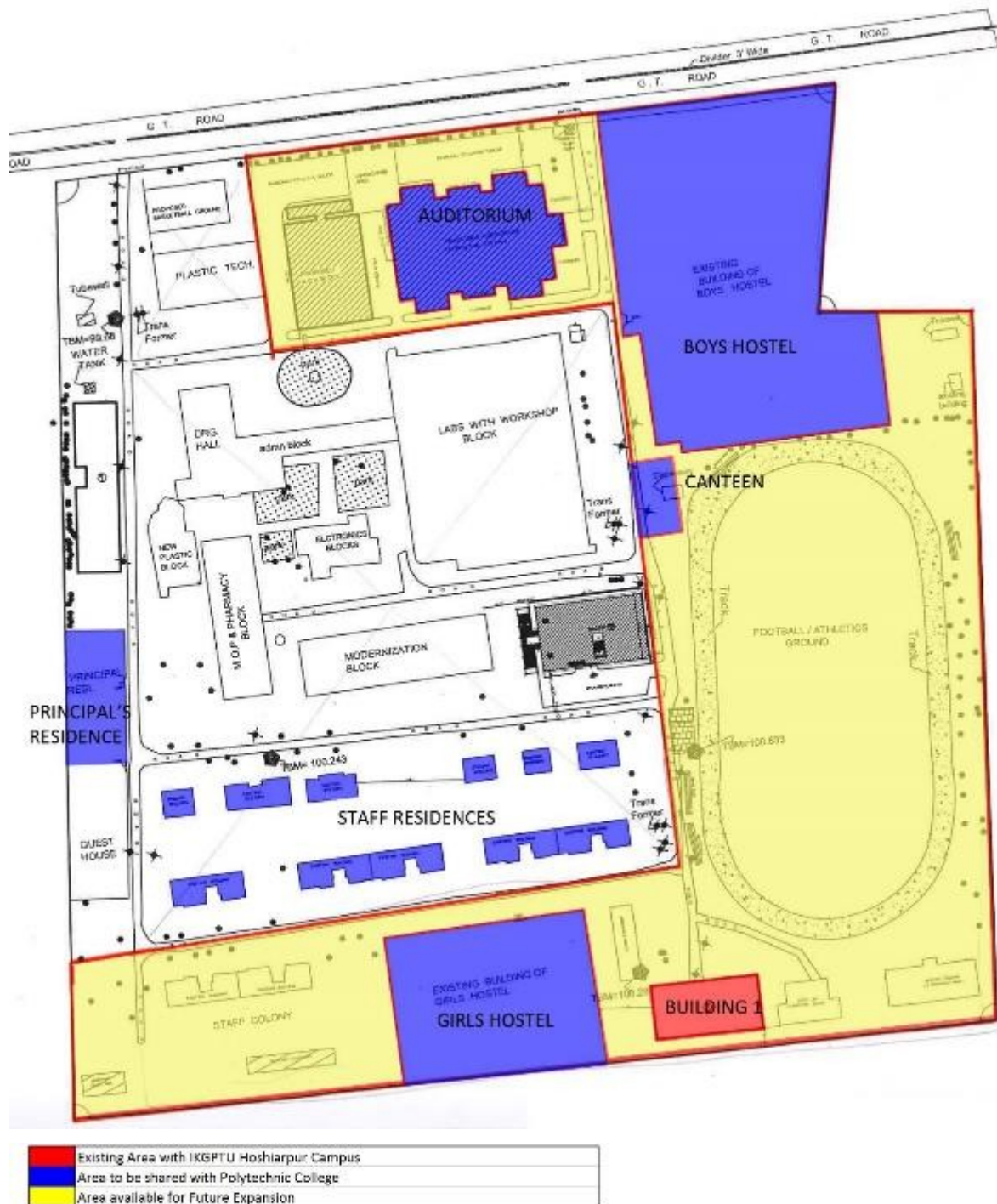
8.6.2 Existing Infrastructure and Facilities Shared with Hoshiarpur Polytechnic College

IKGPTU Hoshiarpur Campus has one building with an overall carpet area of 1,952 sqm.

There are certain facilities that are to be shared with the Hoshiarpur Polytechnic College. An Auditorium and a canteen shall be shared. 30 hostel rooms on triple seater for 90 boys and 15 hostel room on triple seater for 45 girls are available. 10 faculty housing of an overall area of 975sqm and a Principal's Residence of 200sqm are also available for sharing.

For details about Existing Infrastructure of IKGPTU Hoshiarpur Campus and facilities to be shared with Hoshiarpur Polytechnic College, please refer Annexure 8.69 and Annexure 8.70.

DRG 8.6.1: IKGPTU HOSHIARPUR CAMPUS – SITE PLAN



IKGPTU Hoshiarpur Campus – Photographs



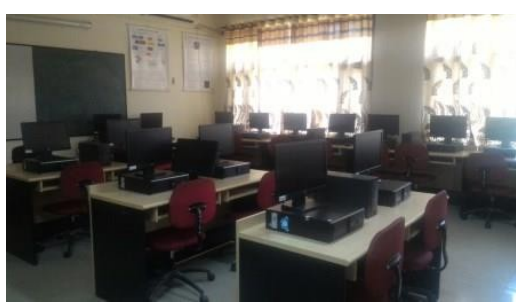
Exterior View of IKGPTU Hoshiarpur Campus



Library



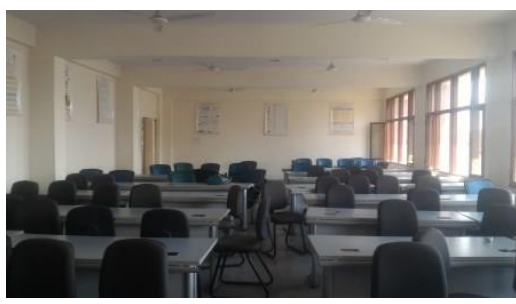
Laboratory



Computer Centre



Computer Centre



Tutorial Room



Classroom

Facilities shared with Hoshiarpur Polytechnic College – Photographs



Boys Hostel Bo



Canteen Ca



Class room Cl



Girls Hostel Gi



Playground Pl



Parking Pa

8.6.3 Area Requirement

As per the proposed academic plan for 6 courses with the overall student strength of 600, the institute shall require:

8.6.3.1 Administrative & Faculty Building

Table 8.6.2: Area Requirement -Administrative & Faculty Building

S. No	Description	As per AICTE	As per DPR	No. of Room	Total Area
		SQM	SQM		SQM
ADMINISTRATIVE & FACULTY BUILDING (Carpet Area)					
1	Office of the Principal / Director IKGPTU Hoshiarpur	30	30	1	30
2	Administrative Offices of IKGPTU Hoshiarpur (For 8 no. of staff)	-	80	1	80
3	Offices of the Heads of Department	10	15	3	45
4	Reception Lounge	-	20	1	20
5	Faculty Offices	5	10	30	300
6	Cubicles for Project Staff & Post-Doctoral Fellows (1 room with 5 cubicles)	5	25	1	25
7	Cubicles for Research Scholars (05 cubicles) (1 room with 5 cubicles)	5	25	1	25
8	Offices for Visiting Faculty (1 room with 3 visiting faculty)	5	20	1	20
9	Seminar – cum - Committee Rooms (Seating capacity of 12 to 15 people)	-	40	1	40
10	First Aid Medical Room	10	10	1	10
11	Common Room for Students / Faculty	100	100	2	200
12	Pantry (Only for Staff)	10	10	1	10
13	Reprography and Stationary Store	10	10	1	10
14	Examination Control Room	30	30	1	30
15	Strong Room	30	30	1	30
16	Store	10	10	2	20
17	Toilets (Faculty)	-	25	1	25
Total(A)		Carpet Area (C)			920
		Built Up Area (C * 1.4)			1,288

8.6.3.2 Classroom & Laboratory Complex

Table 8.6.3: Area Requirement - Classroom & Laboratory Complex

S. No	Description	As per AICTE	As per DPR	No. of Room	Total Area
		SQM	SQM		SQM
CLASSROOM & LABORATORY COMPLEX (Carpet Area)					
1	Lecture Halls for 60 students (@ 2 sqm per student)	90	120	3	360
2	Lecture Halls for 45 students (@ 2 sqm per student)	66	90	6	540
3	Tutorial Rooms for 30 students (@ 2 sqm per student)	33	60	9	540
4	Drawing Halls for 60 students (@ 4 sqm per student)	132	240	2	480
5	Language Laboratory	66	66	1	66
6	Applied Sciences Laboratories	66	66	3	198
7	CE Laboratories	66	66	6	396
8	CS & E Laboratories	66	66	3	198
8	ME Laboratories	66	66	6	396
10	Toilets (Students)	-	100	1	100
Total (B)		Carpet Area (C)			3,274
		Built Up Area (C * 1.4)			4,584

8.6.3.3 Central Academic Service Facilities

Table 8.6.4: Area Requirement - Central Academic Service Facilities

S. No	Description	As per AICTE	As per DPR	No. of Room	Total Area
		SQM	SQM		SQM
CENTRAL ACADEMIC SERVICES FACILITIES (Carpet Area)					
1	Central Computing Facility	150	150	1	150
2	Central Library Facility	400	400	1	400
3	Educational Technology & Video Conferencing Facility	-	100	1	100
4	Central Workshop Facility	200	200	1	200
5	Hobby-cum-Innovation Centre	-	50	1	50
6	Auditorium: to seat 300 persons (@ 2 sqm per student)	600	600	1	600
7	Canteen	150	150	1	150
8	Sport's Club	200	200	1	200
9	Student Activities Centre/Community Centre/Daily Needs shop		250	1	250
Total (C)		Carpet Area (C)			2,100
		Built Up Area (C * 1.4)			2,940

8.6.3.4 Residential Complex

The Campus will require a residential complex wherein the following provision are considered:

- Student Hostel: 50% of the total student's intake, boys-girl's ratio as 50:50.
- Faculty Residence: 35%
- Principal Quarter: 01
- Guest House: 02

The area requirement is taken as per CPWD, New Plinth Area Norms-for General Pool Residential Accommodation (GPRA).

Table 8.6.5: Area Requirement - Residential Complex

S. No	Description	As per AICTE	As per DPR/CPWD	No. of Room	Total Area
		SQM	SQM		SQM
RESIDENTIAL COMPLEX (Built Up Area) (Built Up Area = Carpet Area * 1.4)					
1	Principal's Quarter	-	268	1	268
2	Guest House (Carpet Area = 30sqm)	42	42	2	84
3	Boy's Hostel (Carpet Area = 25sqm)		35	75	2,625
4	Girl's Hostel (Carpet Area = 25sqm)		35	75	2,625
5	Faculty Residence				
a	Professor		200	1	200
b	Associate Professor		200	3	600
c	Assistant Professor		128	6	768
Total (D)					7,170

8.6.3.5 Sports Facilities

Sports facilities like a Volleyball, Cricket and Kabaddi are proposed within the campus.

8.6.4 Area Analysis

On study of the existing infrastructure available, facilities shared with Hoshiarpur Polytechnic College and the area requirement, the proposed area analysis is as indicated:

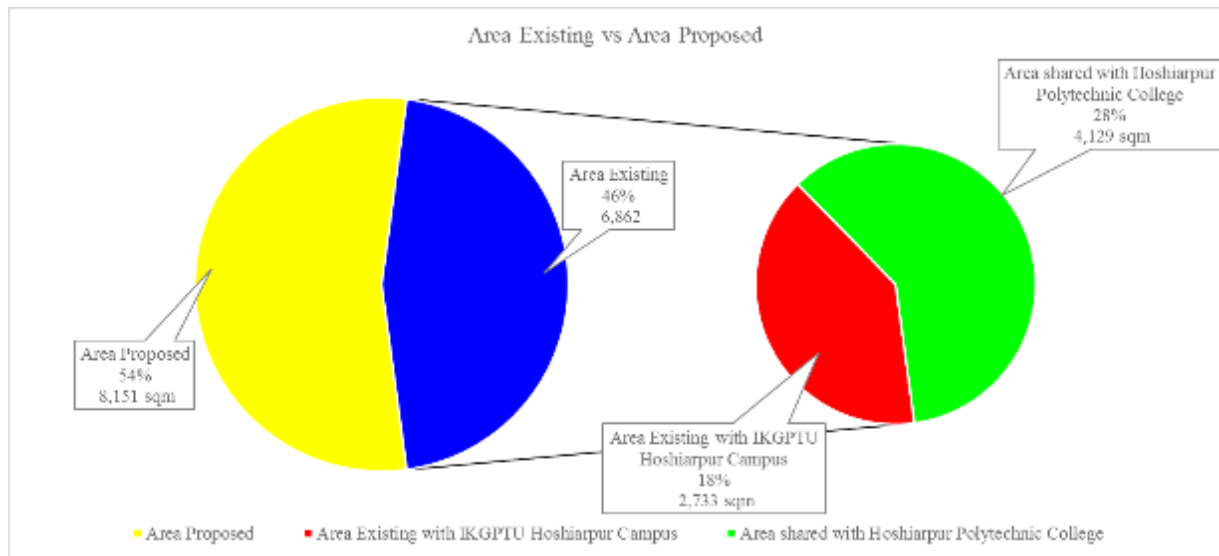
- Certain areas of **Administrative and Faculty Building** along with **Classrooms and Laboratory Complex** can be accommodated in the existing buildings within IKGPTU Hoshiarpur Campus. Some additional area would also be needed. Hence a new building is proposed.
- **Central Academic Service Facilities:** An Auditorium and a small canteen is already available for sharing and can be used. Other facilities like Central Computing Centre, Central Library, Educational Technology and Video Conferencing Centre, Central Workshop, Hobby-cum-Innovation Centre, Canteen, Sports Club and a Community Centre is proposed in the campus.
- **Residential Complex:** Few hostels and faculty residences are already available that can be shared with Hoshiarpur Polytechnic College (Annexure 8.69), the remaining are proposed as per following:
 - Hostel facilities for 90boys (30 rooms on triple seater) and 45 girls (15 rooms on triple seater) are available. Hence 30 rooms on double seater for 60 boys and 53 rooms on double seater for 105 girls are proposed.
 - 10 existing Faculty Residence (Type-II, III and IV) area allocated to the Professor, 3 Associate Professors and 6 Assistant Professors.
 - Principal/Director's Residence and 02 guest houses are also proposed in the campus.
- **Sports Facilities:** Volleyball, Cricket and Kabaddi are existing and can be shared with Hoshiarpur Polytechnic College.

Table 8.6.6 indicates the summary of Area Analysis. The total built-up area of IKGPTU Hoshiarpur Campus shall be 15,012.60 sqm to meet the requirements.

Table 8.6.6: Area Analysis

SUMMARY- AREA ANALYSIS (Built Up Area)					
S. No	Description	Area Requirement	Area Existing	Area Proposed	Remarks
		SQM	SQM	SQM	
	REQUIRED				Refer Annexure 8.71 for Detail
1	Administrative & Faculty Building	5,871.60	2,732.80	3,138.80	New Building proposed for the Remaining Area.
2	Classroom & Laboratory Complex				
3	Central Academic Services Facilities	2,940.00	1,379.00	2,023.00	Auditorium Existing. Other Central Academic Service Facilities are proposed.
4	Residential Complex	7,170.00	2,750.00	2,989.00	30 hostel rooms for 90 boys (triple sharing basis) and 15 rooms for 45 girls (triple sharing basis) existing (to be renovated). Existing Faculty housing and Principal's Quarter to be renovated as well. 2 Guest houses, 30 hostel rooms for 60 boys (double sharing basis) and 53 hostel rooms for 105 girls (double sharing basis) proposed.
	TOTAL		6,861.80	8,150.80	
	Total Area Existing (Built Up Area)			6,861.80	
	Total Area Proposed (Built Up Area)			8,150.80	
	TOTAL BUILT-UP AREA OF IKGPTU HOSHIARPUR			15,012.60	

Fig 8.6.1: Area Existing Vs Area Proposed



8.6.5 Capital Cost

8.6.5.1 Infrastructure Cost

After reviewing the condition of existing buildings, following assumptions are made as per the cost of new construction CPWD PAR 2012:

- IKGPTU Hoshiarpur Campus – 10% Renovation Cost
- Hoshiarpur Polytechnic College –
 - Central Academic Service Facilities: 25% Renovation Cost (Auditorium) 10% Renovation Cost (Canteen)
 - Residential Complex: 50% Renovation Cost

Proposed infrastructure cost for the additional Administrative-Faculty Building, Classroom-Laboratory complex, Central Academic Service Facilities and the Residential Complex are calculated as per the cost of new construction CPWD PAR 2012.

For development of site, 25% cost of development of the site is taken into consideration (refer Annexure 8.107) as the site is in reasonably good condition. The boundary wall of the campus is existing and not considered in the costing.

After reviewing the existing allied provisions available, certain assumptions are considered for calculating the cost of allied provision (refer Annexure 8.105)

PMC, Architect's fees is considered as 5.75% (including Service Tax) as per COA guidelines.

Service Tax -6%, Labour Cess -1%, Punjab Infrastructure Fund -1% are applicable as per government regulations.

8.6.5.2 Equipment Cost

For calculating the Equipment Cost, following assumption are made (Refer Annexure 8.108):

- Engineering Laboratory: 20 Lakhs per laboratory
- Other Courses Laboratories: 5 Lakhs per laboratory
- Workshop Equipment: 5 Lakhs per engineering course
- IT Infrastructure: 1.5 Crores.

8.6.5.3 Furniture Cost

Furniture Cost for the following areas are taken in consideration as per the indicated Annexures:

- | | |
|--|----------------|
| • Faculty/Non-Teaching Staff Academic Furniture: | Annexure 8.113 |
| • Lecture Room for 60 Students: | Annexure 8.115 |
| • Lecture Room for 45 Students: | Annexure 8.115 |
| • Tutorial Room for 30 Students: | Annexure 8.116 |
| • Drawing Hall for 60 Students: | Annexure 8.116 |
| • Library Furniture: | Annexure 8.111 |
| • Auditorium Furniture: | Annexure 8.111 |
| • Hostel furniture for Students: | Annexure 8.112 |
| • Guest House Furniture: | Annexure 8.114 |
| • Furniture for Contractual Staff: | Annexure 8.111 |

Contingency- 3% is considered on Capital Cost i.e. Infrastructure Cost, Equipment Cost and Furniture Cost.

Total project cost for upgrading the entire campus at par with the level of excellence shall be 53.93 crores. For detail Capital Cost calculation, refer Annexure 8.76.

Table 8.6.7: Summary – Capital Cost

S. No	Description	Total Area	Total Cost
		SQM	(In Crores)
(I)	Existing Area (Renovation Cost)	6,861.80	5.66
(II)	Proposed Area (New Building Cost)		
A	Administrative -Faculty & Classroom-Laboratory Complex	3,138.80	11.21
B	Central Academic Services Facilities	2,023.00	4.52
C	Residential Complex	2,989.00	7.64
D	Development of Site		2.17
E	Allied Provisions		6.35
F	Sports Infrastructure		-
G	Total (I + II)	15,012.60	37.55
H	Cost Index	102.00	38.30
J	PMC and Architect (5.75%), Taxes [Service Tax (6%), Labour Cess (1%), Punjab Infrastructure Fund (1%)]	13.75%	5.27
K	Total Cost of Infrastructure	(I + II)	43.57
L	Total Cost of Equipment		4.85
M	Total Cost of Furniture		3.94
P	CAPITAL COST	(K+L+M)	52.36
Q	Contingency (Calculated on P)	3%	1.57
R	TOTAL CAPITAL COST (P + Q)	In Crores	53.93

Fig 8.6.2: Infrastructure Cost Breakup

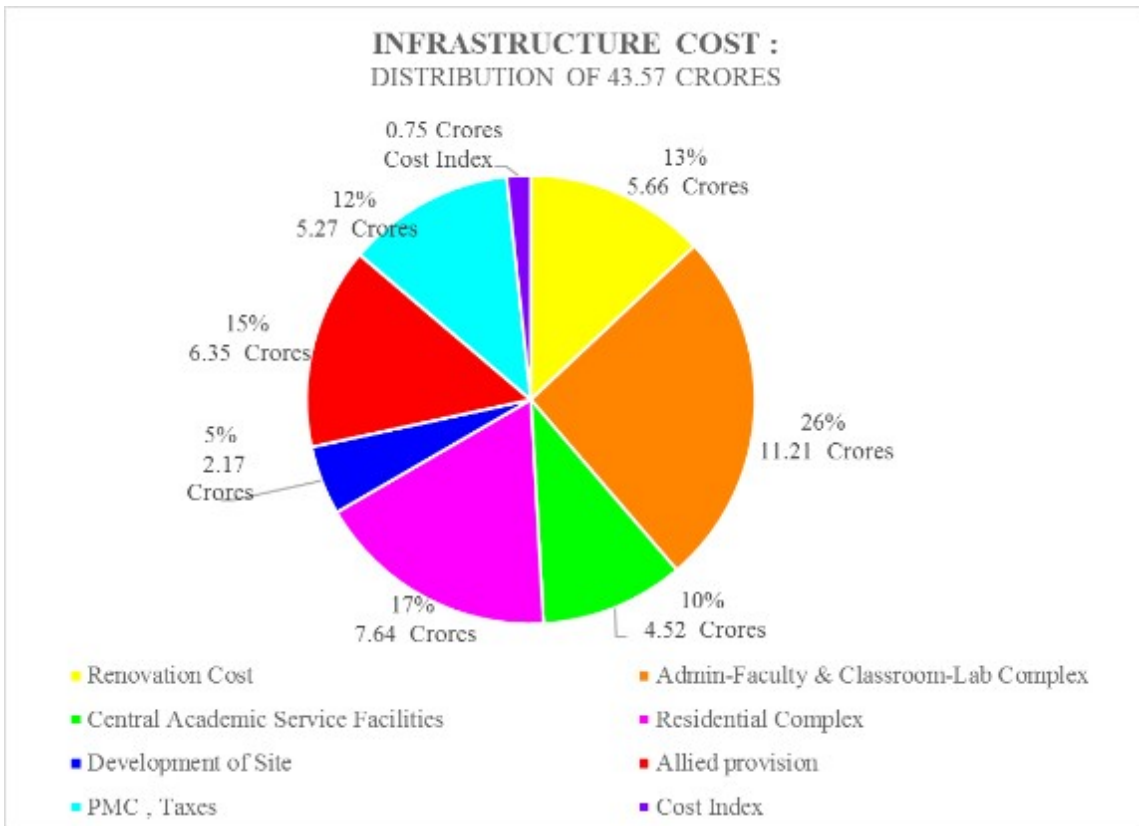
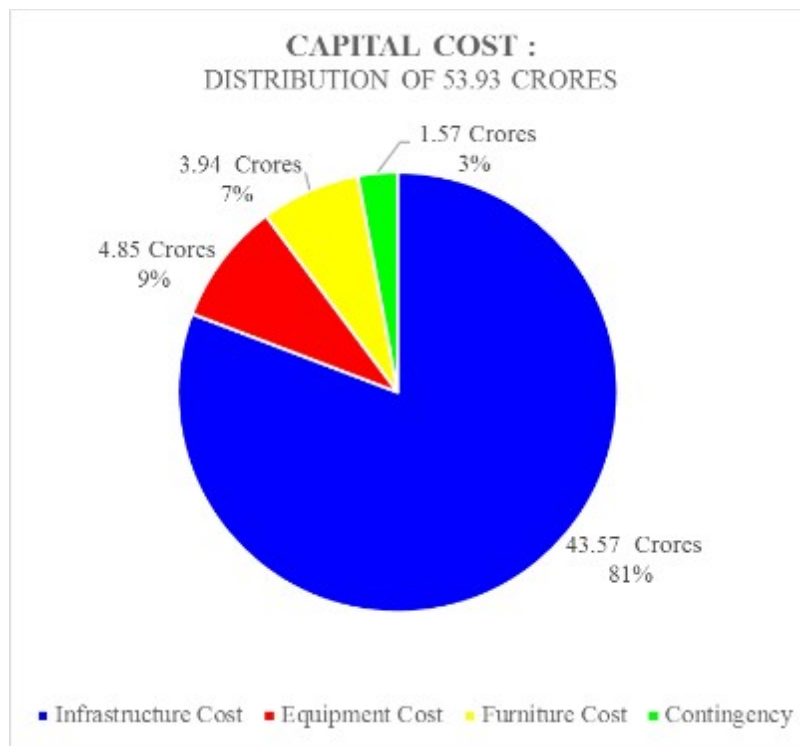


Fig 8.6.3: Capital Cost Breakup



8.7 IKGPTU SULTANPUR LODHI CAMPUS

8.7.1 Land Allotment

Total land area available is 14.9 acres. 9.9 acres belongs to IKGPTU Sultanpur Lodhi and the remaining 5 acres belongs to Sultanpur Lodhi Polytechnic College.

Table 8.7.1: Land Allotment

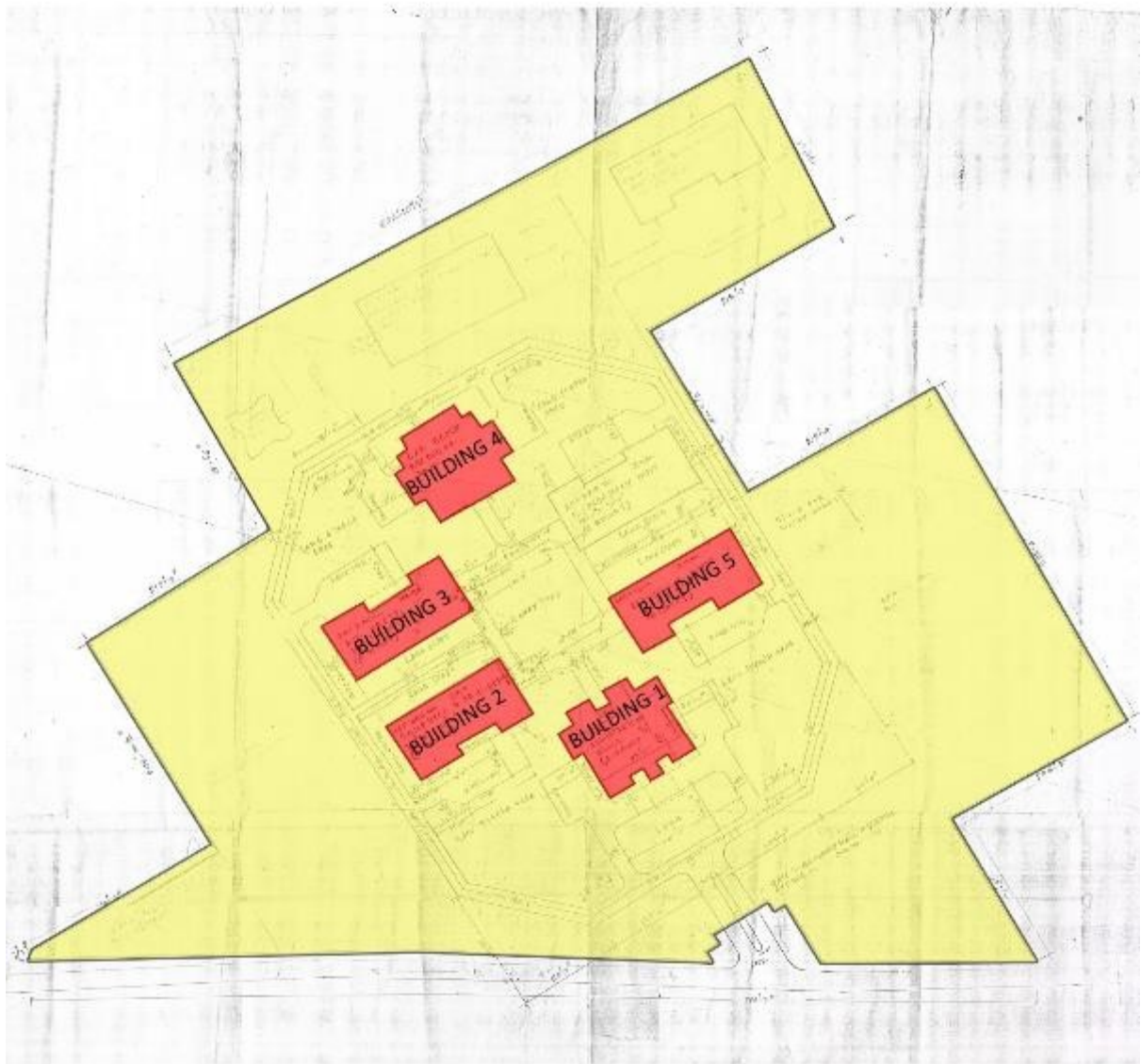
LAND ALLOTTED			
S. No	Description	Acres	SQM
1	Total Land	14.9	60,298
2	IKGPTU Sultanpur Lodhi Campus	9.9	40,064
3	Sultanpur Lodhi Polytechnic College	5.0	20,234



8.7.2 Existing Infrastructure

IKGPTU Sultanpur Lodhi has 5 buildings with an overall built up area of 8,062 sqm. Building 1 has the administrative area and a library. Building 2, 3 and 4 has the Classroom-Tutorial area along with the faculty staff area and Building 5 has the Laboratory Complex with a Computer Centre.

For details about Existing Infrastructure of IKGPTU Sultanpur Lodhi Campus, please refer Annexure 8.77.

DRG 8.7.1: IKGPTU SULTANPUR LODHI CAMPUS – SITE PLAN



	Existing Area with IKGPTU Sultanpur Lodhi Campus
	Area available for Future Expansion

IKGPTU Sultanpur Lodhi Campus - Photographs



Building 1: Administrative Building



Building 1: Another View



Building 2



Building 3



Building 4



Building 5: Laboratories

8.7.3 Area Requirement

As per the proposed academic plan for 5 courses with the overall student strength of 470, the institute shall require:

8.7.3.1 Administrative & Faculty Building

Table 8.7.2: Area Requirement -Administrative & Faculty Building

S. No	Description	As per AICTE	As per DPR	No. of Room	Area	Remarks
		SQM	SQM		SQM	
ADMINISTRATIVE & FACULTY BUILDING (Carpet Area)						
1	Office of the Principal / Director IKGPTU Sultanpur Lodhi	30	30	1	30	
2	Administrative Offices of IKGPTU Sultanpur Lodhi	-	80	1	80	For 8 no. of staff
3	Offices of the Heads of Department	10	15	3	45	Area as per AICTE norms insufficient. Hence more area is allocated.
4	Reception Lounge	-	20	1	20	Assumed
5	Faculty Offices	5	10	32	320	Area as per AICTE norms insufficient. Hence more area is allocated.
6	Cubicles for Project Staff & Post-Doctoral Fellows	5	25	1	25	1 room with 5 cubicles
7	Cubicles for Research Scholars (05 cubicles)	5	25	1	25	1 room with 5 cubicles
8	Offices for Visiting Faculty	5	20	1	20	1 room with 3 visiting faculty
9	Seminar – cum - Committee Rooms	-	40	1	40	1 seminar room with seating capacity of 12 to 15 people
10	First Aid Medical Room	10	10	1	10	
11	Common Room for Students / Faculty	100	100	2	200	
12	Pantry	10	10	1	10	Only for Staff
13	Reprography and Stationary Store	10	10	1	10	
14	Examination Control Room	30	30	1	30	
15	Strong Room	30	30	1	30	
16	Store	10	20	1	20	
17	Toilets (Faculty)	-	25	1	25	
Total(A)		Carpet Area (C)			940	
		Built Up Area (C * 1.4)			1,316	

8.7.3.2 Classroom & Laboratory Complex

Table 8.7.3: Area Requirement - Classroom & Laboratory Complex

S. No	Description	As per AICTE	As per DPR	No. of Room	Area	Remarks
		SQM	SQM		SQM	
CLASSROOM & LABORATORY COMPLEX (Carpet Area)						
1	Lecture Halls for 60 students	90	120	3	360	@ 2 sqm per student
2	Lecture Halls for 45 students	66	90	6	540	@ 2 sqm per student
3	Tutorial Rooms for 30 students	33	60	9	540	@ 2 sqm per student
4	Drawing Halls for 60 students	132	240	2	480	@ 4 sqm per student
5	Language Laboratory	66	66	1	66	
6	Applied Sciences Laboratories	66	66	4	264	
7	Pharmacy Laboratories	66	66	2	132	
8	CSE Laboratories	66	66	6	396	
8	Fashion Design Studios/ Museum/ Laboratories	66	66	3	198	
10	Toilets (Students)	-	100	1	100	
Total(B)		Carpet Area (C)			3,076	
		Built Up Area (C * 1.4)			4,306	

8.7.3.3 Central Academic Service Facilities

Table 8.7.4: Area Requirement - Central Academic Service Facilities

S. No	Description	As per AICTE	As per DPR	No. of Room	Area	Remarks
		SQM	SQM		SQM	
CENTRAL ACADEMIC SERVICES FACILITIES (Carpet Area)						
1	Central Computing Facility	150	150	1	150	Area already existing.
2	Central Library Facility	400	400	1	400	Area already existing.
3	Educational Technology & Video Conferencing Facility	-	100	1	100	Area already existing.
4	Hobby-cum-Innovation Centre	-	50	1	50	Area already existing.
5	Central Workshop Facility	200	200	1	200	
6	Auditorium: to seat 300 persons	600	600	1	600	@ 2 sqm per student
7	Canteen	150	150	1	150	
8	Sport's Club	200	200	1	200	
9	Student Activities Centre/ Community Centre/ Daily Needs Shop	-	250	1	250	
Total (C)					2,100	Areas to be constructed: Workshop, Auditorium, Canteen, Sports Club and Student Activities Centre/ Community Centre/ Daily Needs Shop
		Built Up Area (C * 1.4)			2,940	Carpet Area = 1400 sqm. Built Up Area = 1960 sqm.

8.7.3.4 Residential Complex

The Campus will require a residential complex wherein the following provision are considered:

- Student Hostel: 50% of the total student's intake, boys-girl's ratio as 50:50.
- Faculty Residence: 35%
- Principal Quarter: 01
- Guest House: 02

The area requirement is taken as per CPWD, New Plinth Area Norms-for General Pool Residential Accommodation (GPRA).

Table 8.7.5: Area Requirement - Residential Complex

		As per AICT E	As per DPR/CPW D	No. of Room	Area	Remarks
		SQM	SQM		SQM	
RESIDENTIAL COMPLEX (Built Up Area) (Built Up Area = Carpet Area * 1.4)						Refer Annexure 8.78
1	Principal's Quarter	-	268	1	268	As per CPWD, Revised PAR Norms, Type-6 Cat.
2	Guest House (Carpet Area = 30sqm)	42	42	2	84	Carpet Area per Room = 30sqm. Hence, Built up Area=30 x 1.4=42sqm.
3	Boy's Hostel (Carpet Area = 25sqm)	-	35	59	2,065	Carpet Area per Room = 25sqm. Hence, Built up Area= 25 x 1.4 = 35sqm. 59 Double Rooms
4	Girl's Hostel (Carpet Area = 25sqm)	-	35	59	2,065	Carpet Area per Room = 25sqm. Hence, Built up Area= 25 x 1.4 = 35sqm. 59 Double Rooms
5	Faculty Residence					
a	Professor	-	200	2	400	As per CPWD, Revised PAR Norms, Type-5 Cat.
b	Associate Professor	-	200	3	600	As per CPWD, Revised PAR Norms, Type-5 Cat.
c	Assistant Professor	-	128	6	768	As per CPWD, Revised PAR Norms, Type-4 Cat.
Total (D)					6,250	

8.7.3.5 Sports Facilities

Sports facilities like a Badminton, Basketball, Cricket and Football are proposed within the campus.

8.7.4 Area Analysis

On study of the existing infrastructure available and the area requirement, the area analysis is as indicated:

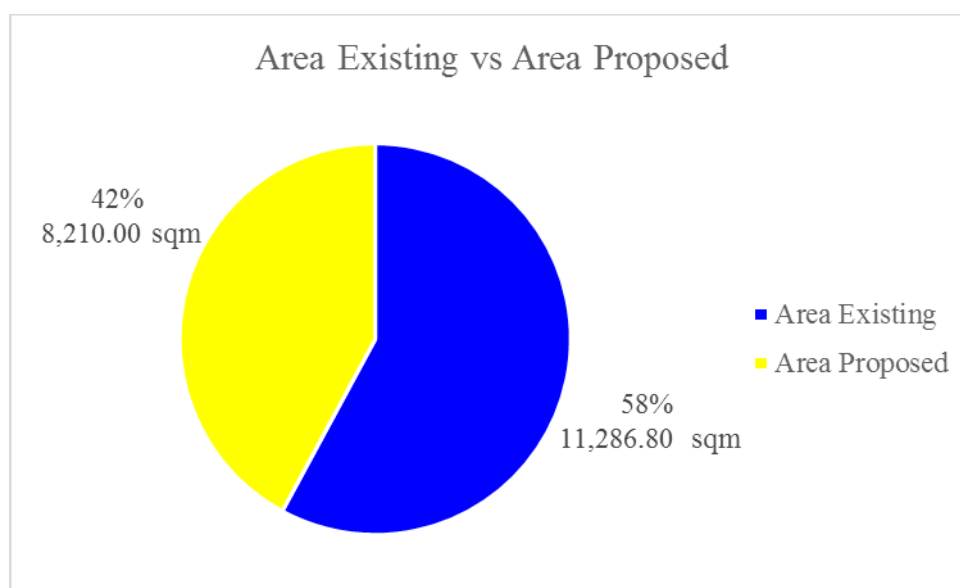
- **Administrative and Faculty Building** along with **Classrooms and Laboratory Complex** can be accommodated in the existing buildings within IKGPTU Sultanpur Lodhi Campus. The surplus area can be used for future expansion and the area lost due to inefficiency in design.
- **Central Academic Service Facilities** like Central Computing Centre, Central Library, Educational Technology & Video Conferencing, Central Workshop and Hobby-cum-Innovation Centre are also fulfilled in the existing buildings within IKGPTU Sultanpur Lodhi Campus. An auditorium for 300 persons, canteen, sports club and a community center are proposed.
- **Residential Complex** is proposed as the existing campus does not have provision for the same right now.
- **Sports Facilities:** Basketball, Badminton, Cricket and Football are proposed.

Table 8.7.6 indicates the summary of area analysis. The total built-up area of IKGPTU Sultanpur Lodhi shall be 19,496.80 sqm to meet the requirements. For detail Area Analysis, refer to Annexure Table 8.7.1 to Table 8.7.2.

Table 8.7.6: Area Analysis

SUMMARY- AREA ANALYSIS (Built Up Area)					
S. No	Description	Area Requirement	Area Existing	Area Proposed	Remarks
		SQM	SQM	SQM	
REQUIRED					
1	Administrative & Faculty Building	1,316.00	1,735.30	-	Surplus Area to be used for Future Expansion.
2	Classroom & Laboratory Complex	4,306.40	6,150.20	-	Surplus Area to be used for Future Expansion.
3	Central Academic Services Facilities	2,940.00	3,401.30	1,960.00	Central Computing Facility, Central Library, Educational Technology & Video Conferencing Facility and Hobby-cum-Innovation Centre already present. Workshop, Auditorium, Sports Club, Community Centre and Canteen are proposed.
4	Residential Complex	6,250.00	-	6,250.00	New Building proposed.
TOTAL			11,286.80	8,210.00	
Total Area Existing (Built Up Area)				11,286.80	
Total Area Proposed (Built Up Area)				8,210.00	
TOTAL BUILT-UP AREA OF IKGPTU SULTANPUR LODHI				19,496.80	

Fig 8.7.1: Area Existing Vs Area Proposed



8.7.5 Capital Cost

8.7.5.1 Infrastructure Cost

After reviewing the condition of existing buildings, following assumptions are made as per the cost of new construction CPWD PAR 2012:

- IKGPTU Sultanpur Lodhi Campus – 10% Renovation Cost

Proposed infrastructure cost for the Residential Complex are calculated as per the cost of new construction CPWD PAR 2012.

For development of site, 75% cost of development of the site is taken into consideration (refer Annexure 8.107) as the site needs major uplifting. The boundary wall of the campus is existing and not considered in the costing.

After reviewing the existing allied provisions available, certain assumptions are considered for calculating the cost of allied provision (refer Annexure 8.105)

PMC, Architect's fees is considered as 5.75%(including Service Tax) as per COA guidelines.

Service Tax -6%, Labour Cess -1%, Punjab Infrastructure Fund -1% are applicable as per government regulations.

8.7.5.2 Equipment Cost

For calculating the Equipment Cost, following assumption are made (Refer Annexure 8.108):

- Engineering Laboratory: 20 Lakhs per laboratory
- Other Courses Laboratories: 5 Lakhs per laboratory
- Workshop Equipment: 5 Lakhs per engineering course
- IT Infrastructure: 1.5 Crores.

8.7.5.3 Furniture Cost

Furniture Cost for the following areas are taken in consideration as per the indicated Annexures:

- Faculty/Non-Teaching Staff Academic Furniture: Annexure 8.113
- Lecture Room for 60 Students: Annexure 8.115
- Lecture Room for 45 Students: Annexure 8.115
- Tutorial Room for 30 Students: Annexure 8.116
- Drawing Hall for 60 Students: Annexure 8.116

- Library Furniture: Annexure 8.111
- Auditorium Furniture: Annexure 8.111
- Hostel furniture for Students: Annexure 8.112
- Guest House Furniture: Annexure 8.114
- Furniture for Contractual Staff: Annexure 8.111

Contingency- 3% is considered on Capital Cost i.e. Infrastructure Cost, Equipment Cost and Furniture Cost.

Total project cost for upgrading the entire campus at par with the level of excellence shall be 53.27 crores. For detail Capital Cost calculation, refer Annexure 8.82.

Table 8.7.7: Summary – Capital Cost

SUMMARY - CAPITAL COST (Refer Annexure 8.82 for Detail)			
S. No	Description	Total Area	Total Cost
		SQM	(In Crores)
(I)	Existing Area (Renovation Cost)	11,286.80	4.03
(II)	Proposed Area (New Building Cost)		
A	Central Academic Services Facilities	1,960.00	7.34
B	Residential Complex	6,250.00	15.50
C	Development of Site		2.85
D	Allied Provisions		5.44
E	Sports Infrastructure		2.94
G	Total (I + II)	19,496.80	38.10
H	Cost Index	102.00	38.86
J	PMC, Architect's fees (5.75%), Taxes [Service Tax (6%), Labour Cess (1%), Punjab Infrastructure Fund (1%)]	13.75%	5.34
K	Total Cost of Infrastructure	(I + II)	44.21
L	Total Cost of Equipment		3.55
M	Total Cost of Furniture		3.97
P	CAPITAL COST	(K+L+M)	51.72
Q	Contingency (Calculated on P)	3%	1.55
R	TOTAL CAPITAL COST (P + Q)	In Crores	53.27

Fig 8.7.2: Infrastructure Cost Breakup

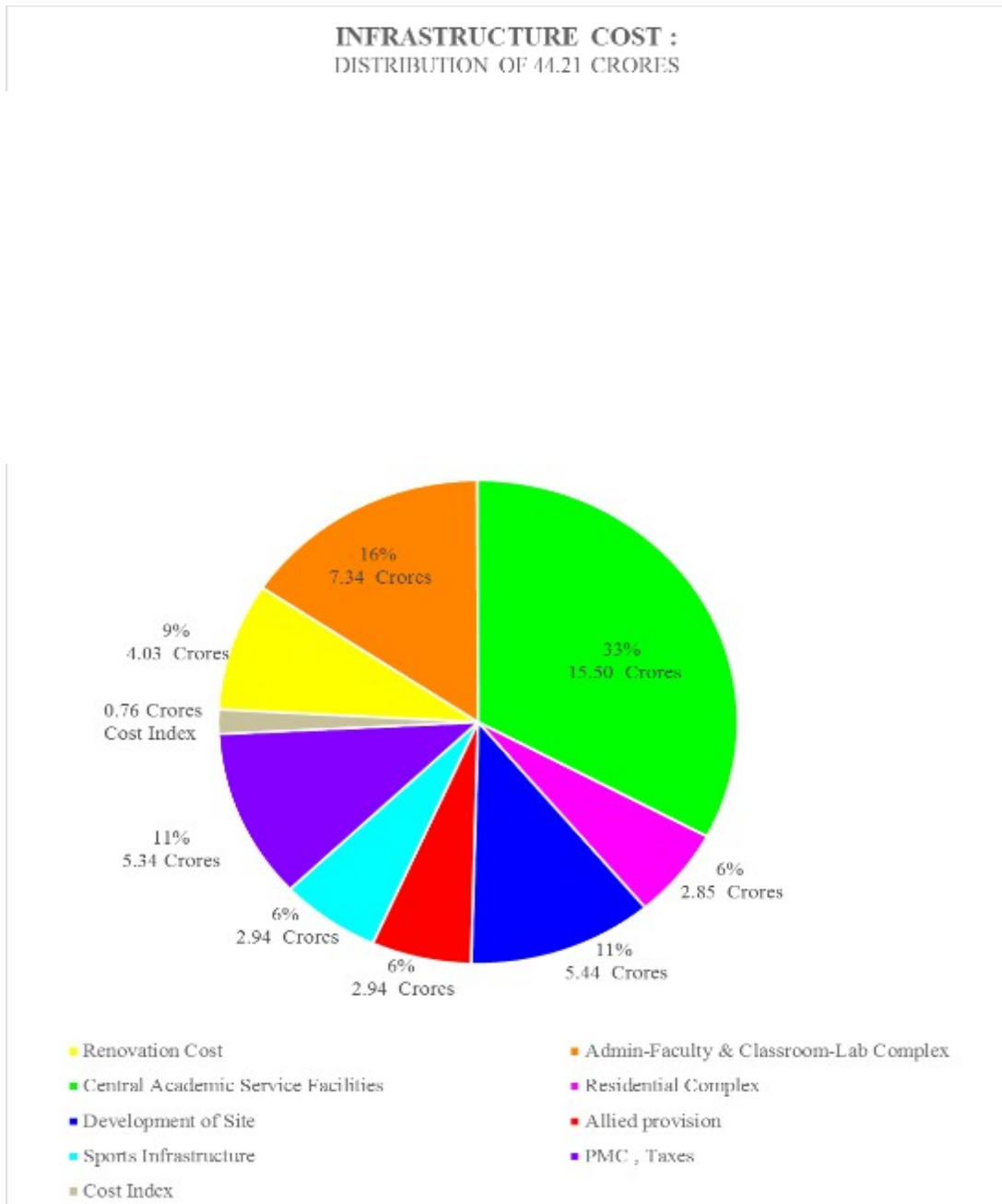
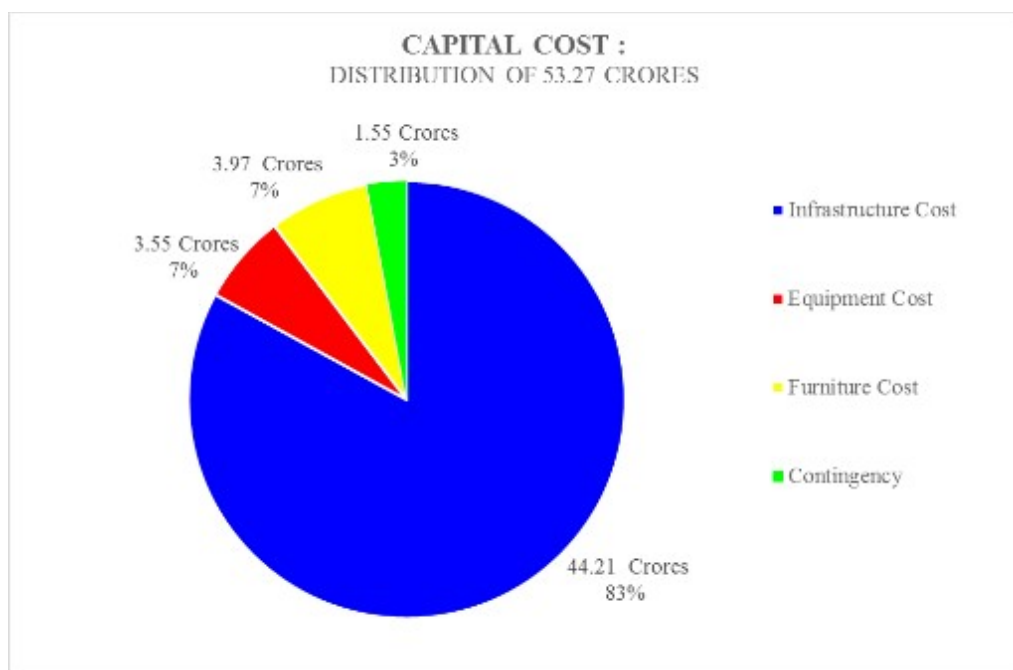


Fig 8.7.3: Capital Cost Breakup



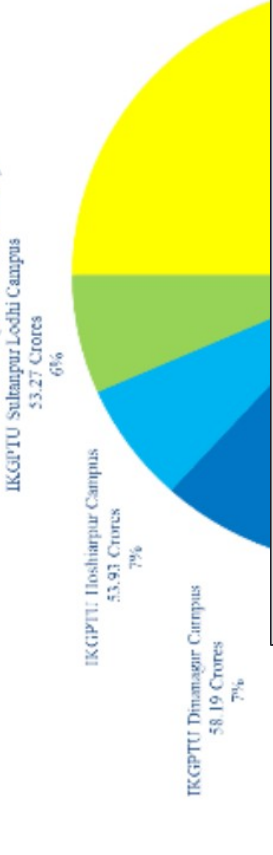
8.8

Total Cost for IKGPTU Main Campus and other Regional Campuses:

Table 8.8.1: Summary- Total Capital Cost

TOTAL CAPITAL COST OF IKGPTU	Total	K+L	499.80
	Contingency	L=3% of K	14.56
	Capital Cost	K=G+H+J	485.24
	Furniture Cost	J	24.33
	Equipment Cost	H	44.20
			3.95
			4.80
			3.95
			3.50
			4.85
			3.55
			68.80
			45.39
			806.72

Total Capital Cost Breakup (806.72 Crores)



S. no	Name	Renovati on Cost	Cost of New	Cost Index	Cost	Br ea k u p	Cap it al	Taxes	Infrastr ucture Cost
		A	B	D	C = A + B	D*100/E =	F	G = E + F	
1	IKGPTU, Main	14.35	341.68	102	356.03	363.15	53.56	416.71	
2	IKGPTU, Main Campus, Kapurthala								
3	IKGPTU Dinanagar Campus	9.74	30.77	102	40.51	41.32	5.68	47.01	
4	IKGPTU Bhikiwind	6.40	25.15	107	31.55	33.76	4.64	38.40	
5	IKGPTU Dinanagar	10.60	31.66	102	42.25	43.10	5.93	49.02	
6	IKGPTU Hoshiarpur	5.66	31.89	102	37.55	38.30	5.27	43.57	
7	IKGPTU Sultanpur	4.03	34.07	102	38.10	38.86	5.34	44.21	
	Grand Total								669.03

Fi g 8.8 .1: To tal Cap it al

Chapter 9

FINANCIAL PLAN

9.1 FINANCIAL REQUIREMENT

The key features for the establishment of the infrastructure and physical facilities for the **Inder Kumar Gujral Punjab Technical University (IKGPTU)** are as following:

1. To broaden the functioning of IKGPTU into a **Teaching-cum-affiliating** university through the offering of teaching and research programmes at the UG, PG and Doctoral levels on the Main Campus of the University at Kapurthala under the aegis of Faculties of Studies / Centres of Excellence as well as at off-campus Regional Campuses (Six) sited at various location within the territorial jurisdiction of IKGPTU.
2. Financial estimates are worked for initial ten “**academic years (AY)**” keeping in view of the existing infrastructure/facilities available at the Main Campus as well at its Six Regional Campuses. It is envisaged that, the renovation of the existing infrastructure along with additional/new construction at the respective Campuses shall begin simultaneously with the start of the new academic session (as proposed in the academic plan)and will take at least five complete academic years(i.e., upto AY 5).
3. The financial estimates has been categorized under two different broader categories namely :-
 - a) Capital Cost towards Renovation of the existing infrastructure and Additional/New Infrastructure/Facilities cost.
 - b) Recurring cost for Running of Main and Regional Campuses (for Initial Ten Academic Years).

4. TOTAL PROJECT COST

The total project cost for initial ten academic years has been worked out by consolidating the cost of two broader Categories mentioned above at Point No. 3.

Total Project cost as well as Category/ year wise break-up has been shown below in **Table 9.1a and 9.1b** respectively.

Table 9.1a: Project Cost Estimations for IKGPTU (Rs in crores)

Particulars	Total Amount (Rs. in Crores)
Cost of Renovation of existing infrastructure	68
Additional Construction of Building & Civil Works	621
Fixed Assets, Equipments and Furniture	118
Recurring Expenditures (for initial ten academic Years)	1853
Total	2660

Table 9.1b :ESTIMATED TOTAL COST OF PROJECT-I K GUJRAL PUNJAB TECHNICAL UNIVERSITY (Rs. in Cr										
S. No	Particulars	TOTAL	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	
1	CAPITAL COST									
	Cost of Renovation (A)	67.79	17.22	18.26	11.03	10.17	11.10	-	-	
	Capital Cost of Additional Construction (B)	621.31	112.25	136.96	113.79	93.20	165.11	-	-	
	Cost of Equipment & Furnishing (C)	117.62	21.68	26.63	20.02	19.08	24.27	3.95	1.41	0.
	TOTAL CAPITAL COST (1= A+ B + C)	806.72	151.15	181.85	144.84	122.44	200.49	3.95	1.41	0.
2	RECURRING EXPENDITURE OF THE UNIVERSITY	1,853.28	28.82	61.69	100.09	143.09	184.62	221.89	245.38	20
	GRAND TOTAL (1+2)	2,660.00	179.98	243.54	244.93	265.53	385.11	225.85	246.79	20

(Note:-For Calculation purpose Capital Cost of renovation and additional construction cost has been taken as 30% of the Total Cost for first year, 30% for the Second Year 15% for the Third year, 15% for the fourth year and 10% in fifth year whereas that for Equipment & furnishing on need basis of the particular academic year and hence spread over Nine academic years)

9.2 CAPITAL EXPENDITURE

On the basis of the cost estimates towards Renovation of existing infrastructure and additional cost towards new Building and Civil Works as provided in infrastructure chapter, the total requirement of Furniture, equipments and teaching aids etc., the Capital Expenditure of the Inder Kumar Gujral Punjab Technical University (IKGPTU) has been categorized in two major categories namely:-

- a) Capital Expenditure on Renovation of existing infrastructure and cost towards Building and Civil- works including Land development(whenever required), allied development provisions and Infrastructure development.
- b) Cost towards procurement/Installation of Lab- Equipments, Office Equipments, Teaching- Aids/ equipments and Furnishing Cost etc.

The cost towards procurement/ Installation of Lab- equipments, Office Equipments, Teaching- Aids/ equipments and Furnishing Cost etc has been arrived at on average basis without considering any specific make of the equipment/ Item. However, in case numbers of items are more but unit cost is less, then cost of the equipments has been calculated on lump sum basis for fair estimation.

The Total estimated expenditure has been worked out to be **Rs. 807crores** and it is proposed that the Construction Phase will be over by the end of the Fifth academic Year and procurement of Lab equipments, office equipments and furnishing items will be procured on requirement basis. The Detailed break-up of estimated Capital expenditure has been shown below in Table 9.2

Table 9.2: Capital Cost Inder Kumar Gujral Punjab Technical University (Rs in crores)

Particulars	TOTAL	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
<u>CAPITAL COST</u>											
Cost of Renovation (A)	67.79	17.22	18.26	11.03	10.17	11.10	-	-	-	-	-
Capital Cost of Additional Construction (B)	621.31	112.25	136.96	113.79	93.20	165.11	-	-	-	-	-
Cost of Equipment & Furnishing (C)	117.62	21.68	26.63	20.02	19.08	24.27	3.95	1.41	0.42	0.16	-
TOTAL CAPITAL COST (1= A+ B + C)	806.72	151.15	181.85	144.84	122.44	200.49	3.95	1.41	0.42	0.16	-

9.3 RECURRING COST

The Recurring Expenditure of the IKGPTU for **initial ten academic years** has been estimated to be **Rs. 1853**crores. The Recurring cost includes:

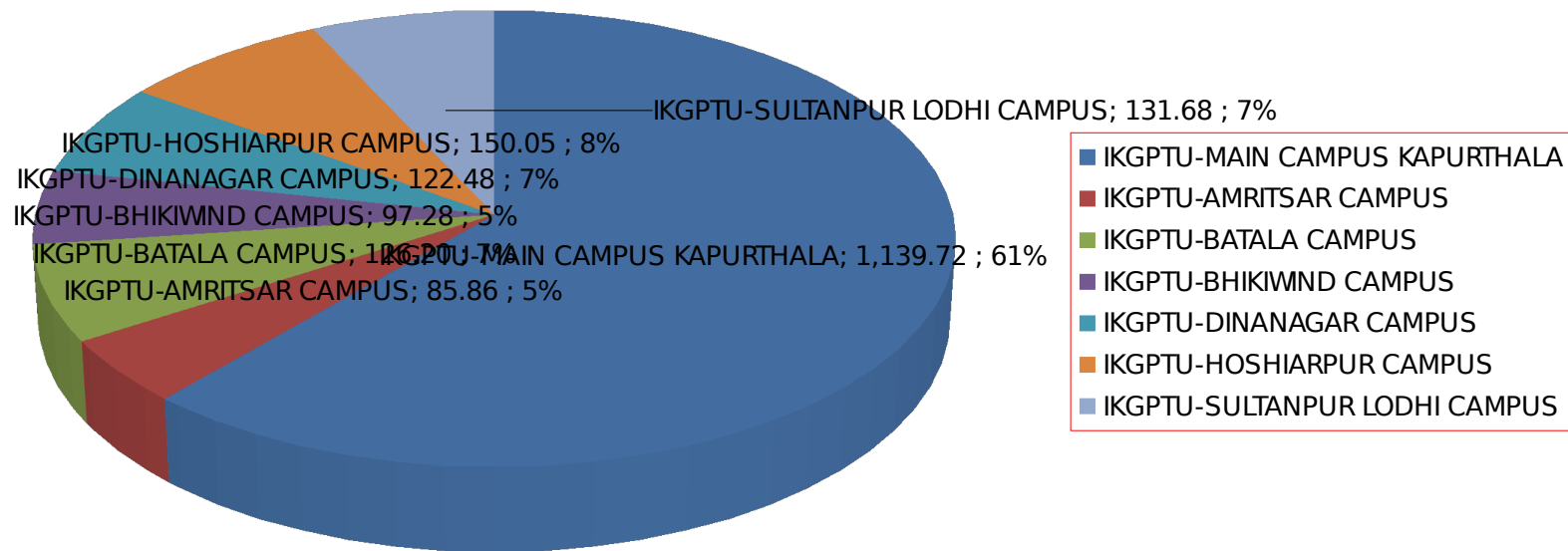
- a) Employees cost towards On-Roll Staff,
- b) Employees cost towards Contractual Staff,
- c) Cost of Security services on contractual basis,
- d) Cost of Provision of Electricity and Generator Back-up,
- e) Cost of General Administrative Expenses and
- f) Cost towards Provision of Hostel Facilities.

The Year wise/ campus wise Recurring Cost of the IKGPTU is shown below in **Table 9.3a**

Table 9.3a: Estimations of Recurring Cost of IKGPTU Campus/ Year wise (Rs in crores)

RECURRING EXPENDITURE CAMPUS WISE -I K GUJRAL PUNJAB TECHNICAL UNIVERSITY (Rs. in Crores)											
Name	Total	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
IKGPTU-MAIN CAMPUS KAPURTHALA	1,139.53	20.56	38.56	58.73	81.75	110.60	136.19	152.35	165.40	180.84	194.55
IKGPTU-AMRITSAR CAMPUS	85.66	1.12	2.45	4.22	6.58	8.44	10.67	11.58	12.47	13.52	14.61
IKGPTU-BATALA CAMPUS	126.23	1.42	4.36	7.60	11.58	13.19	14.92	16.20	17.47	18.96	20.52
IKGPTU-BHIKIWIND CAMPUS	97.17	1.27	3.38	5.86	8.72	10.08	11.49	12.48	13.46	14.61	15.82
IKGPTU-DINANAGAR CAMPUS	122.65	1.89	4.28	7.29	10.05	12.28	14.70	15.97	17.23	18.71	20.26
IKGPTU-HOSHIARPUR CAMPUS	150.31	1.70	5.23	9.25	13.86	15.75	17.70	19.22	20.73	22.50	24.37
IKGPTU-SULTANPUR LODHI CAMPUS	131.73	0.87	3.43	7.15	10.55	14.29	16.22	17.58	18.94	20.52	22.18
Grand Total	1,853.28	28.82	61.69	100.09	143.09	184.62	221.89	245.38	265.72	289.66	312.33

Fig. 9.3a: Pie Chart illustrating Recurring Cost Share of Respective Campus in Total Recurring Cost of the IKGPTU estimated for initial ten academic years:



The head wise/year wise break up of various Cost Components of the Recurring Cost of IKGPTU for initial ten academic years is shown below in Table 9.3b.

Table 9.3b: Estimations of Recurring Cost head wise/year wise of IKGPTU (Rs in crores)

Particulars	Total	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
<u>EXPENDITURE</u>											
Employees Remuneration	1,039.32	16.66	33.80	56.06	79.61	103.12	124.85	137.82	149.72	162.35	175.34
Other Benefit to Employees	237.67	3.33	6.76	11.77	16.72	22.69	27.47	31.70	34.44	38.96	43.83
Electricity Expenses	181.28	2.16	6.12	10.56	15.60	19.58	22.86	24.58	25.78	26.83	27.22
Generator Running & Maint. Exp.	8.16	0.07	0.23	0.46	0.71	0.85	0.99	1.08	1.17	1.26	1.36
Gen. & Admn. Expenses	258.52	4.55	9.90	14.24	19.71	25.98	30.66	33.46	36.36	40.45	43.19
Hostel Charges	13.00	0.12	0.37	0.66	1.01	1.30	1.56	1.75	1.91	2.07	2.24
<u>Contractual Services</u>											
Staff Expenses	34.40	0.44	1.02	1.72	2.52	3.36	4.25	4.65	5.06	5.46	5.90
Security Expenses	80.93	1.48	3.50	4.62	7.21	7.74	9.26	10.34	11.29	12.26	13.24
Total	1,853.28	28.82	61.69	100.09	143.09	184.62	221.89	245.38	265.72	289.66	312.33

Fig. 9.3b: Pie: Chart illustrating Head wise Components of Total Recurring Cost of the IKGPTU estimated for initial ten academic years:-

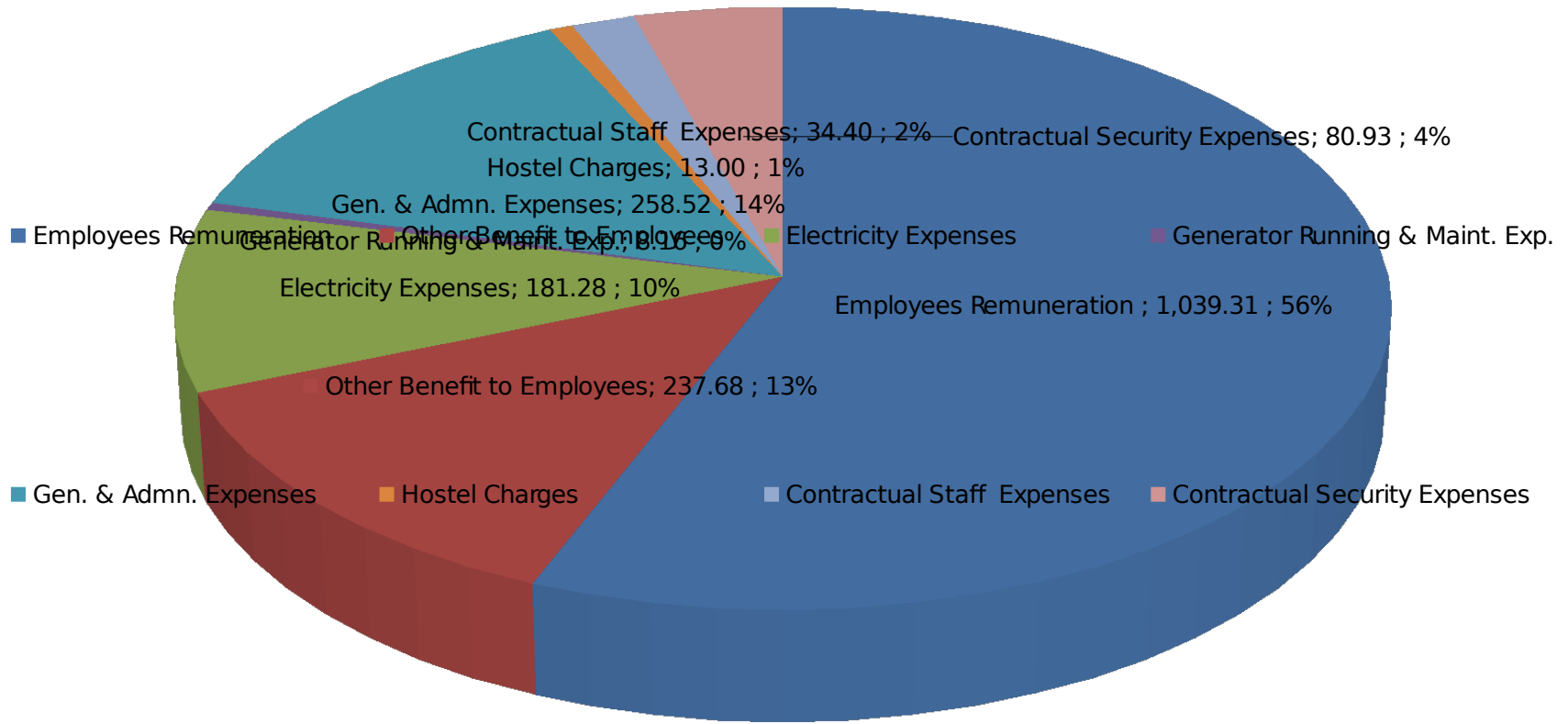
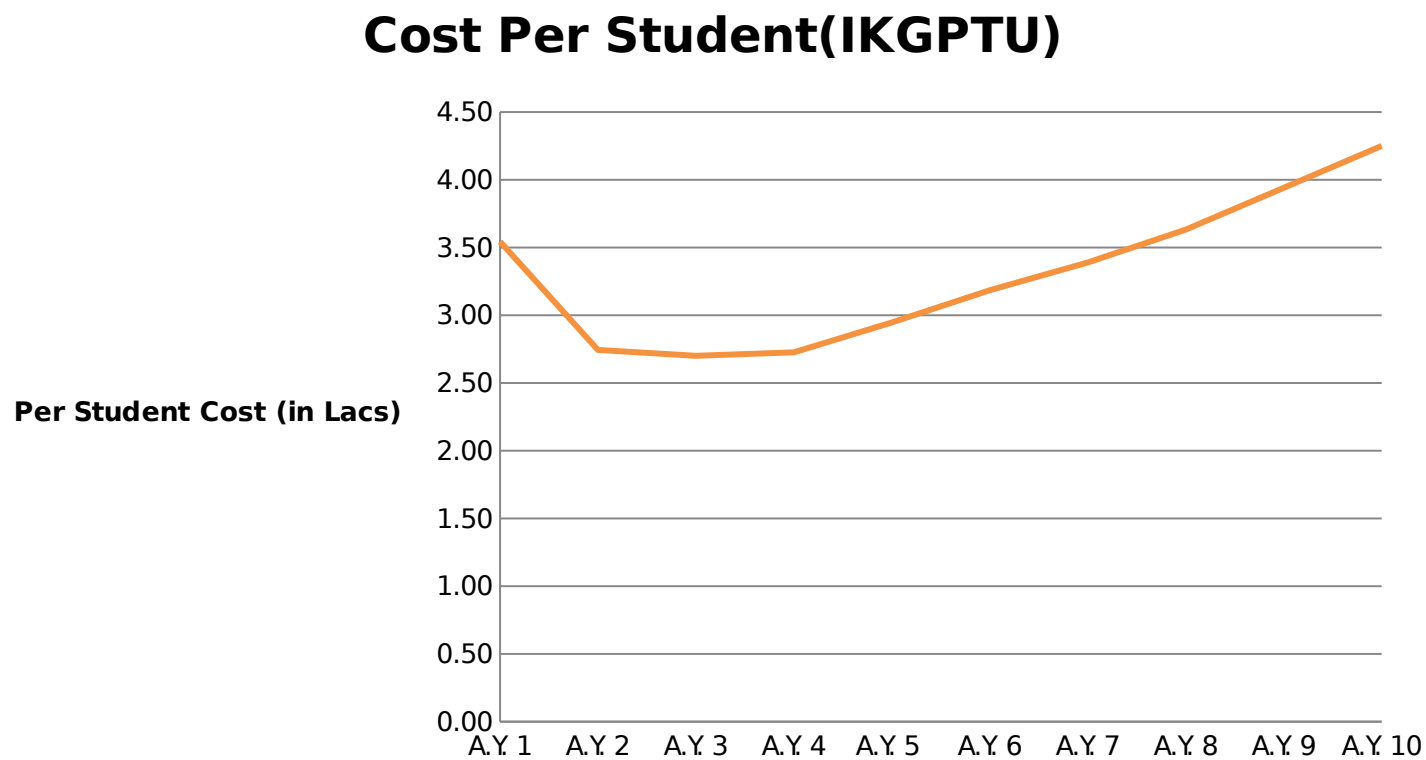


Fig. 9.3c: Graphical Representation of Cost per Student of IKGPTU for initial ten academic years:



Estimation of Recurring Cost head wise /Campus wise :- Table 9.3b1 to 9.3b7

Table 9.3b1: Estimations of Recurring Cost of IKGPTU Main Campus-Kapurthala (Rs in crores)

Particulars	Total	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
EXPENDITURE											
Employees Remuneration	605.32	11.39	19.90	31.25	42.96	58.27	72.26	81.02	88.38	96.10	103.79
Other Benefit to Employees	138.53	2.28	3.98	6.56	9.02	12.82	15.90	18.64	20.33	23.06	25.95
Electricity Expenses	111.75	1.55	3.66	5.90	8.68	11.59	14.14	15.51	16.36	17.06	17.31
Generator Running & Maint. Exp.	1.67	0.02	0.05	0.08	0.12	0.16	0.20	0.23	0.25	0.27	0.30
Gen. & Admn. Expenses	201.36	3.89	8.02	10.92	14.85	20.23	24.15	26.18	28.27	31.50	33.35
Hostel Charges	8.22	0.09	0.22	0.37	0.57	0.79	0.99	1.13	1.25	1.35	1.46
Contractual Services											
Staff Expenses	21.72	0.30	0.64	1.05	1.53	2.09	2.68	2.95	3.23	3.49	3.77
Security Expenses	50.96	1.04	2.10	2.60	4.04	4.65	5.87	6.68	7.34	8.00	8.64
Total	1,139.53	20.56	38.56	58.73	81.75	110.60	136.19	152.35	165.40	180.84	194.55

Table 9.3b2: Estimations of Recurring Cost of IKGPTU Regional Campus-Amritsar (Rs in crores)

Particulars	Total	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
<u>EXPENDITURE</u>											
Employees Remuneration	51.96	0.75	1.54	2.57	3.89	5.05	6.50	7.02	7.59	8.19	8.85
Other Benefit to Employees	11.90	0.15	0.31	0.54	0.82	1.11	1.43	1.62	1.74	1.97	2.21
Electricity Expenses	9.91	0.08	0.28	0.53	0.89	1.09	1.31	1.36	1.41	1.47	1.49
Generator Running & Maint. Exp.	0.95	0.00	0.02	0.04	0.08	0.10	0.12	0.13	0.14	0.15	0.16
Gen. & Admn. Expenses	6.16	0.08	0.17	0.30	0.47	0.59	0.72	0.81	0.91	1.00	1.11
Hostel Charges	0.44	0.00	0.01	0.02	0.04	0.05	0.06	0.06	0.07	0.07	0.08
<u>Contractual Services</u>											
Staff Expenses	1.69	0.02	0.05	0.08	0.12	0.16	0.21	0.23	0.25	0.27	0.29
Security Expenses	2.67	0.04	0.08	0.13	0.27	0.29	0.32	0.34	0.37	0.40	0.43
Total	85.66	1.12	2.45	4.22	6.58	8.44	10.67	11.58	12.47	13.52	14.61

Table 9.3b3: Estimations of Recurring Cost of IKGPTU Regional Campus-Batala (Rs in crores)

Particulars	Total	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
<u>EXPENDITURE</u>											
Employees Remuneration	76.63	0.89	2.58	4.49	6.86	7.99	9.17	9.91	10.70	11.56	12.48
Other Benefit to Employees	17.49	0.18	0.52	0.94	1.44	1.76	2.02	2.28	2.46	2.77	3.12
Electricity Expenses	12.45	0.13	0.50	0.90	1.35	1.43	1.51	1.57	1.63	1.69	1.72
Generator Running & Maint. Exp.	1.02	0.01	0.03	0.07	0.10	0.11	0.12	0.13	0.14	0.15	0.16
Gen. & Admn. Expenses	10.30	0.12	0.36	0.63	0.93	1.04	1.15	1.29	1.43	1.59	1.75
Hostel Charges	0.86	0.01	0.03	0.06	0.09	0.09	0.10	0.11	0.12	0.13	0.14
<u>Contractual Services</u>											
Staff Expenses	2.18	0.02	0.06	0.13	0.18	0.23	0.26	0.29	0.31	0.33	0.36
Security Expenses	5.31	0.07	0.27	0.38	0.63	0.54	0.58	0.63	0.68	0.73	0.79
Total	126.23	1.42	4.36	7.60	11.58	13.19	14.92	16.20	17.47	18.96	20.52

Table 9.3b4: Estimations of Recurring Cost of IKGPTU Regional Campus-Bhikiwind (Rs in crores)

Particulars	Total	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
<u>EXPENDITURE</u>											
Employees Remuneration	59.70	0.81	2.03	3.54	5.26	6.18	7.14	7.71	8.33	8.99	9.71
Other Benefit to Employees	13.62	0.16	0.41	0.74	1.10	1.36	1.57	1.77	1.91	2.16	2.43
Electricity Expenses	9.09	0.10	0.37	0.66	0.98	1.04	1.11	1.15	1.20	1.24	1.26
Generator Running & Maint. Exp.	1.02	0.01	0.03	0.06	0.10	0.11	0.12	0.13	0.14	0.15	0.16
Gen. & Admn. Expenses	7.50	0.09	0.27	0.45	0.67	0.75	0.83	0.94	1.05	1.16	1.28
Hostel Charges	0.58	0.00	0.02	0.04	0.06	0.06	0.07	0.07	0.08	0.08	0.09
<u>Contractual Services</u>											
Staff Expenses	1.86	0.02	0.06	0.10	0.15	0.18	0.23	0.25	0.27	0.29	0.31
Security Expenses	3.80	0.07	0.19	0.25	0.41	0.39	0.42	0.46	0.49	0.53	0.58
Total	97.17	1.27	3.38	5.86	8.72	10.08	11.49	12.48	13.46	14.61	15.82

Table 9.3b5: Estimations of Recurring Cost of IKGPTU Regional Campus-Dinanagar (Rs in crores)

Particulars	Total	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
<u>EXPENDITURE</u>											
Employees Remuneration	75.06	1.15	2.59	4.43	6.10	7.54	9.08	9.80	10.59	11.43	12.35
Other Benefit to Employees	17.14	0.23	0.52	0.93	1.28	1.66	2.00	2.25	2.44	2.74	3.09
Electricity Expenses	10.43	0.16	0.41	0.71	0.97	1.13	1.31	1.36	1.42	1.47	1.49
Generator Running & Maint. Exp.	0.99	0.01	0.03	0.06	0.08	0.10	0.12	0.13	0.14	0.15	0.16
Gen. & Admn. Expenses	10.41	0.16	0.37	0.61	0.83	1.00	1.19	1.33	1.48	1.64	1.81
Hostel Charges	0.89	0.01	0.03	0.05	0.07	0.09	0.11	0.12	0.13	0.14	0.15
<u>Contractual Services</u>											
Staff Expenses	2.13	0.02	0.06	0.11	0.17	0.21	0.26	0.29	0.31	0.33	0.36
Security Expenses	5.60	0.14	0.27	0.38	0.54	0.54	0.63	0.69	0.74	0.80	0.86
Total	122.65	1.89	4.28	7.29	10.05	12.28	14.70	15.97	17.23	18.71	20.26

Table 9.3b6: Estimations of Recurring Cost of IKGPTU Regional Campus-Hoshiarpur (Rs in crores)

Particulars	Total	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
<u>EXPENDITURE</u>											
Employees Remuneration	92.13	1.07	3.12	5.56	8.33	9.66	10.98	11.85	12.80	13.83	14.93
Other Benefit to Employees	21.02	0.21	0.62	1.17	1.75	2.13	2.41	2.73	2.94	3.32	3.73
Electricity Expenses	12.02	0.12	0.48	0.88	1.31	1.38	1.46	1.52	1.58	1.63	1.66
Generator Running & Maint. Exp.	1.53	0.01	0.05	0.10	0.15	0.17	0.18	0.20	0.21	0.23	0.25
Gen. & Admn. Expenses	12.63	0.14	0.45	0.79	1.17	1.30	1.43	1.58	1.75	1.92	2.11
Hostel Charges	1.15	0.01	0.04	0.07	0.12	0.12	0.13	0.15	0.16	0.17	0.18
<u>Contractual Services</u>											
Staff Expenses	2.58	0.02	0.08	0.14	0.21	0.26	0.32	0.34	0.37	0.40	0.43
Security Expenses	7.25	0.11	0.39	0.55	0.82	0.73	0.79	0.86	0.93	1.00	1.08
Total	150.31	1.70	5.23	9.25	13.86	15.75	17.70	19.22	20.73	22.50	24.37

Table 9.3b7: Estimations of Recurring Cost of IKGPTU Regional Campus-Sultanpur Lodhi (Rs in crores)

Particulars	Total	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
<u>EXPENDITURE</u>											
Employees Remuneration	78.53	0.62	2.03	4.20	6.21	8.42	9.72	10.50	11.34	12.25	13.23
Other Benefit to Employees	17.98	0.12	0.41	0.88	1.30	1.85	2.14	2.42	2.61	2.94	3.31
Electricity Expenses	15.64	0.02	0.43	0.97	1.43	1.91	2.02	2.11	2.19	2.27	2.30
Generator Running & Maint. Exp.	0.98	0.01	0.02	0.05	0.08	0.11	0.12	0.13	0.14	0.15	0.16
Gen. & Admn. Expenses	10.16	0.07	0.27	0.55	0.80	1.07	1.19	1.33	1.47	1.63	1.79
Hostel Charges	0.85	-	0.02	0.05	0.07	0.10	0.11	0.11	0.12	0.13	0.14
<u>Contractual Services</u>											
Staff Expenses	2.25	0.02	0.06	0.11	0.17	0.23	0.28	0.30	0.33	0.36	0.38
Security Expenses	5.34	-	0.19	0.34	0.50	0.59	0.63	0.69	0.74	0.80	0.86
Total	131.73	0.87	3.43	7.15	10.55	14.29	16.22	17.58	18.94	20.52	22.18

9.3.1 Employees Remuneration and Benefits for On- Roll staff

The employees' costs, pay structures for various categories of staff have been considered as per **6th pay commission norms of UGC**. However, the overall impact of seventh pay commission on the basis of present recommendation will lead to additional financial implication of around 30% (23.55 plus allowance impact thereon) over and above estimates worked out for Salary as per 6th pay commission.

The employees' costs also include cost of other benefits like Medical Re-imburement, LTA, Education Allowance, Retirement Benefits etc. Since the period of estimation is spread over to ten years therefore to cover the future inflation costs an increment of 8% has been provided every year. In order to calculate Cost towards other emoluments/benefits to staff a provision of 20 to 25% has been made every year on the Salary Cost. The Expenditure towards Employees Remuneration and Benefits for On- Roll staff of the IKGPTU has been shown below in **Table 9.3c**

Table 9.3c: Estimations of Employees Cost on Roll of IKGPTU (Rs. crores)

SI. No.	Head of expenditure	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
1	Salary										
	Faculty Staff	11.26	21.82	35.45	50.42	63.08	74.01	82.67	90.16	98.03	105.87
	Non - Faculty Academic Staff	0.87	1.03	2.05	2.41	2.92	3.16	3.65	3.95	4.26	4.60
	Support Staff (other)	4.54	10.94	18.56	26.77	37.12	47.68	51.50	55.61	60.06	64.87
	Total	16.66	33.80	56.06	79.61	103.12	124.85	137.82	149.72	162.35	175.34
2	Others-Components	3.33	6.76	11.77	16.72	22.69	27.47	31.70	34.44	38.96	43.83
	(Leave Encash ,T.A./L.T.C., Children Edu. Allowances, Prof. Dev. Allowances, Retirement Benefits, other allowances)										
	Total (1+2)	20.00	40.55	67.83	96.32	125.81	152.32	169.52	184.15	201.31	219.17

Estimation of Employee Cost Campus Wise :- Table 9.3c1 to 9.3c7

Table 9.3c1: Estimations of Employees Cost on Roll of IKGPTU Main Campus-Kapurthala

(Rs. in crores)

SI. No.	Head of expenditure	A.Y.1	A.Y.2	A.Y.3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
1	Salary										
	Faculty Staff	8.23	12.90	19.09	26.03	34.82	42.43	48.56	53.32	58.24	62.90
	Non - Faculty Academic Staff	0.40	0.53	1.50	1.82	2.28	2.47	2.91	3.14	3.39	3.66
	Support Staff (other)	2.75	6.47	10.66	15.10	21.16	27.37	29.56	31.92	34.47	37.23
	Total	11.39	19.90	31.25	42.96	58.27	72.26	81.02	88.38	96.10	103.79
2	Others-Components	2.28	3.98	6.56	9.02	12.82	15.90	18.64	20.33	23.06	25.95
	(Leave Encash ,T.A./L.T.C., Children Edu. Allowances, Prof. Dev. Allowances, Retirement Benefits, other allowances)										
	Total (1+2)	13.67	23.88	37.81	51.98	71.09	88.16	99.66	108.70	119.17	129.74

Table 9.3c2: Estimations of Employees Cost on Roll of IKGPTU Regional Campus-Amritsar (Rs. in crores)

SI. No.	Head of expenditure	A.Y.1	A.Y.2	A.Y.3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
1	Salary										
	Faculty Staff	0.38	0.76	1.20	1.94	2.43	3.21	3.47	3.75	4.05	4.37
	Non - Faculty Academic Staff	0.08	0.08	0.09	0.10	0.10	0.11	0.12	0.13	0.14	0.15
	Support Staff (other)	0.29	0.69	1.28	1.86	2.52	3.18	3.43	3.71	4.00	4.32
	Total	0.75	1.54	2.57	3.89	5.05	6.50	7.02	7.59	8.19	8.85
2	Others-Components	0.15	0.31	0.54	0.82	1.11	1.43	1.62	1.74	1.97	2.21
	(Leave Encash ,T.A./L.T.C., Children Edu. Allowances, Prof. Dev. Allowances, Retirement Benefits, other allowances)										
	Total (1+2)	0.89	1.84	3.11	4.71	6.16	7.94	8.64	9.33	10.16	11.06

Table 9.3c3: Estimations of Employees Cost on Roll of IKGPTU Regional Campus-Batala (Rs. in crores)

Sl. No.	Head of expenditure	A.Y.1	A.Y.2	A.Y.3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
1	Salary										
	Faculty Staff	0.52	1.74	3.05	4.76	5.14	5.55	5.99	6.47	6.99	7.55
	Non - Faculty Academic Staff	0.08	0.08	0.09	0.10	0.10	0.11	0.12	0.13	0.14	0.15
	Support Staff (other)	0.29	0.76	1.35	2.00	2.75	3.51	3.79	4.10	4.42	4.78
	Total	0.89	2.58	4.49	6.86	7.99	9.17	9.91	10.70	11.56	12.48
2	Others-Components	0.18	0.52	0.94	1.44	1.76	2.02	2.28	2.46	2.77	3.12
	(Leave Encash ,T.A./L.T.C., Children Edu. Allowances, Prof. Dev. Allowances, Retirement Benefits, other allowances)										
	Total (1+2)	1.06	3.10	5.44	8.30	9.75	11.19	12.19	13.16	14.33	15.60

Table 9.3c4: Estimations of Employees Cost on Roll of IKGPTU Regional Campus-Bhikiwind (Rs. in crores)

SI. No.	Head of expenditure	A.Y.1	A.Y.2	A.Y.3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
1	Salary										
	Faculty Staff	0.44	1.19	2.17	3.30	3.56	3.85	4.16	4.49	4.85	5.23
	Non - Faculty Academic Staff	0.08	0.08	0.09	0.10	0.10	0.11	0.12	0.13	0.14	0.15
	Support Staff (other)	0.29	0.76	1.28	1.86	2.52	3.18	3.43	3.71	4.00	4.32
	Total	0.81	2.03	3.54	5.26	6.18	7.14	7.71	8.33	8.99	9.71
2	Others-Components	0.16	0.41	0.74	1.10	1.36	1.57	1.77	1.91	2.16	2.43
	(Leave Encash ,T.A./L.T.C., Children Edu. Allowances, Prof. Dev. Allowances, Retirement Benefits, other allowances)										
	Total (1+2)	0.97	2.44	4.29	6.36	7.55	8.71	9.48	10.24	11.15	12.14

Table 9.3c5: Estimations of Employees Cost on Roll of IKGPTU Regional Campus-Dinanagar (Rs. in crores)

Sl. No.	Head of expenditure	A.Y.1	A.Y.2	A.Y.3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
1	Salary										
	Faculty Staff	0.78	1.74	3.05	4.13	4.91	5.78	6.24	6.74	7.27	7.86
	Non - Faculty Academic Staff	0.08	0.09	0.10	0.11	0.11	0.12	0.13	0.14	0.16	0.17
	Support Staff (other)	0.29	0.76	1.28	1.86	2.52	3.18	3.43	3.71	4.00	4.32
	Total	1.15	2.59	4.43	6.10	7.54	9.08	9.80	10.59	11.43	12.35
2	Others-Components	0.23	0.52	0.93	1.28	1.66	2.00	2.25	2.44	2.74	3.09
	(Leave Encash ,T.A./L.T.C., Children Edu. Allowances, Prof. Dev. Allowances, Retirement Benefits, other allowances)										
	Total (1+2)	1.38	3.11	5.37	7.38	9.20	11.07	12.06	13.02	14.18	15.44

Table 9.3c6: Estimations of Employees Cost on Roll of IKGPTU Regional Campus-Hoshiarpur (Rs. in crores)

SI. No.	Head of expenditure	A.Y.1	A.Y.2	A.Y.3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
1	Salary										
	Faculty Staff	0.70	2.28	4.12	6.23	6.73	7.27	7.85	8.48	9.16	9.89
	Non - Faculty Academic Staff	0.08	0.08	0.09	0.10	0.10	0.11	0.12	0.13	0.14	0.15
	Support Staff (other)	0.29	0.76	1.35	2.00	2.83	3.59	3.88	4.19	4.53	4.89
	Total	1.07	3.12	5.56	8.33	9.66	10.98	11.85	12.80	13.83	14.93
2	Others-Components	0.21	0.62	1.17	1.75	2.13	2.41	2.73	2.94	3.32	3.73
	(Leave Encash ,T.A./L.T.C., Children Edu. Allowances, Prof. Dev. Allowances, Retirement Benefits, other allowances)										
	Total (1+2)	1.28	3.74	6.72	10.08	11.79	13.39	14.58	15.75	17.14	18.66

Table 9.3c7: Estimations of Employees Cost on Roll of IKGPTU Regional Campus- Sultanpur Lodhi (Rs. in crores)

Sl. No.	Head of expenditure	A.Y.1	A.Y.2	A.Y.3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
1	Salary										
	Faculty Staff	0.20	1.19	2.77	4.04	5.49	5.93	6.41	6.92	7.47	8.07
	Non - Faculty Academic Staff	0.08	0.08	0.09	0.10	0.10	0.11	0.12	0.13	0.14	0.15
	Support Staff (other)	0.34	0.76	1.35	2.08	2.83	3.68	3.97	4.29	4.63	5.00
	Total	0.62	2.03	4.20	6.21	8.42	9.72	10.50	11.34	12.25	13.23
2	Others-Components	0.12	0.41	0.88	1.30	1.85	2.14	2.42	2.61	2.94	3.31
	(Leave Encash , T.A./L.T.C., Children Edu. Allowances, Prof. Dev. Allowances, Retirement Benefits, other allowances)										
	Total (1+2)	0.74	2.44	5.09	7.51	10.28	11.86	12.92	13.95	15.19	16.53

9.3.2 Employees Cost towards Contractual Staff - Grade 4

In order to estimate cost towards grade - 4 Contractual Staff i.e. housekeeping/cleaning, office support staff, sanitation staff, horticulture service, guest house service, canteen service, laundry service and other multitasking staff, assumption has been made for calculating the total number of staff year wise. The number of grade 4 contractual staff has been assumed as 20-25% of total staff on roll. The cost of per contractual employee / per year has been estimated on the basis of prevailing rates of the area and keeping in view of the latest minimum wages notified by the Government of Punjab. Since the period of estimation is spread over to 10 years therefore to cover the further inflation costs an increment of 8% has been provided every year. The expenditure towards employees cost towards Contractual Staff –grade 4, has been shown below in **Table 9.3d**.

**Table 9.3d: Estimations of Employees cost towards Contractual Staff of IKGPTU
(Rs in crores)**

Particulars	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
Staff Outsourced	37	79	124	168	206	241	244	245	246	246
Total Contractual Staff Cost	0.44	1.02	1.74	2.80	3.72	5.32	5.81	6.31	6.82	7.36

Estimation of Employee Cost towards Contractual Staff Campus wise :- Table 9.3d1 to 9.3d7

**Table 9.3d1: Estimations of Employees cost towards Contractual Staff of IKGPTU Main Campus-
Kapurthala (Rs in crores)**

Particulars	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
Staff Outsourced	25	49	75	101	128	152	155	157	157	157
Total Contractual Staff Cost	0.30	0.64	1.05	1.53	2.09	2.68	2.95	3.23	3.49	3.77

**Table 9.3d2: Estimations of Employees cost towards Contractual Staff of IKGPTU Main Campus-
Amritsar (Rs in crores)**

Particulars	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
Staff Outsourced	2	4	6	8	10	12	12	12	12	12
Total Contractual Staff Cost	0.02	0.05	0.08	0.12	0.16	0.21	0.23	0.25	0.27	0.29

Table 9.3d3: Estimations of Employees cost towards Contractual Staff of IKGPTU Regional Campus-Batala (Rs in crores)

Particulars	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
Staff Outsourced	2	5	9	12	14	15	15	15	15	15
Total Contractual Staff Cost	0.02	0.06	0.13	0.18	0.23	0.26	0.29	0.31	0.33	0.36

Table 9.3d4: Estimations of Employees cost towards Contractual Staff of IKGPTU Regional Campus-Bhikiwind (Rs in crores)

Particulars	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
Staff Outsourced	2	5	7	10	11	13	13	13	13	13
Total Contractual Staff Cost	0.02	0.06	0.10	0.15	0.18	0.23	0.25	0.27	0.29	0.31

Table 9.3d5 Estimations of Employees cost towards Contractual Staff of IKGPTU Regional Campus-Dinanagar (Rs in crores)

Particulars	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
Staff Outsourced	2	5	8	11	13	15	15	15	15	15
Total Contractual Staff Cost	0.02	0.06	0.11	0.17	0.21	0.26	0.29	0.31	0.33	0.36

Table 9.3d6: Estimations of Employees cost towards Contractual Staff of IKGPTU Regional Campus Hoshiarpur (Rs in crores)

Particulars	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
Staff Outsourced	2	6	10	14	16	18	18	18	18	18
Total Contractual Staff Cost	0.02	0.08	0.14	0.21	0.26	0.32	0.34	0.37	0.40	0.43

Table9.3d7: Estimations of Employees cost towards Contractual Staff of IKGPTU Regional Campus-SultanpurLodhi (Rs in crores)

Particulars	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
Staff Outsourced	2	5	8	11	14	16	16	16	16	16
Total Contractual Staff Cost	0.02	0.06	0.11	0.17	0.23	0.28	0.30	0.33	0.36	0.38

9.3.3 Security Services Expenses

In order to estimate cost towards Security Services, it was essential to first work out the estimated numbers of Security staff so required. To work out the estimated numbers of Security staff, the following assumptions has been made:-

- a) Requirement of Security Staff has been calculated at the rate of 5% and 4% of the total Student strength of the University for the first and second year respectively at the rate of 3% for next two years and at the rate of 2.5% of the total student strength for the remaining six years of the initial ten academic years.
- b) It has been assumed that the single shift be of eight hours per day. As such there will be three shifts in a day. Hence, the number of Security staff so arrived at (a) above, has been multiplied by three.

The Cost of per Security Staff/per year has been estimated on the basis of prevailing rates and keeping in view of notified minimum wages by Government of Punjab. Since the period of estimation is spread over to ten years therefore to cover the future inflation costs an increment of 8% has been provided every year. The estimated expenditure towards Security arrangements has been shown below in **Table 9.3e**

Table 9.3e: Estimations of Cost Towards Security Services of IKGPTU (Rs in crores)

Particulars	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
Total No. of Security Guard per shift	41	90	110	159	158	175	181	183	184	184
No. of Shift	3	3	3	3	3	3	3	3	3	3
Total Security charges	1.48	3.50	4.62	7.21	7.74	9.26	10.34	11.29	12.26	13.24

Estimation of Cost towards Security Services Campus Wise :- Table 9.3e1 to 9.3e7

Table 9.3e1: Estimations of Cost Towards Security Services of IKGPTU Main Campus-Kapurthala (Rs in crores)

Particulars	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
Total No. of Security Guard per shift	29	54	62	89	95	111	117	119	120	120
No. of Shift	3	3	3	3	3	3	3	3	3	3
Total Security charges	1.04	2.10	2.60	4.04	4.65	5.87	6.68	7.34	8.00	8.64

Table 9.3e2: Estimations of Cost Towards Security Services of IKGPTU Regional Campus-Amritsar (Rs in crores)

Particulars	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
Total No. of Security Guard per shift	1	2	3	6	6	6	6	6	6	6
No. of Shift	3	3	3	3	3	3	3	3	3	3
Total Security charges	0.04	0.08	0.13	0.27	0.29	0.32	0.34	0.37	0.40	0.43

**Table9.3e3: Estimations of Cost Towards Security Services of IKGPTU
Regional Campus-Batala (Rs in crores)**

Particulars	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
Total No. of Security Guard per shift	2	7	9	14	11	11	11	11	11	11
No. of Shift	3	3	3	3	3	3	3	3	3	3
Total Security charges	0.07	0.27	0.38	0.63	0.54	0.58	0.63	0.68	0.73	0.79

**Table 9.3e4: Estimations of Cost Towards Security Services of IKGPTU Regional Campus-Bhikiwind
(Rs in crores)**

Particulars	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
Total No. of Security Guard per shift	2	5	6	9	8	8	8	8	8	8
No. of Shift	3	3	3	3	3	3	3	3	3	3
Total Security charges	0.07	0.19	0.25	0.41	0.39	0.42	0.46	0.49	0.53	0.58

**Table 9.3e5: Estimations of Cost Towards Security Services of IKGPTU Regional Campus-Dinanagar
(Rs in crores)**

Particulars	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
Total No. of Security Guard per shift	4	7	9	12	11	12	12	12	12	12
No. of Shift	3	3	3	3	3	3	3	3	3	3
Total Security charges	0.14	0.27	0.38	0.54	0.54	0.63	0.69	0.74	0.80	0.86

**Table 9.3e6: Estimations of Cost Towards Security Services of IKGPTU Regional Campus-Hoshiarpur
(Rs in crores)**

Particulars	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
Total No. of Security Guard per shift	3	10	13	18	15	15	15	15	15	15
No. of Shift	3	3	3	3	3	3	3	3	3	3
Total Security charges	0.11	0.39	0.55	0.82	0.73	0.79	0.86	0.93	1.00	1.08

**Table 9.3e7: Estimations of Cost Towards Security Services of IKGPTU Regional Campus- SultanpurLodhi
(Rs in crores)**

Particulars	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
Total No. of Security Guard per shift	0	5	8	11	12	12	12	12	12	12
No. of Shift	3	3	3	3	3	3	3	3	3	3
Total Security charges	-	0.19	0.34	0.50	0.59	0.63	0.69	0.74	0.80	0.86

9.3.4 Electricity and Generator Backup Expenses

This estimation is based on the total requirement of electricity Consumption for IKGPTU Main Campus as well its Regional Campuses and prevailing rates for educational institutes in the state of Punjab along with the proposed Generator Back up for each Campus of the University. Since the estimates are spread over ten years and in order to negate the future changes in electricity rates as well as diesel rates, the cost per unit has been built on incremental basis.

The estimated expenditure towards Electricity and Generator Expenses for IKGPTU has been shown below in **Table 9.3f and 9.3g respectively.**

Table 9.3f: Estimations of Electricity Expenses of IKGPTU (Rs in crores)

Particulars	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
Rate per unit (in Rupees)	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.10
Total cost per year (in Crores)	2.16	6.12	10.56	15.60	19.58	22.86	24.58	25.78	26.83	27.22

Table 9.3g: Estimations of Generator Expenses of IKGPTU (Rs in crores)

Particulars	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
Rate Per Hrs	18.00	19.44	21.00	22.67	24.49	26.45	28.56	30.85	33.32	35.98
Total Cost Per Year	0.07	0.23	0.46	0.71	0.85	0.99	1.08	1.17	1.26	1.36

For Estimation of Electricity and Generator Expenses Campus Wise- Refer Annexure 9.3f1 to 9.3f7

9.3.5 General and Administrative Expenses

These expenses are related to printing & stationery, water charges, telephone, fax, postage, advertising and publicity, traveling and conveyance, Training, committee Meetings, e-journal, Scholarship & Fellowship expenses, other administrative expenses and contingencies. The expenses have been estimated keeping in view the total strength of students as well as total staff in campus. The estimated expenditure towards General and Administrative Expenses of the IKGPTU has been shown below in **Table 9.3h**.

Table 9.3h: Estimations of General and Administrative Expenses of IKGPTU (Rs in Cores)

Particulars	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
Total Cost Per Year	4.55	9.90	14.24	19.71	25.98	30.66	33.46	36.36	40.45	43.19

Estimates of General and Administrative Expenses Campus Wise:- Table 9.3h1 to 9.3h7

**Table 9.3h1: Estimations of General and Administrative Expenses of IKGPTU Main Campus-Kapurthala
(Rs in crores)**

Particulars	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
Printing & Stationery & Examination Exps	0.20	0.46	0.74	1.09	1.49	1.87	2.12	2.32	2.52	2.72
Telephone /Fax/ Lease Line Rent	0.15	0.35	0.58	0.88	1.22	1.57	1.79	1.96	2.13	2.30
Postage & Courier Charges	0.04	0.09	0.14	0.21	0.29	0.37	0.42	0.46	0.50	0.54
Entertainment Expenses	0.05	0.12	0.19	0.28	0.38	0.47	0.54	0.59	0.64	0.69
Advertisement & Publicity	0.23	0.51	0.82	1.21	1.65	2.08	2.34	2.56	2.78	3.00
Canteen & Service exp.	0.10	0.23	0.37	0.54	0.73	0.92	1.03	1.13	1.23	1.32
Travelling & Conveyance	0.22	0.49	0.80	1.17	1.60	2.01	2.26	2.48	2.69	2.90
Other Expenses	0.10	0.22	0.35	0.52	0.71	0.89	1.01	1.11	1.21	1.30
Fellowship &ScholarshipExps	1.72	4.07	5.01	6.65	9.48	11.16	11.16	11.16	12.57	12.57
Subscription to e journals	1.00	1.25	1.50	1.70	1.75	1.80	2.00	2.50	2.75	3.00
Repair & Maint., Insurance	0.09	0.24	0.42	0.58	0.94	1.00	1.50	2.00	2.50	3.00
TOTAL	3.89	8.02	10.92	14.85	20.23	24.15	26.18	28.27	31.50	33.35

Table 9.3h2: Estimations of General and Administrative Expenses of Regional Campus- Amritsar

(Rs in crores)

Particulars	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
Printing & Stationery & Examination Exps	0.01	0.02	0.04	0.07	0.09	0.12	0.12	0.13	0.14	0.16
Telephone /Fax/ Lease Line Rent	0.01	0.02	0.03	0.06	0.08	0.10	0.11	0.12	0.12	0.13
Postage & Courier Charges	0.01	0.00	0.01	0.01	0.02	0.02	0.02	0.03	0.03	0.03
Entertainment Expenses	0.01	0.01	0.01	0.02	0.02	0.03	0.03	0.03	0.04	0.04
Advertisement & Publicity	0.01	0.03	0.05	0.08	0.11	0.14	0.15	0.16	0.17	0.18
Canteen & Service exp.	0.01	0.01	0.02	0.04	0.05	0.06	0.07	0.07	0.08	0.08
Travelling & Conveyance	0.01	0.03	0.05	0.08	0.10	0.13	0.14	0.15	0.17	0.18
Other Expenses	0.01	0.01	0.02	0.04	0.04	0.06	0.06	0.06	0.07	0.07
Repair & Maint., Insurance	0.02	0.04	0.05	0.06	0.07	0.08	0.11	0.15	0.19	0.23
TOTAL	0.08	0.17	0.30	0.47	0.59	0.72	0.81	0.91	1.00	1.11

**Table 9.3h3: Estimations of General and Administrative Expenses of Regional Campus- Batala
(Rs in crores)**

Particulars	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
Printing & Stationery & Examination Exps	0.02	0.06	0.11	0.16	0.17	0.19	0.20	0.22	0.24	0.26
Telephone /Fax/ Lease Line Rent	0.01	0.04	0.08	0.13	0.14	0.16	0.17	0.19	0.20	0.22
Postage & Courier Charges	0.01	0.01	0.02	0.03	0.03	0.04	0.04	0.04	0.05	0.05
Entertainment Expenses	0.01	0.01	0.03	0.04	0.04	0.05	0.05	0.06	0.06	0.07
Advertisement & Publicity	0.02	0.06	0.11	0.17	0.19	0.21	0.23	0.25	0.26	0.29
Canteen & Service exp.	0.01	0.03	0.05	0.07	0.08	0.09	0.10	0.11	0.12	0.13
Travelling & Conveyance	0.02	0.06	0.11	0.16	0.18	0.20	0.22	0.24	0.26	0.28
Other Expenses	0.01	0.03	0.05	0.08	0.08	0.09	0.10	0.11	0.11	0.12
Repair & Maint., Insurance	0.03	0.05	0.07	0.09	0.11	0.11	0.17	0.23	0.29	0.34
TOTAL	0.12	0.36	0.63	0.93	1.04	1.15	1.29	1.43	1.59	1.75

Table 9.3h4: Estimations of General and Administrative Expenses of IKGPTU Regional Campus- Bhikiwind

(Rs in crores)

Particulars	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
Printing & Stationery & Examination Exps	0.01	0.04	0.07	0.11	0.12	0.13	0.14	0.16	0.17	0.18
Telephone /Fax/ Lease Line Rent	0.01	0.03	0.06	0.09	0.10	0.11	0.12	0.13	0.14	0.15
Postage & Courier Charges	0.01	0.01	0.01	0.02	0.02	0.03	0.03	0.03	0.03	0.04
Entertainment Expenses	0.01	0.01	0.02	0.03	0.03	0.03	0.04	0.04	0.04	0.05
Advertisement & Publicity	0.01	0.05	0.08	0.12	0.14	0.15	0.16	0.18	0.19	0.21
Canteen & Service exp.	0.01	0.02	0.04	0.05	0.06	0.07	0.07	0.08	0.09	0.09
Travelling & Conveyance	0.01	0.04	0.08	0.12	0.13	0.15	0.16	0.17	0.19	0.20
Other Expenses	0.01	0.02	0.04	0.05	0.06	0.06	0.07	0.07	0.08	0.09
Repair & Maint., Insurance	0.02	0.04	0.06	0.08	0.09	0.09	0.14	0.19	0.23	0.28
TOTAL	0.09	0.27	0.45	0.67	0.75	0.83	0.94	1.05	1.16	1.28

Table 9.3h5: Estimations of General and Administrative Expenses of IKGPTU Regional Campus- Dinanagar (Rs in crores)

Particulars	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
Printing & Stationery & Examination Exps	0.02	0.06	0.10	0.14	0.17	0.20	0.21	0.23	0.25	0.27
Telephone /Fax/ Lease Line Rent	0.02	0.04	0.08	0.11	0.14	0.17	0.18	0.19	0.21	0.23
Postage & Courier Charges	0.01	0.01	0.02	0.03	0.03	0.04	0.04	0.05	0.05	0.05
Entertainment Expenses	0.01	0.01	0.03	0.04	0.04	0.05	0.05	0.06	0.06	0.07
Advertisement & Publicity	0.03	0.06	0.11	0.15	0.18	0.22	0.23	0.25	0.27	0.30
Canteen & Service exp.	0.01	0.03	0.05	0.07	0.08	0.10	0.10	0.11	0.12	0.13
Travelling & Conveyance	0.03	0.06	0.10	0.14	0.17	0.21	0.23	0.24	0.26	0.29
Other Expenses	0.01	0.03	0.05	0.07	0.08	0.10	0.10	0.11	0.12	0.13
Repair & Maint., Insurance	0.03	0.06	0.07	0.09	0.11	0.12	0.17	0.23	0.29	0.35
TOTAL	0.16	0.37	0.61	0.83	1.00	1.19	1.33	1.48	1.64	1.81

Table 9.3h6: Estimations of General and Administrative Expenses of IKGPTU Regional Campus-Hoshiarpur (Rs in crores)

Particulars	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
Printing & Stationery & Examination Exps	0.02	0.08	0.14	0.21	0.22	0.25	0.26	0.29	0.31	0.33
Telephone /Fax/ Lease Line Rent	0.01	0.06	0.11	0.17	0.18	0.20	0.22	0.24	0.26	0.28
Postage & Courier Charges	0.01	0.01	0.03	0.04	0.04	0.05	0.05	0.06	0.06	0.07
Entertainment Expenses	0.01	0.02	0.03	0.05	0.06	0.06	0.07	0.07	0.08	0.08
Advertisement & Publicity	0.02	0.08	0.14	0.22	0.24	0.27	0.29	0.31	0.33	0.36
Canteen & Service exp.	0.01	0.03	0.06	0.09	0.10	0.12	0.13	0.14	0.15	0.16
Travelling & Conveyance	0.02	0.08	0.14	0.21	0.23	0.26	0.28	0.30	0.32	0.35
Other Expenses	0.01	0.04	0.07	0.10	0.11	0.12	0.13	0.14	0.15	0.16
Repair & Maint., Insurance	0.02	0.05	0.07	0.09	0.10	0.11	0.16	0.22	0.27	0.32
TOTAL	0.14	0.45	0.79	1.17	1.30	1.43	1.58	1.75	1.92	2.11

Table 9.3h7: Estimations of General and Administrative Expenses of IKGPTU Regional Campus-SultanpurLodhi (Rs in crores)

Particulars	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
Printing & Stationery & Examination Exps	0.01	0.04	0.09	0.13	0.18	0.20	0.21	0.23	0.25	0.27
Telephone /Fax/ Lease Line Rent	0.01	0.03	0.07	0.11	0.15	0.17	0.18	0.20	0.21	0.23
Postage & Courier Charges	0.00	0.01	0.02	0.03	0.04	0.04	0.04	0.05	0.05	0.05
Entertainment Expenses	0.00	0.01	0.02	0.03	0.05	0.05	0.05	0.06	0.06	0.07
Advertisement & Publicity	0.01	0.05	0.10	0.14	0.20	0.22	0.24	0.26	0.28	0.30
Canteen & Service exp.	0.01	0.02	0.04	0.06	0.09	0.10	0.11	0.11	0.12	0.13
Travelling & Conveyance	0.01	0.04	0.09	0.14	0.19	0.21	0.23	0.25	0.27	0.29
Other Expenses	0.01	0.02	0.04	0.06	0.09	0.10	0.10	0.11	0.12	0.13
Repair & Maint., Insurance	0.02	0.05	0.07	0.09	0.10	0.11	0.16	0.21	0.27	0.32
TOTAL	0.07	0.27	0.55	0.80	1.07	1.19	1.33	1.47	1.63	1.79

9.3.6 Hostel Expenses

The estimation of Hostel expenses is based on the assumption that 90% of the Total Hostel expenses will be recovered from the students. As such only 10% expenditure has been provided in the recurring cost estimation. The year wise estimation of Hostel Expenses has been shown below in **Table 9.3i**.

Table 9.3i: Estimations of Hostel Expenses of IKGPTU (Rs in crores)

Particular	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
Hostel Charges	1.24	3.70	6.58	10.08	12.99	15.62	17.52	19.13	20.75	22.41
10% of Hostel Charges	0.12	0.37	0.66	1.01	1.30	1.56	1.75	1.91	2.07	2.24

Estimates of Hostel Expenses Campus Wise:- Table 9.3i1 to 9.3i7

Table 9.3i1: Estimations of Hostel Expenses of IKGPTU Main Campus-Kapurthala (Rs in crores)

Particular	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
Hostel Charges	0.89	2.22	3.70	5.67	7.85	9.90	11.35	12.47	13.55	14.63
10% of Hostel Charges	0.09	0.22	0.37	0.57	0.79	0.99	1.13	1.25	1.35	1.46

Table 9.3i2: Estimations of Hostel Expenses of IKGPTU Regional Campus-Amritsar (Rs in crores)

Particular	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
Hostel Charges	0.02	0.10	0.20	0.37	0.46	0.56	0.60	0.65	0.71	0.76
10% of Hostel Charges	0.00	0.01	0.02	0.04	0.05	0.06	0.06	0.07	0.07	0.08

Table 9.3i3: Estimations of Hostel Expenses of IKGPTU Regional Campus-Batala (Rs in crores)

Particular	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
Hostel Charges	0.07	0.30	0.56	0.86	0.93	1.01	1.09	1.18	1.27	1.37
10% of Hostel Charges	0.01	0.03	0.06	0.09	0.09	0.10	0.11	0.12	0.13	0.14

Table 9.3i4: Estimations of Hostel Expenses of Regional Campus-Bhikiwind (Rs in crores)

Particular	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
Hostel Charges	0.05	0.20	0.37	0.58	0.62	0.67	0.73	0.78	0.85	0.91
10% of Hostel Charges	0.00	0.02	0.04	0.06	0.06	0.07	0.07	0.08	0.08	0.09

Table 9.3i5: Estimations of Hostel Expenses of Regional Campus-Dinanagar (Rs in crores)

Particular	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
Hostel Charges	0.11	0.30	0.53	0.75	0.90	1.08	1.16	1.25	1.35	1.46
10% of Hostel Charges	0.01	0.03	0.05	0.07	0.09	0.11	0.12	0.13	0.14	0.15

Table 9.3i6: Estimations of Hostel Expenses of Regional Campus-Hoshiarpur(Rs in crores)

Particular	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
Hostel Charges	0.09	0.40	0.75	1.15	1.24	1.34	1.45	1.57	1.69	1.83
10% of Hostel Charges (in Crores) ***	0.01	0.04	0.07	0.12	0.12	0.13	0.15	0.16	0.17	0.18

Table 9.3i7: Estimations of Hostel Expenses of Regional Campus-SultanpurLodhi (Rs in crores)

Particular	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
Hostel Charges	-	0.19	0.46	0.70	0.98	1.05	1.14	1.23	1.33	1.43
10% of Hostel Charges (in Crores) ***	-	0.02	0.05	0.07	0.10	0.11	0.11	0.12	0.13	0.14

9.4 REVENUE GENERATION

Educational institutions **sell education as a service** for a price in the form of tuition fees by making available academic infrastructure such as library and information resources, laboratory equipment, etc., expert manpower resources (teaching faculty /non-teaching staff) and other supplies. "So if academia walks like a firm, talks like a firm, isn't it a firm? The answer clearly is an emphatic No although not in A Very Simple Way".

The above premise is based on the fact that an educational institution cannot be like a firm in view of its economic characteristics being fundamentally different from that of the 'for-profit' business firms as described hereunder:

- Educational institutions are predominantly operated as 'not-for-profit' entities that are characterized both legally and economically by a **non-distribution constraint**, which means that any profit that they generate cannot be distributed in any manner be it to the promoting trustees or to anyone else but must be retained for use for their own benefit. Thus the prime objective of a 'for-profit' business firm which calls for enhancing value for its shareholders which results in the relentless pursuit of financial accountability and profitability tends to be absent in non-for-profit educational institutions. As a result, there is little pressure on such not-for-profit educational entities to operate efficiently.
- Managers of not-for-profit educational institutes are motivated by different goals which are typically more idealistic than that pursued by managers of for-profit firms. At the same time there is also the danger that the idealistic aims of the managers of the not-for-profit educational institutes may differ from the overall objective of the institutions,

or may be more narrowly defined. A professor in an university may be more focused on his own research than on doing a good job of teaching undergraduates.

- There are two different kinds of non-profit entities---basically distinguished by their revenue sources: **donative non-profits**, who rely on charitable donations from donors who believe in the purposes of these firms and so donate their money to support them and **commercial non-profits**, who sell a product for a price. Educational Institutions are in reality a mix of these two types that may be classified as **donative-commercial non-profits** wherein a part of their revenue comes from sale of services in the form of tuition and other fees, and the rest from charitable contributions --- endowment income, gifts and government grants. In view of these two sources of revenue, donative-commercial non-profits do not have to charge a price that covers their production costs and so can give their customers (the students) a subsidy by selling the product at lower than cost-price. Consequently those institutions that have a higher donative component available to them can offer a higher subsidy to the students. Students realise this and therefore there is a higher demand for such institutions. With a limit on the number of students that an institution can enroll, institutions are forced to screen the students and select only a few. This is the classic IIT model.
- Those buying the education do not really know what they are buying at the time of enrolment. In fact they cannot find out till after they have actually gotten the education. So an institution's reputation is very important in the student's choice of institution. The truth of this premise can be gauged by the fact that most students prefer to join the IITs even if the course available to them is not of their interest, arguing that the '**IIT brand**' in any discipline is better than any other brand in the discipline of their choice.
- Higher education is delivered through a unique process which to a great extent involves customer-input in the form of **peer influence** whereby students help educate students. This is where the selectiveness of institutions in picking students comes into play as institutions care about whom they're selling to. Those institutions that are in demand

have the luxury of picking and choosing students to enhance the peer effect and as a result improve its reputation further which in turn further enhances its demand. The IITs attract the cream of the students and the peer effect is extremely high.

- Institutions that command high student quality also attempt to take advantage of it and enhance the effect of peer influence by increasing opportunities for student interaction through various means such as reduced class sizes, fully residential campuses with students living together in a secluded campus with little room for distraction and so on. On the other hand, institutions with poorer student quality tend to minimize student interaction, with the distance education model avoiding it altogether.
- Institutions differ widely in the price they charge for delivering a very similar value to their customers--- the students. By virtue of their high donative component in the form of government grants, the IITs are able to offer far more value for the same fee than any other institution in India.

Inder Kumar Gujral Punjab Technical University (hereinafter referred to as **IKGPTU**) has since its inception in 1998 functioned as an affiliating university wherein it provided education through affiliated technical and management institutes / colleges, both government and private, in the state of Punjab. It now proposes to broaden itself in to a **Teaching-cum-affiliating University** by offering educational programs at the undergraduate, postgraduate and doctoral levels on its main campus at Kapurthala and at a network of constituent Regional Campuses besides continuing its erstwhile programs at the affiliated institutes / colleges.

In the context of the typical characteristics of an educational institution as indicated herein above, IKGPTU would also have to **offer huge subsidies** in tuition fees if it is to attract talented students to its precincts. Hence it would need to move its focus to the generation of revenue from sources beyond **Tuition Fees**.

Tuition Fees is a price that covers only a fraction of the cost of delivering education to the student akin to the cover price of a newspaper that covers only a fraction of the cost of publishing and delivering the newspaper to the reader. To make up for the the rest of the educational cost, IKGPTU would need to find other means to generate non-tuition revenues just as a newspaper generates non-subscription revenue through advertising in the newspaper.

The burden of operating expenses of a University cannot be passed on to the students beyond a point. As may be seen by examining Table 1, which shows typical revenue figures for U.S. Institutions of Higher Education, student tuition fees constitute around 20%, 30% and 90% of the total revenue in the case of public, ‘not-for-profit’ private institutions and ‘for-profit’ private institutions, respectively. If the contribution of tuition fees to the total revenue even in the case of the U.S.A. which can rightly lay claim to be the world’s foremost proponent of the concept of the market economy is as low as 20-30% one may imagine the position in the rest of the world. Clearly the contribution of tuition fees to the total revenue in the case of IKGPTU cannot therefore exceed 20-30% with the rest being generated from charitable contributions, endowment income, gifts and government grants.

Table 9.4: Sources of Revenue of U.S. Institutions of Higher Education 2013-14

Source of Funding	Public Institutions	Private Not-For-Profit Institutions	Private For-Profit Institutions
Federal / State / Local Government Grants, Contracts & Appropriations	42.00 %	11.00 %	4.00%
Tuition & Fees	20.00 %	30.00 %	90.00%
Investment Income from	6.00 %	25.00 %	0.50%

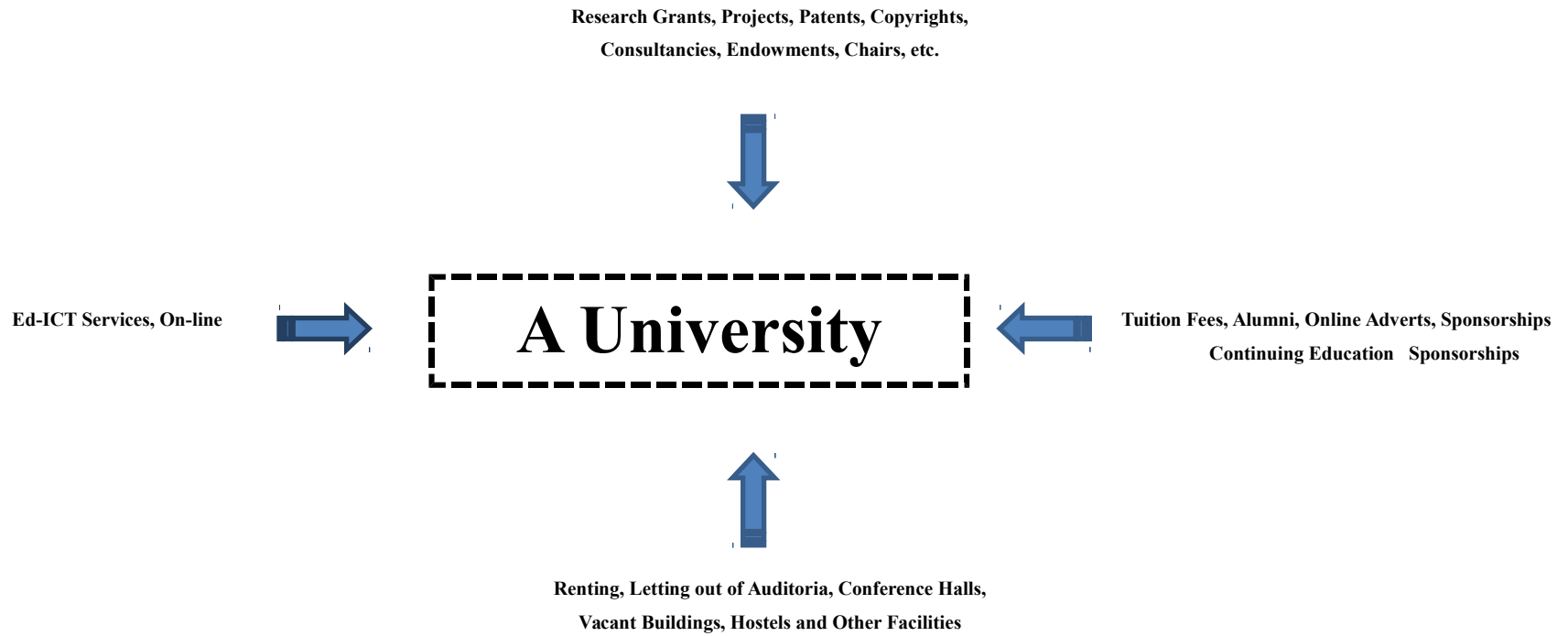
Endowments			
Auxiliary Enterprises	7.00%	7.00%	2.00%
Other Revenue including Gifts / Private Grants / Hospital Revenue / Sales & Services	25.00 %	27.00 %	3.00%
TOTAL REVENUE	\$ 353.00 bn.	\$ 229.00 bn.	\$ 23.00 bn.

One may note that governments grants by way of Plan and Non-Plan Funds are one of the biggest sources of revenue generation for academic institutions even in the U.S.A. Hence IKGPTU would need to rely on this source to a very large extent although if IKGPTU is to become a self reliant Institution even this factor of revenue generation can not be relied on in long run.

Revenue Model Proposed for IKGPTU

As portrayed diagrammatically in Fig. 1 we are proposing a mix model of revenue generation for IKGPTU which includes both the traditional ways (Tuition Fees and Government Grants) as well as new innovative ways such as raising of an Endowment, Sponsorships, Gifts, Consultancies, Projects, Copyrights, Chairs, CEP, E- learning, etc.

Fig. 9.4: Model for Revenue Generation



One of the major components of the new ways of revenue generation world over has been identified through **Endowments**. Most world-class academic institutions, especially those in the USA and more recently those in India, have set-up Endowment Funds which have been found to be critical to their development into world-class academic institutions. A typical endowment fund is generally held in perpetuity and invested in a manner that protects the principal from inflation. The income from the investment of the corpus provides a stable and permanent source of funding for various purposes for which the endowment has been created to serve. The corpus of the endowment is generated through contributions by the promoters and the state/central governments and donations from alumni, industry, philanthropic organizations and well-wishers.

Donations to the endowment fund may be for a specified purpose. In that case it would need to be used only as per the donor's wishes and separate accounts maintained. However, undesignated donations are amalgamated with the corpus of the fund and its interest income utilized at the discretion of the Fund Management.

(i) The basic methodology for a fund raising operation revolves around what one may call as the Five I's process, namely, **identification, information, interest, involvement and investment**, described hereunder. Normally, the investment or gift from individuals, corporations or foundations does not come without something happening regarding the preceding four "I's".

(a) Identification: It is first important to identify as many potential interested parties and have information on those people, corporations and foundations. It is also important to identify those that may be able to help significantly.

(b) Information: Once potential interested parties have been identified, a strategy must be put in place to keep these potential donors informed of one's activities. This information strategy may vary depending on the potential level of commitment by the individual.

(c) Interest: Using the information supplied to potential donors, one begins to identify the areas of interest for the potential donors. Additional information and contacts may be made with the individual regarding the programme of particular interest to them.

(d) Involvement: Out of this interest comes an area to involve the individual so that they may get to better know the institute and participate in its success.

(e) Investment: Once the individual has adequate information and involvement in a programme, they are more likely to invest in the programme with a gift.

(ii) The investment should not be considered as an end to the "Five I's" process, but should be considered as a first step towards additional investment. For this to happen, the prospect must be adequately thanked and recognized for the gift, and then the "Five I's" can begin over again with the donor."

Other Major Component of the University revenue generation can be achieved through Distance Learning Programs, E-MBA (Executive MBA) and CEP. Running of such programs are high in yield and will contribute a good chunk of revenue for the University activities.

With a view to work towards becoming self-reliant in funding it is recommended that IKGPTU puts together at an early stage a marketing team comprising of professional fund raisers supplemented by academics from each of its Faculties of Studies under the leadership of a full-time Dean for Resource Planning & Generation to plan a strategy for fund raising. In this connection it may be desirable to institute an IKGPTU Foundation as a registered trust to enable grant of tax relief to potential donors.

ANNEXURES: 4.1-4.3

Integrated Teacher Training Modules TTM1 and TTM2

TEACHER TRAINING INTEGRATED MODULES ---GENERAL REMARKS

It is proposed to conduct in-service teacher training by way of small self-contained modules each consisting of the following three components:

- Educational psychology of teaching and learning
- Audio-visual and electronic resources which can be employed by teachers and students face-to-face or in distance and self-learning mode
- Teaching methodology, assessment, feedback and other aspects.

It is proposed to package the desired teacher training curriculum under two modules, to be called TTM1 and TTM2 in increasing order of hierarchy of topics. Contents of different components will be selected and arranged in order of need, progression and increasing difficulty index requiring teacher expertise. Examples of topics in the three modules are stated as follows:

- The Educational Psychology component commence with domains of learning, theories of learning, principles of communication, role of learning objectives, motivation, lesson planning, types of evaluation, item analysis theories of learning, models of teaching and educational research.
- The Audio-visual Resources component comprises of effective use of chalkboard followed by charts and hand-outs, overhead projection, use of slides, power point presentations, computer aided packages, video programmes, and other upcoming e-learning technologies..
- The Teaching Methodology component is intended to introduce different methods of teaching including monologue, interactive lectures, large group and small group discussions, demonstrations, question-answer technique, case studies and other modes of presentation. Different techniques of communication and feedback will be employed for effective teaching-learning.

Although the components of each module will be taught separately by the teacher trainers well versed with the content, they will be required to use all the components being covered in the module in order to demonstrate integration of different components. This is required to ensure that the teacher participants realise that it is the combined effect of three components which is required of their own presentations.

Each module will conclude with an individual assignment for all participants. Every participant will be required to demonstrate, by way of a short lesson plan and presentation in his/her own areas of specialisation while others will pose as students and may act as they might do in a classroom situation. The teacher trainers will attend the sessions, fill up a checklist and evaluate their performance in free and friendly manner. This method has been adopted following the 'best practice' worldwide in microteaching sessions and open assessment followed by short discussion.

TEACHER TRAINING INTEGRATED MODULE--- TTM 1

On successful completion of Module TTM 1 including the assignment the participant will be able to:

- Employ the basic principles of educational psychology in learning;
- Prepare and use simple audio-visual resources effectively; and
- Teach with appropriate methods according to a lesson plan.

(i) Topics in Educational Psychology:

Introduction to the domains of learning / theories of learning / Skinners and Pavlov experiments and conclusions / Bloom's taxonomy of learning / Principles of communication / Barriers in communication and overcoming them / writing learning objectives with action verbs and achievable results / Role of learning objectives, motivation, steps of lesson planning and details of lesson plans.

(ii) Topics in Audio-visual Resources:

Types of boards / Chalkboard and methods of its effective usage / Different types of charts, graphs and other printed resources / Types of hand-outs for classroom and their usage / Overhead projectors and types of transparencies / Adjusting the projection without key-stoning / Usefulness for class tests, revision and assignments /Types of slides and slide projectors / Preparing and using slides and effective use of slide projectors.

(iii) Topics in Teaching Methodology:

Different methods of teaching ---their plus points and drawbacks /Types of questions and answers / Employing questions for teaching new concepts / Improving class room

communication with visuals and feedback / Laboratory and practical demonstrations /
Case studies and engaging students to narrate examples and case studies

(iv) Assignments:

Choose a topic in your area of teaching, prepare a lesson plan with due regard to educational psychology, prepare simple audio-visual resources and demonstrate their use by teaching a ten minute lesson effectively. Assume that the other participants are your students for all purposes. Invite constructive criticism and respond to the other participants in respect of your teaching style, methodology and use of resources. Finally, sum it up by thanking all participants and teacher trainers.

TEACHER TRAINING INTEGRATED MODULE --- TTM 2

On successful completion of Module TTM 2 including the assignment the participant will be able to

- Employ further understanding of educational psychology in teaching;
- Prepare and employ video, computers and e-learning techniques; and
- Employ appropriate methods of teaching for a given set of objectives.

(i) Topics in Educational Psychology:

Learner preferences / Employing a variety of communication skills / Educational research through control group and experimental group technique / Sampling methods / Research by data collection, analysis, arriving at conclusions and making recommendations / Case study method of research.

(ii) Topics in Audio-visual Resources:

Arrange to show a video clip and to employ CCTV for a demonstration / Scripting and recording a video clip on a topic / Selection of media appropriate to a give set of objectives / Virtual classroom learning / Spectrum of e-learning methods and preferences / E-libraries: local, countrywide and worldwide / Access to e-libraries and printing selected matter.

(iii) Topics in Teaching Methodology:

Demonstration in laboratories / Activity analysis / Activity analysis charts and recoding / Flanders's categories / Varied methods of teaching and learning / Engaging different senses of students / Distance learning methodologies / E-learning techniques.

Assignment:

Choose a topic in your area of teaching / prepare a lesson plan with due regard to educational psychology / prepare appropriate audio-visual resources and demonstrate their use by teaching a ten minute lesson effectively / Treat all other participants as your students for all purposes / Invite constructive criticism and respond to the other participants in respect of your teaching style, methodology and use of resources / Sum it up by thanking all participants and teacher trainers.

ANNEXURES:8.1-8.116

INFRASTRUCTURE (Data provided by the University, Existing Infrastructure, Area Requirement, Capital Cost, Development of Sites & Allied Provision, Electrical Load Estimates, Equipment Cost and Furniture Cost)

IKGPTU, MAIN CAMPUS, KAPURTHALA				
EXISTING INFRASTRUCTURE (Data provided by Institute)				Annexure 8.1
S.no	Building		Built Up Area (in SQM)	Remarks
B1	CB1		12,955	
B2	CB2		12,730	
B3	Library		4,921	
B4	Seminar Hall		340	
B5	CB 3		6,922	
B6	Administration (Next to Amrita Paul Building)		587	
B7a	Canteen with Administration Building		800	
b7b	Canteen with Library		925	
B8	Directors' Residence		258	
B9	Staff Quarters	4	1,318	
B10a	Girls' Hostel (G + 2)	76 Rooms	2,438	92 Beds - 16 Double, 60 Single Occupancy
B10 b	Boys' Hostel (G + 2)	76 Rooms	2,438	92 Beds - 16 Double, 60 Single Occupancy
B11	Auditorium		3,663	Work in Progress
B12	Bank & Post Office		167	
B13	Girls' Hostel (G + 8)	116 Rooms	6,748	Single Occupancy Rooms, Work in Progress
B14	Married Hostel (G + 8)	52 Rooms	4,409	Work in Progress
B15	Boys' Hostel (G + 8)	201 Rooms	10,552	Single Occupancy Rooms, Work in Progress
B16	Commercial Shops in Library		60	
B17	Directors' Office (Next to Amrita Paul Building)		800	
B18	Main Administration Building		23,330	
	Total Existing Structure		96,361	

FACULTY OF ENGINEERING AND TECHNOLOGY - AREA REQUIREMENT (Carpet Area)						Annexure 8.02
S. no	Department	As per AICTE	As per DPR	No. of Room	Area	Remarks
		SQM	SQM		SQM	
(I) ADMINISTRATIVE & FACULTY BUILDING						
1	Office of the Dean, Faculty of Engineering & Technology	30	30	1	30	
2	Administrative Office of the Faculty of Engineering & Technology	-	30	1	30	For 3 no. of staff
3	Offices of the Heads of Department	10	15	9	135	Area as per AICTE norms insufficient. Hence more area is allocated.
4	Administrative Offices of the Departments	20	20	9	180	
5	Faculty Offices	5	10	109	1,090	Area as per AICTE norms insufficient. Hence more area is allocated.
6	Cubicles for Project Staff & Post-Doctoral Fellows (05 cubicles)	5	25	1	25	1 room with 5 cubicles
7	Cubicles for Research Scholars (05 cubicles)	5	25	1	25	1 room with 5 cubicles
8	Offices for Visiting Faculty	5	20	1	20	1 room with 3 visiting faculty
9	Seminar – cum - Committee Rooms	-	40	3	120	1 seminar room with seating capacity of 12 to 15 people
10	Common Room for Students	100	100	4	400	2 for boys, 2 for girls.
11	Pantry	10	10	4	40	Only for Staff
12	Reception Lounge	-	20	9	180	Assumed
13	Reprography and Stationary Store	10	10	1	10	
14	Strong Room	30	30	1	30	
15	Educational Technology Room	-	25	1	25	
16	Computation Room	-	30	1	30	
17	Store	10	10	2	20	

18	Branch Library Faculty of Engineering & Technology	1,450	1,450	1	1,450	Engineering Students =1680 Nos 400sqm for 420 students. Additional 50sqm/60students. =>1050sqm/1260 students =400+1050=1450sqm
19	Product Archives	-	20	1	20	
20	Product Exhibition Hall	-	30	1	30	
21	Examination Control Room	30	30	1	30	
22	Toilets (Faculty & Students)	-	500	1	500	For 9 departments of Engineering
Total					4,420	
(II)	LABORATORY COMPLEX (With reference to Annexure 8.03)					
A)	Department of Civil Engineering			9	594	
B)	Department of Chemical Engineering			13	858	
C)	Department of Computer Science & Engineering			7	462	
D)	Department of Electrical Engineering			3	198	
E)	Department of Electronics & Communication Engineering			12	792	
F)	Department of Energy Engineering			7	462	
G)	Department of Food Engineering			3	198	
H)	Department of Industrial Design			11	726	
J)	Department of Mechanical Engineering			12	792	
Total (A+B+C+D+E+F+G+H+J)				77	5,082	
TOTAL (I + II)					9,502	

FACULTY OF ENGINEERING AND TECHNOLOGY - AREA REQUIREMENT (Carpet Area)						Annexure 8.03
(II)	LABORATORY COMPLEX					
S. no	Department	As per AICTE	As per DPR	No. of Room	Area	Remarks
		SQM	SQM		SQM	
A) DEPARTMENT OF CIVIL ENGINEERING						
1	Fluid Mechanics & Water Management	66	66	2	132	
2	Geotechnical Engineering	66	66	2	132	
3	Civil Engineering Materials	66	66	1	66	
4	Structures & Earthquake Engineering	66	66	2	132	
5	Surveying & Photogrammetry	66	66	1	66	
6	Transportation	66	66	1	66	
TOTAL				9	594	
B) DEPARTMENT OF CHEMICAL ENGINEERING						
1	Utility Room	66	66	1	66	
2	Fluid Dynamics	66	66	1	66	
3	Heat & Mass Transfer	66	66	1	66	
4	Fluid & Particle Mechanics	66	66	1	66	
5	Chemical Analysis	66	66	1	66	
6	Process Control	66	66	1	66	
7	Reaction Engineering	66	66	1	66	
8	Instrumentation & Control	66	66	1	66	
9	Polymer Processing & Rheology	66	66	1	66	
10	Polymer Reaction Engineering	66	66	1	66	
11	Petroleum Process Engineering	66	66	1	66	
12	Petroleum Refinery Model Room	66	66	1	66	
13	Glass Blowing Facility	66	66	1	66	
TOTAL				13	858	
C) DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING						
1	Microcomputer	66	66	1	66	
2	Digital Systems Engineering & Microprocessor	66	66	1	66	
3	Graphics	66	66	1	66	
4	Data Communications	66	66	1	66	

5	Software Engineering	66	66	1	66	
6	Artificial Intelligence & Robotics	66	66	1	66	
7	Computer Communication	66	66	1	66	
	TOTAL			7	462	
D)	DEPARTMENT OF ELECTRICAL ENGINEERING					
1	Basic Electrical & Electronic Engineering	66	66	1	66	
2	Electrical Machinery	66	66	1	66	
3	Power Systems	66	66	1	66	
	TOTAL			3	198	
E)	DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING					
1	Electronics & Communications	66	66	1	66	
2	Digital Hardware & Design	66	66	1	66	
3	Signal & Image Processing	66	66	1	66	
4	Microwave & Antennas	66	66	1	66	
5	Microprocessor Application	66	66	1	66	
6	Interconnection (PCB, SMD & Hybrids)	66	66	1	66	
7	Motion Control Systems	66	66	1	66	
8	Analog Electronics	66	66	1	66	
9	VHF Communication	66	66	1	66	
10	Switching Systems	66	66	1	66	
11	Optoelectronics	66	66	1	66	
12	Design Studio	66	66	1	66	
	TOTAL			12	792	
F)	DEPARTMENT OF ENERGY ENGINEERING					
1	Solar Appliance Testing	66	66	1	66	
2	Fuel Cell	66	66	1	66	
3	Thermal Transport & Material Testing	66	66	1	66	
4	Wind Engineering*	66	66	-	-	* To be part of the Fluid Mechanics & Fluid Machinery
5	Microhydel Energy*	66	66	-	-	Laboratory of the Department of Mechanical Engineering.
6	Biomass Characterization	66	66	1	66	
7	Chemical Conversion	66	66	1	66	
8	Chemical Analysis	66	66	1	66	
9	Integrated Power Generation	66	66	1	66	

	TOTAL			7	462	
G)	DEPARTMENT OF FOOD ENGINEERING					
1	Food Microbiology	66	66	1	66	
2	Food Materials	66	66	1	66	
3	Food Engineering Operations	66	66	1	66	
4	Fluid Dynamic*	66	66	-	-	* To be shared with the Chemical Engineering Department.
5	Heat & Mass Transfer*	66	66	-	-	
6	Reaction Engineering*	66	66	-	-	
7	Instrumentation & Controls*	66	66	-	-	
	TOTAL			3	198	
H)	DEPARTMENT OF INDUSTRIAL DESIGN					
1	Metal Studio	66	66	1	66	
2	Wood Studio	66	66	1	66	
3	Plastic Studio	66	66	1	66	
4	Plaster Studio	66	66	1	66	
5	Ceramic Studio	66	66	1	66	
6	Paint Studio	66	66	1	66	
7	Product Development Studio	66	66	1	66	
8	Craft Development Studio	66	66	1	66	
9	Photography & AV Studio	66	66	1	66	
10	Ergonomics	66	66	1	66	
11	Computer Graphics Laboratories	66	66	1	66	
	TOTAL			11	726	
J)	DEPARTMENT OF MECHANICAL ENGINEERING					
1	Utility Room	66	66	1	66	
2	Strength of Materials	66	66	1	66	
3	Material Science	66	66	1	66	
4	Computer Aided Graphics & Design	66	66	1	66	
5	Fluid Mechanic & Fluid Machinery	66	66	1	66	
6	Thermal Science	66	66	1	66	
7	IC Engines	66	66	1	66	
8	Turbo machinery	66	66	1	66	
9	Theory of Machines & Mechanical Handling	66	66	1	66	
10	Mechanics & Kinematics	66	66	1	66	
11	Vibrations, Instrumentation & Controls	66	66	1	66	
12	Tribology & Maintenance	66	66	1	66	

	Engineering					
13	Primary Manufacturing*	66	66	-	-	* To be housed in the Central Workshop Complex.
14	Advanced Manufacturing Processes*	66	66	-	-	
15	Metrology*	66	66	-	-	
16	Computer Aided Manufacture*	66	66	-	-	
17	Rapid Prototyping Facility*	66	66	-	-	
18	Industrial Engineering*	66	66	-	-	
	TOTAL			12	792	
	Total (A+B+C+D+E+F+G+H+J)			77	5,082	

FACULTY OF MATHEMATICAL & APPLIED SCIENCES - AREA REQUIREMENT (Carpet Area)							Annexure 8.04
S. no	Department	As per AICTE	As per DPR	No. of Room	Area	Remarks	
		SQM	SQM				SQM
(I) ADMINISTRATIVE & FACULTY BUILDING							
1	Office of the Dean, Faculty of Mathematical & Applied Sciences	30	30	1	30		
2	Administrative Office of the Faculty of Mathematical & Applied Sciences	-	20	1	20	For 2 no. of staff	
3	Offices of the Heads of Department	10	15	5	75	Area as per AICTE norms insufficient. Hence more area is allocated.	
4	Administrative Offices of the Departments	20	20	5	100		
5	Faculty Offices	5	10	46	460	Area as per AICTE norms insufficient. Hence more area is allocated.	
6	Cubicles for Project Staff & Post-Doctoral Fellows (05 cubicles)	5	25	1	25	1 room with 5 cubicles	
7	Cubicles for Research Scholars (05 cubicles)	5	25	1	25	1 room with 5 cubicles	
8	Offices for Visiting Faculty	5	20	1	20	1 room with 3 visiting faculty	
9	Seminar – cum - Committee Rooms	-	40	2	80	1 seminar room with seating capacity of 12 to 15 people.	
10	Common Room for Students	100	100	2	200	1 for boys, 1 for girls	
11	Pantry	10	10	2	20	Only for Staff	
12	Reception Lounge	-	20	5	100	Assumed	
13	Reprography and Stationary Store	10	10	1	10		
14	Strong Room	30	30	1	30		
15	Educational Technology Room	-	25	1	25		
16	Computation Room	-	30	1	30		
17	Store	10	10	2	20		

18	Examination Control Room	30	30	1	30	
19	Branch Library Faculty of Mathematical & Applied Sciences	150	150	1	150	
20	Toilets (Faculty & Students)	-	250	1	250	
Total					1,700	
(II) LABORATORY COMPLEX (With reference to Annexure 8.05)						
A)	DEPARTMENT OF CHEMISTRY			13	858	
B)	DEPARTMENT OF ECOLOGY & ENVIRONMENT SCIENCE			2	132	
C)	DEPARTMENT OF PHYSICS			10	660	
D)	DEPARTMENT OF BIOLOGICAL SCIENCES			10	660	
Total (A+B+C+D)				35	2,310	
TOTAL (I + II)					4010	

FACULTY OF MATHEMATICAL & APPLIED SCIENCES - AREA REQUIREMENT (Carpet Area) Annexure 8.05						
(II)	LABORATORY COMPLEX					
S. no	Department	As per AICTE	As per DPR	No. of Room	Area	Remarks
		SQM	SQM		SQM	
A) DEPARTMENT OF CHEMISTRY						
1	UG & PG Teaching Laboratories	66	66	8	528	
2	Research Laboratories	66	66	2	132	
3	Pharmaceutical Chemistry Laboratory	66	66	1	66	
4	Instrumentation Facility	66	66	1	66	
5	Glass Blowing Workshop	66	66	1	66	
TOTAL				13	858	
B) DEPARTMENT OF ECOLOGY & ENVIRONMENT SCIENCE						
1	PG Teaching Laboratory	66	66	1	66	
2	Research Laboratory	66	66	1	66	
TOTAL				2	132	
C) DEPARTMENT OF PHYSICS						
1	UG & PG Teaching Laboratories	66	66	8	528	
2	Research Laboratories	66	66	2	132	
TOTAL				10	660	
D) DEPARTMENT OF BIOLOGICAL SCIENCES						
1	UG & PG Teaching Laboratories	66	66	8	528	
2	Research Laboratories	66	66	2	132	
TOTAL				10	660	
Total (A+B+C+D)				35	2,310	

**FACULTY OF MANAGEMENT STUDIES - AREA REQUIREMENT
(Carpet Area)**

Annexure 8.06

S. no	Department	As per AICTE SQM	As per DPR SQM	No. of Room	Area SQM	Remarks
(I) ADMINISTRATIVE & FACULTY BUILDING						
1	Office of the Dean, Faculty of Management Studies	30	30	1	30	
2	Administrative Office of the Faculty of Management Studies	-	20	1	20	For 2 no. of staff
3	Offices of the Heads of Department	10	15	2	30	Area as per AICTE norms insufficient. Hence more area is allocated.
4	Administrative Offices of the Departments	20	20	2	40	
5	Faculty Offices	5	10	47	470	Area as per AICTE norms insufficient. Hence more area is allocated.
6	Cubicles for Project Staff & Post-Doctoral Fellows (05 cubicles)	5	25	1	25	1 room with 5 cubicles
7	Cubicles for Research Scholars (05 cubicles)	5	25	1	25	1 room with 5 cubicles
8	Offices for Visiting Faculty	5	20	1	20	1 room with 3 visiting faculty
9	Seminar – cum - Committee Rooms	-	40	2	80	1 seminar room with seating capacity of 12 to 15 people.
10	Common Room for Students	100	100	2	200	
11	Pantry	10	10	2	20	Only for Staff
12	Reception Lounge	-	20	5	100	Assumed
13	Reprography and Stationary Store	10	10	1	10	
14	Strong Room	30	30	1	30	
15	Educational Technology Room	-	25	1	25	
16	Computation Room	-	30	1	30	
17	Store	10	10	2	20	
18	Case Library	-	30	1	30	
19	Branch Library Faculty of	100	100	1	100	

	Management Studies					
20	Examination Control Room	30	30	1	30	
21	Toilets (Faculty & Students)	-	100	1	100	
	Total				1,435	
(II)	LABORATORY COMPLEX					
A)	Financial Markets Simulation Laboratory	66		1	66	
	TOTAL (I + II)				1,501	

FACULTY OF MEDIA & MASS COMMUNICATION - AREA REQUIREMENT (Carpet Area)

Annexure 8.07

S. no	Department	As per AICTE	As per DPR	No. of Room	Area	Remarks
		SQM	SQM		SQM	
(I) ADMINISTRATIVE & FACULTY BUILDING						
1	Office of the Dean, Faculty of Media & Mass Communication	30	30	1	30	
2	Administrative Office of the Faculty of Media & Mass Communication	-	20	1	20	For 2 no. of staff
3	Offices of the Heads of Department	10	15	6	90	Area as per AICTE norms insufficient. Hence more area is allocated.
4	Administrative Offices of the Departments	20	20	6	120	
5	Faculty Offices	5	10	25	250	Area as per AICTE norms insufficient. Hence more area is allocated.
6	Cubicles for Project Staff & Post-Doctoral Fellows (05 cubicles)	5	25	1	25	1 room with 5 cubicles
7	Cubicles for Research Scholars (05 cubicles)	5	25	1	25	1 room with 5 cubicles
8	Offices for Visiting Faculty	5	20	1	20	1 room with 3 visiting faculty
9	Seminar – cum - Committee Rooms	-	40	1	40	1 seminar room with seating capacity of 12 to 15 people.
10	Common Room for Students	100	100	2	200	1 for boys, 1 for girls
11	Pantry	10	10	2	20	Only for Staff
12	Reception Lounge	-	20	5	100	Assumed
13	Reprography and Stationary Store	10	10	1	10	
14	Strong Room	30	30	1	30	
15	Educational Technology Room	-	25	1	25	
16	Computation Room	-	30	1	30	
17	Store	10	10	2	20	
18	Branch Library Faculty of Media & Mass Communication	150	150	1	150	
19	Examination Control Room	30	30	1	30	
20	Toilets (Faculty & Students)	-	120	1	120	

	Total			1,355	
(II)	LABORATORY COMPLEX				
A)	Colour Photography Laboratory	66	1	66	
B)	Digital Art Communication Laboratory	66	1	66	
C)	FM Radio	66	1	66	
D)	Desktop Publishing Facility	66	1	66	
E)	Printing Press	66	1	66	
F)	Art Communication Facility	66	1	66	
G)	TV Studio	66	1	66	
	Total (A+B+C+D+E+F+G)		7	462	
	TOTAL (I + II)			1817	

FACULTY OF HOSPITALITY, TOURISM & TRAVEL MANAGEMENT - AREA REQUIREMENT (Carpet Area)						Annexure 8.08
S. no	Department	As per AICTE	As per DPR	No. of Room	Area	Remarks
		E	DPR		SQM	
		SQM	SQM		SQM	
(I) ADMINISTRATIVE & FACULTY BUILDING						
1	Office of the Dean, Faculty of Hotel, Tourism & Travel Management	30	30	1	30	
2	Administrative Office of the Faculty of Hotel, Tourism & Travel Management	-	40	1	40	For 2 no. of staff
3	Offices of the Heads of Department	10	15	2	30	Area as per AICTE norms insufficient. Hence more area is allocated.
4	Administrative Offices of the Departments	20	20	2	40	
5	Faculty Offices	5	10	26	260	Area as per AICTE norms insufficient. Hence more area is allocated.
6	Cubicles for Project Staff & Post-Doctoral Fellows (05 cubicles)	5	25	1	25	1 room with 5 cubicles
7	Cubicles for Research Scholars (05 cubicles)	5	25	1	25	1 room with 5 cubicles
8	Offices for Visiting Faculty	5	20	1	20	1 room with 3 visiting faculty
9	Seminar – cum - Committee Rooms	-	40	1	40	1 seminar room with seating capacity of 12 to 15 people.
10	Common Room for Students	100	100	2	200	1 for boys, 1 for girls
11	Pantry	10	10	2	20	Only for Staff
12	Reception Lounge	-	20	2	40	Assumed
13	Reprography and Stationary Store	10	10	1	10	
14	Educational Technology Room	-	25	1	25	
15	Computation Room	-	30	1	30	
16	Store	10	10	2	20	
17	Branch Library Faculty of Hotel, Tourism & Travel Management	150	150	1	150	
18	Examination Control Room	30	30	1	30	

19	Toilets (Faculty & Students)	-	130	1	130	
Total					1,165	
(II)	LABORATORY COMPLEX					
A)	Basic Training Kitchen		132	1	132	
B)	Quantity Training Kitchen		132	1	132	
C)	Advanced Training Kitchen		132	1	132	
D)	Larder		66	1	66	
E)	Food Quality Testing Laboratory		66	1	66	
F)	Bakery & Confectionary Laboratory		66	1	66	
G)	Housekeeping Laboratory (including Laundry & Linen Store)		66	1	66	
H)	Front Office Training Desk		66	1	66	
J)	Travel Training Desk		66	1	66	
K)	Maintenance Workshop		66	1	66	
L)	*Live Hospitality Training Facility: 4 - bedded Guest House + 20-seated Three Star Restaurant		250	-	-	*1 Guest Room Size: 30sqm, Restaurant Space: 130 (80 Dining + 50 Kitchen). Shall be included in Guest House Area
Total (A+B+C+D+E+F+G+H+J+K+L)				10	858	
TOTAL (I + II)					2,023	

FACULTY OF LIFESTYLE DESIGN - AREA REQUIREMENT (Carpet Area)						Annexure 8.09
S. no	Department	As per AICTE	As per DPR	No. of Room	Area	Remarks
		SQM	SQM		SQM	
(I) ADMINISTRATIVE & FACULTY BUILDING						
1	Office of the Dean, Faculty of Lifestyle Design	30	30	1	30	
2	Administrative Office of the Faculty of Lifestyle Design	-	40	1	40	For 2 no. of staff
3	Offices of the Heads of Department	10	15	4	60	Area as per AICTE norms insufficient. Hence more area is allocated.
4	Administrative Offices of the Departments	20	20	4	80	
5	Faculty Offices	5	10	33	330	Area as per AICTE norms insufficient. Hence more area is allocated.
6	Cubicles for Project Staff & Post-Doctoral Fellows (05 cubicles)	5	25	1	25	1 room with 5 cubicles
7	Cubicles for Research Scholars (05 cubicles)	5	25	1	25	1 room with 5 cubicles
8	Offices for Visiting Faculty	5	20	1	20	1 room with 3 visiting faculty
9	Seminar – cum - Committee Rooms	-	40	1	40	1 seminar room with seating capacity of 12 to 15 people.
10	Common Room for Students	100	100	2	200	1 for boys, 1 for girls
11	Pantry	10	10	2	20	Only for Staff
12	Reception Lounge	-	20	2	40	Assumed
13	Reprography and Stationary Store	10	10	1	10	
14	Educational Technology Room	-	25	1	25	
15	Computation Room	-	30	1	30	
16	Store	10	10	2	20	
17	Branch Library Faculty of Lifestyle Design	150	150	1	150	
18	Examination Control Room	30	30	1	30	
19	Toilets (Faculty & Students)	-	150	1	150	
Total					1,325	

(II)	LABORATORY COMPLEX				
A)	Textile Testing Laboratory	66	1	66	
B)	Weaving Laboratory	66	1	66	
C)	Knitting Laboratory	66	1	66	
D)	Sewing Laboratory	66	1	66	
E)	CAD Laboratory	66	1	66	
F)	Computer Graphics Laboratory	66	1	66	
G)	Photography Studio + Dark Room	66	1	66	
H)	Make-up Laboratory	66	1	66	
J)	Art Room	66	1	66	
K)	Design Studio	66	1	66	
L)	Student Supply Store	66	1	66	
M)	Fashion Museum	66	1	66	
N)	Project Archives	66	1	66	
P)	Project Exhibition Hall	66	1	66	
Total (A+B+C+D+E+F+G+H+J+K+L+M+N+P)			14	924	
TOTAL (I + II)				2,249	

FACULTY OF ARCHITECTURE - AREA REQUIREMENT (Carpet Area)						Annexure 8. 10
S. no	Department	As per AICTE	As per DPR	No. of Room	Area	Remarks
		SQM	SQM		SQM	
(I) ADMINISTRATIVE & FACULTY BUILDING						
1	Office of the Dean, Faculty of Architecture	30	30	1	30	
2	Administrative Office of the Faculty of Architecture	-	20	1	20	For 2 no. of staff
3	Offices of the Heads of Department	10	15	3	45	Area as per AICTE norms insufficient. Hence more area is allocated.
4	Administrative Offices of the Departments	20	20	3	60	
5	Faculty Offices	5	10	23	230	Area as per AICTE norms insufficient. Hence more area is allocated.
6	Cubicles for Project Staff & Post-Doctoral Fellows (05 cubicles)	5	25	1	25	1 room with 5 cubicles
7	Cubicles for Research Scholars (05 cubicles)	5	25	1	25	1 room with 5 cubicles
8	Offices for Visiting Faculty	5	20	1	20	1 room with 3 visiting faculty
9	Seminar – cum - Committee Rooms	-	40	1	40	1 seminar room with seating capacity of 12 to 15 people.
10	Common Room for Students	100	100	2	200	1 for boys, 1 for girls
11	Pantry	10	10	2	20	Only for Staff
12	Reception Lounge	-	20	2	40	Assumed
13	Reprography and Stationary Store	10	10	1	10	
14	Educational Technology Room	-	25	1	25	
15	Computation Room	-	30	1	30	
16	Store	10	10	2	20	
17	Branch Library Faculty of Art and Architecture	150	150	1	150	
18	Examination Control Room	30	30	1	30	
19	Toilets (Faculty & Students)	-	125	1	125	
Total					1,145	

(II)	LABORATORY COMPLEX				
A)	PLANNING AND ARCHITECTURE				
1	Design Studio	132	1	132	
2	Surveying Laboratory	66	1	66	
3	Material Testing & Structures Laboratory	66	1	66	
4	Workshop	200	1	200	
5	Art Studio	132	1	132	
6	Materials Museum	132	1	132	
7	Exhibition Room	132	1	132	
B)	CAD Laboratory	66	1	66	
C)	Computer Graphics Laboratory	66	1	66	
Total (A+B+C)			9	992	
TOTAL (I + II)				2,137	

FACULTY OF SOCIAL & HUMAN SCIENCES - AREA REQUIREMENT (Carpet Area)						Annexure 8.11
S. no	Department	As per AICTE	As per DPR	No. of Room	Area	Remarks
		SQM	SQM		SQM	
(I) ADMINISTRATIVE & FACULTY BUILDING						
1	Office of the Dean, Faculty of Social & Human Sciences	30	30	1	30	
2	Administrative Office of the Faculty of Social & Human Sciences	-	20	1	20	For 2 no. of staff
3	Offices of the Heads of Department	10	15	3	45	Area as per AICTE norms insufficient. Hence more area is allocated.
4	Administrative Offices of the Departments	20	20	3	60	
5	Faculty Offices	5	10	22	220	Area as per AICTE norms insufficient. Hence more area is allocated.
6	Cubicles for Project Staff & Post-Doctoral Fellows (05 cubicles)	5	25	1	25	1 room with 5 cubicles
7	Cubicles for Research Scholars (05 cubicles)	5	25	1	25	1 room with 5 cubicles
8	Offices for Visiting Faculty	5	20	1	20	1 room with 3 visiting faculty
9	Seminar – cum - Committee Rooms	-	40	1	40	1 seminar room with seating capacity of 12 to 15 people.
10	Common Room for Students	100	100	2	200	1 for boys, 1 for girls
11	Pantry	10	10	2	20	Only for Staff
12	Reception Lounge	-	20	2	40	Assumed
13	Reprography and Stationary Store	10	10	1	10	
14	Educational Technology Room	-	25	1	25	
15	Computation Room	-	30	1	30	
16	Store	10	10	2	20	
17	Branch Library Faculty of Social & Human Sciences	150	150	1	150	
18	Examination Control Room	30	30	1	30	
19	Toilets (Faculty & Students)	-	100	1	100	

	Total				1,110	
(II)	LABORATORY COMPLEX					
A)	Language Laboratory	66	1	66		
B)	Clinical Psychology Laboratory	66	1	66		
C)	Rock Art Studio	132	1	132		
D)	Commercial Art Studio	132	1	132		
	Total (A+B+C)		4	396		
	TOTAL (I + II)				1,506	

FACULTY OF TEACHER TRAINING AND EDUCATION - AREA REQUIREMENT (Carpet Area)						
						Annexure 8. 12
S. no	Department	As per AICTE	As per DPR	No. of Room	Area	Remarks
		SQM	SQM		SQM	
(I) ADMINISTRATIVE & FACULTY BUILDING						
1	Office of the Dean, Faculty of Teacher Training & Education	30	30	1	30	
2	Administrative Office of the Teacher Training & Education	-	20	1	20	For 2 no. of staff
3	Offices of Unit Coordinators	10	15	4	60	Area as per AICTE norms insufficient. Hence more area is allocated.
4	Administrative Offices of the Departments	20	20	4	80	
5	Faculty Offices	5	10	21	210	Area as per AICTE norms insufficient. Hence more area is allocated.
6	Cubicles for Project Staff & Post-Doctoral Fellows (05 cubicles)	5	25	1	25	1 room with 5 cubicles
7	Cubicles for Research Scholars (05 cubicles)	5	25	1	25	1 room with 5 cubicles
8	Offices for Visiting Faculty	5	20	1	20	1 room with 3 visiting faculty
9	Seminar – cum - Committee Rooms	-	40	1	40	1 seminar room with seating capacity of 12 to 15 people.
10	Common Room for Students	100	100	2	200	1 for boys, 1 for girls
11	Pantry	10	10	2	20	Only for Staff
12	Reception Lounge	-	20	2	40	Assumed
13	Reprography and Stationary Store	10	10	1	10	
14	Strong Room	30	30	1	30	
15	Educational Technology Room	-	25	1	25	
16	Computation Room	-	30	1	30	
17	Store	10	10	2	20	

18	Branch Library Faculty of Teacher Training & Education	150	150	1	150	
19	Examination Control Room	30	30	1	30	
20	Toilets (Faculty & Students)	-	100	1	100	
Total					1,165	
(II)						
) LABORATORY COMPLEX						
A)	Educational Psychology Laboratory	66		1	66	
B)	Instructional Technology Laboratory	66		1	66	
C)	Distance Learning Techniques	66		1	66	
D)	Desktop Publishing Facility	66		1	66	
E)	Virtual Classroom Facility	66		1	66	
F)	Audio-visual Development Laboratory	66		1	66	
G)	Curriculum Development Facilities	66		1	66	
Total (A+B+C)				7	462	
TOTAL (I + II)					1,627	

FACULTY OF PHARMACEUTICAL SCIENCES - AREA REQUIREMENT (Carpet Area)						Annexure 8.13
S. no	Department	As per AICTE	As per DPR	No. of Room	Area	Remarks
		SQM	SQM		SQM	
(I) ADMINISTRATIVE & FACULTY BUILDING						
1	Office of the Dean, Faculty of Pharmaceutical Sciences	30	30	1	30	
2	Administrative Office of the Faculty of Pharmaceutical Sciences	-	20	1	20	For 2 no. of staff
3	Offices of the Heads of Department	10	15	1	15	Area as per AICTE norms insufficient. Hence more area is allocated.
4	Administrative Offices of the Departments	20	20	1	20	
5	Faculty Offices	5	10	12	120	Area as per AICTE norms insufficient. Hence more area is allocated.
6	Cubicles for Project Staff & Post-Doctoral Fellows (05 cubicles)	5	25	1	25	1 room with 5 cubicles
7	Cubicles for Research Scholars (05 cubicles)	5	25	1	25	1 room with 5 cubicles
8	Offices for Visiting Faculty	5	20	1	20	1 room with 3 visiting faculty
9	Seminar – cum - Committee Rooms	-	40	1	40	1 seminar room with seating capacity of 12 to 15 people.
10	Common Room for Students	100	100	2	200	1 for boys, 1 for girls
11	Pantry	10	10	2	20	Only for Staff
12	Reception Lounge	-	20	2	40	Assumed
13	Reprography and Stationary Store	10	10	1	10	
15	Educational Technology Room	-	25	1	25	
16	Computation Room	-	30	1	30	
17	Store	10	10	2	20	
18	Branch Library Faculty of Pharmaceutical Sciences	150	150	1	150	
19	Examination Control Room	30	30	1	30	
20	Toilets (Faculty & Students)	-	100	1	100	

	Total			940	
(II)	LABORATORY COMPLEX				
A)	UG Teaching Laboratories	66	4	264	
B)	PG Teaching Laboratories	66	4	264	
C)	Research Laboratories	66	1	66	
	Total (A+B+C)		9	594	
	TOTAL (I + II)			1,534	

INTERNATIONAL RESOURCE CENTRE FOR HUMAN VALUES & PROFESSIONAL ETHICS - AREA REQUIREMENT (Carpet Area)						Annexure 8. 14
S. no	Department	As per AICTE	As per DPR	No. of Room	Area	Remarks
		E	DPR	m	SQM	
		SQM	SQM		SQM	
(I)						
ADMINISTRATIVE & FACULTY BUILDING						
1	Office of the Head, IRCHVPE	30	30	1	30	
2	Administrative Office of IRCHVPE	-	20	1	20	For 1 no. of staff
3	Faculty Offices	5	10	3	30	Area as per AICTE norms insufficient. Hence more area is allocated.
4	Cubicles for Project Staff & Post-Doctoral Fellows (05 cubicles)	5	25	1	25	1 room with 5 cubicles
5	Cubicles for Research Scholars (05 cubicles)	5	25	1	25	1 room with 5 cubicles
6	Offices for Visiting Faculty	5	20	1	20	1 room with 3 visiting faculty
7	Seminar – cum - Committee Rooms	-	40	1	40	1 seminar room with seating capacity of 12 to 15 people.
8	Pantry	10	10	1	10	Only for Staff
9	Reception and Waiting Lounge	-	10	1	10	Assumed
10	Reprography and Store	10	10	1	10	
11	Examination Control Room	30	30	1	30	
12	Toilets (Faculty & Students)	-	25	1	25	
Total					275	
TOTAL (I)					275	

CENTRAL WORKSHOP (Carpet Area)						Annexure 8. 15
S. no	Department	As per AICTE	As per DPR	No. of Room	Area	Remarks
		SQM	SQM		SQM	
A)						
1	Machine Shop including Tool Room	200	200	1	200	On Ground Floor
2	Fitting Shop	200	200	1	200	
3	Carpentry & Pattern Shop	200	200	1	200	
4	Smithy Shop	200	200	1	200	On Ground Floor
5	Foundry	200	200	1	200	On Ground Floor
6	Casting Shop	200	200	1	200	On Ground Floor
7	Sheet Metal Shop	200	200	1	200	
8	Gas and Electric Welding Shops	200	200	1	200	On Ground Floor
9	Plastic Shop	200	200	1	200	
10	Model Making Shop	200	200	1	200	
11	Heat Treatment Shop	200	200	1	200	On Ground Floor
12	Painting & Plating Shop	200	200	1	200	
13	Electrical-cum-Electronic Shop	200	200	1	200	
14	Primary Manufacturing Shop*	200	200	1	200	On Ground Floor
15	Advanced Computer Aided Design and Manufacturing (CAD/CAM) * Workshop	200	200	1	200	On Ground Floor
16	Manufacturing Processes Shop*	200	200	1	200	On Ground Floor
17	Metrology Laboratory*	200	200	1	200	
18	Rapid Prototyping Facility*	200	200	1	200	* Facilities of the Department of Mechanical Engineering to be housed in the Central Workshop Block.
19	Students Projects, Models and Innovation Centre***	200	200	1	200	** Includes the requirements of the Manufacturing Engineering Laboratories of the Department of Mechanical Engineering.
B)	Drawing/Sketching Office	66	66	1	66	***Facility to be exclusively managed by the students.

C)	Storage Space (To be in an outside covered shed)	-	30	1	30	
D)	Seminar Room-cum-Classroom	66	66	1	66	
E)	Administrative Office for the Central Workshop	-	10	1	10	
F)	Offices of the Workshop Superintendent / Workshop Foremen	-	10	1	10	
Total					3,982	

CENTRAL INSTRUMENTATION CENTRE (Carpet Area)						Annexure 8. 16
S. n o	Department	As per AICT E	As per DPR	No. of Room	Area	Remarks
		SQM	SQM		SQM	
1	Instrument Maintenance & Repair Unit				600	Areas as proposed in Academic Plan
2	Industrial Testing and Calibration Unit		600	1	600	
3	Analytical Instruments Laboratory				500	
4	Service Facilities				200	
5	Staff Offices / Administrative Office / Seminar Room		100	1	100	
Total					2,000	

COMPUTER CENTRE (Carpet Area)						Annexure 8.17
S. no	Department	As per AICTE	As per DPR	No. of Room	Area	Remarks
		SQM	SQM		SQM	
1	PC Cafeteria, Mini Computer Clusters, High Performance Computing Clusters	-	900	1	900	
2	Voice-Data-Picture Communication including CATV link	-	300	1	300	
3	Reception Lounge	-	50	1	50	
4	Air Conditioning Plant	-	75	1	75	
5	Uninterrupted Power Supply	-	25	1	25	
6	Storage space	-	50	1	50	
7	Seminar-cum-Committee Room	-	100	1	100	
8	Cubicles for Operating Staff / Programmers	-	200	1	200	
9	Administrative Office of the Computer Centre	-	15	1	15	
10	Offices of Chief Systems Manager / Systems Manager	-	100	1	100	
11	Offices of Technology Officer / Programmers	-	100	1	100	
12	Micro-earth Station	-	-	1	-	In Open Air
Total					1,915	

VIRTUAL LEARNING CENTRE (WITH VIDEOCONFERENCING FACILITY) (Carpet Area)						Annexure 8.18
S. no	Department	As per AICTE	As per DPR	No. of Room	Area	Remarks
		SQM	SQM		SQM	
1	Control Room I: AV Studio Classroom with a seating capacity of 30 students; TV Production in an improvised or candid classroom mode	-	120	1	120	
2	Control Room II: Production Control (power & lighting) for Studio Classroom	-	75	1	75	
3	Videoconferencing Hub for Synchronous transmission and reception of Lectures, seminars, conferences, etc.	-	75	1	75	
4	Hardware infrastructure with control systems and switchers in annex room for security.	-	50	1	50	
5	Storage Area: Storage of props / special furniture / blank & source tapes / consumables / recording equipment	-	50	1	50	
6	Editing Bays: AV Post Production --- both on and off line	-	50	1	50	
7	Preview Room: AV Post Production --- both on and off line	-	50	1	50	
8	Graphic Room: Drawing / Drafting / Graphic Design	-	50	1	50	
9	Computer Laboratory: CAI	-	75	1	75	
10	Photography Laboratory: Photo Studio / Slide Production	66	66	1	66	
11	Workshop: Preparation of models / cut outs, etc.	66	66	1	66	
12	Non-Print Media Library: Resource Library / Viewing Cubicles	-	75	1	75	
13	Maintenance Facility: Service, Maintenance & Calibration	-	20	1	20	
14	Utility Room: AC Plant / Pump Room / Service Facilities, etc.	-	100	1	100	
15	Cubicles for Operating Staff	-	200	1	200	
16	Office of the Media Manager	-	20	1	20	
17	Administrative Office	-	50	1	50	
Total					1,192	

CONTINUING EDUCATION CENTRE (Carpet Area)						Annexure 8. 19
S. no	Department	As per AICTE	As per DPR	No. of Room	Area	Remarks
		SQM	SQM		SQM	
1	Seminar Room	-	60	2	120	
2	Videoconferencing Classroom	-	75	1	75	
3	Reception	-	30	1	30	
4	Office Room	-	15	1	15	
5	Lounge	-	15	1	15	
6	Office Space for Director Continuing Education Centre	-	35	1	35	
7	Administrative Office of the Continuing Education Centre	-	15	1	15	
Total					305	

TECHNOLOGY INNOVATION-CUM-INCUBATION CENTRE (Carpet Area)						Annexure8. 20
S. no	Department	As per AICTE	As per DPR	No. of Room	Area	Remarks
		SQM	SQM		SQM	
1	Product Prototyping Laboratory	-	500	1	500	
2	Office & Meeting Room	-	250	1	250	
Total					750	

CENTRAL CLASSROOM COMPLEX (Carpet Area)						Annexure 8. 21
S. no	Department	As per AICTE	As per DPR	No. of Room	Area	Remarks
		SQM	SQM		SQM	
1	Large Lecture Theatre - cum - Conference Hall (120 capacity)	-	240	1	240	@ 2 sqm per person
2	Large Lecture Theatres (60 capacity)	-	120	6	720	@ 2 sqm per person
3	Large Lecture Theatres (45 capacity)	-	90	20	1,800	@ 2 sqm per person
4	Small Lecture Rooms / Tutorial Rooms	-	60	50	3,000	@ 2 sqm per person
5	Drawing Halls	-	240	4	960	@ 4 sqm per person
Total					6,720	

AUDITORIUM-CUM-CONFERENCE CENTRE (Carpet Area)						Annexure 8. 22
S. No	Department	As per AICTE	As per DPR	No. of Room	Area	Remarks
		SQM	SQM		SQM	
1	Auditorium (800 capacity)	-	1,600	1	1,600	@ 2 sqm per person
a)	Audio Light Room	-	-		-	
b)	Green Room	-	-		-	
c)	Make-Up Room	-	-		-	
d)	Prop Storage Room	-	-		-	
e)	Projection Room	-	-		-	
2	Conference rooms (75 capacity)		150	1	150	@ 2 sqm per person
3	Conference rooms (45 capacity)		90	1	90	@ 2 sqm per person
4	Reception		100	1	100	
5	Office Room		30	1	30	
6	Lounge		50	1	50	
					2,020	<-- Area as per our Calculation.
	Total				2,616	<-- Carpet Area of Proposed Auditorium.

(I)	Area Requirement for Canteen			Annexure 8. 23
S. No	Description		Say	Remarks
a)	Total Students + Faculty Number		5,485	
b)	2.5 sqm per person	13,712.50	13,720	As per Neufert's Standard, including Kitchen
c)	25% using at one time	3,430.00	3,450	*Assumption
d)	50 % Indoor + 50% Outdoor		1,725	*Assumption

AREA REQUIREMENT - ADMINISTRATIVE SECTION (Carpet Area)			Annexure 8.24
Department	As per DPR	No. of Room	Area
	SQM		SQM
Vice Chancellor's Secretariat	80	1	80
Admissions Section (Section I/C: Dean Admissions assisted by the Controller of Examinations)	175	1	175
Academic Section (Section I/C: Dean Academic Affairs assisted by the Controller of Examinations)	200	1	200
Student Welfare Section (Section I/C: Dean Student Welfare)	150	1	150
Planning & Resource Generation (Section I/C: Dean Planning & External Programmes)	200	1	200
Public Relations & University Publications (Section I/C: Dean Planning & External Programmes through the PRO)	150	1	150
Industrial Liaison & CEP's (Section I/C: Dean R&D)	150	1	150
Student Training & Placement (T&P) Office (Section I/C: Dean R&D through the Coordinator T&P)	150	1	150
Faculty Affairs & FDP's (Section I/C: Dean Faculty Affairs)	150	1	150
Personnel & Administration (Section I/C: Registrar through the Deputy & Assistant Registrars / Coordinator Staff Training)	400	1	400
MIS (Section I/C: Chairperson Computing Services through the Coordinator MIS)	100	1	100
Stores & Purchase Unit (Section I/C: Registrar through the Assistant Registrar - S & P)	100	1	100
Finance & Accounts (Section I/C: Finance Officer)	100	1	100
Audit (Internal) --- (Section I/C: Vice Chancellor through the Audit Officer)	100	1	100
Outreach & International Programs (Section I/C: Dean Planning & External Programmes)	100	1	100
Security (Section I/C: Registrar through the Security Officer)	50	1	50
Medical Services Unit (Section I/C: Chairperson Medical Services through the CMO) (Office in the Health Centre)	-	1	-
Communication Services Unit (Section I/C: Registrar)	100	1	100
Engineering Services & Estate Office (Section I/C: Chairperson Infrastructure through the Superintending Engineer-cum-Estate Manager) (Includes Workshop + Shed, Excludes Open Yard)	2,250	1	2,250
Regional Campuses (Section I/C: Dean Regional Campuses)	100	1	100

Residential, Hostel Requirement for Students					Annexure 8.25
S. No	Student	Total Number	Residence Required	Required Rooms	Reference from Annexure 8.26
1	Boys - UG and PG Program	1,610	805	403	50 % of UG & PG Students, Double Occupancy Rooms each
2	Girls - UG and PG Program	1,610	805	403	
3	Boys - Masters & Doctoral Program	711	316	316	40 % of Masters & Doctoral Program, Single Occupancy Rooms each
4	Girls - Masters & Doctoral Program	711	316	316	
5	Married/ Studio Apartment	158	158	158	10% out of Master and Doctoral programme
Total		4800	2400	1595	

Number of Students per Department				Annexure 8.26		
S. No	Department	Total Students	UG	PG Diploma	Masters	Doctoral Program
1	Engineering & Technology	1,680	1,320	-	360	-
2	Mathematical & Applied Sciences	580	300	-	280	-
3	Management Studies	535	135	80	320	-
4	Media & Mass Communication	295	135	80	80	-
5	Hospitality, Tourism & Travel Management	320	180	80	60	-
6	Lifestyle Design	480	360	40	80	-
7	Architecture	320	280	-	40	-
8	Social & Human Sciences	160	-	-	160	-
9	Teacher Training & Education	140	60	40	40	-
10	Pharmaceutical Studies	160	120	-	40	-
11	IRCHVPE	30	-	10	20	-
12	Doctoral Programme	100	-	-	-	100
TOTAL		4,800	2,890	330	1,480	100
Total Students in UG and PG Program			3220			
Total Students in Masters and Doctoral Program			1580			

Residential, Hostel Requirement for Faculty					Annexure 8.27
		Total	Required	Say	
A	Faculty	391	145		Reference from Annexure 8.28
1	Vice Chancellor	1	1	1	Assuming 100% require Residence Facility
2	Professor	56	19.6	19	Assuming 35% require Residence Facility
3	Associate Professor	107	37.5	38	
4	Assistant Professor	216	76	76	
5	Deans Faculties of Study	10	10	10	Assuming 100% require Residence Facility
6	Functional Deans	1	1	-	Existing Director's Residence to be used.
B	Non - Faculty Staff	294	25		
1	Category I	3	3	3	Assuming 100% require Residence Facility
2	Category II	15	2	2	Assuming 10% require Residence Facility
3	Category III	141	14	14	
4	Category IV	102	-	-	
5	Academic Non-Teaching	21	2	2	For Librarian and Workshop Superintendent
6	Academic Non-Teaching (for Central Instrumentation Centre)	11	4	4	35% of Principal Scientific Officer, Scientific Officer, Research Engineer and 8 Design Engineer
7	(equivalent to Professor HAG)	1	-	-	Has been incorporated in the residences above
C					
1	Warden	8	-	-	Has been incorporated in the residences above
2	Care Taker	8	-	-	
3	Barracks	20	-	20	
D	Guest House	11	11		Total 15 in Nos. (4 in Hotel Management)

Number of Faculty per Department					Annexure 8.28
S. No	Department	Total Faculty	Professor	Associate Professor	Assistant Professor
1	Engineering & Technology	109	16	31	62
2	Mathematical & Applied Sciences	46	7	13	26
3	Management Studies	49	7	14	28
4	Media & Mass Communication	25	4	7	14
5	Hospitality, Tourism & Travel Management	26	4	7	15
6	Lifestyle Design	33	5	9	19
7	Architecture	23	3	7	13
8	Social & Human Sciences	22	3	6	13
9	Teacher Training & Education	21	3	6	12
10	Pharmaceutical Studies	12	2	3	7
11	IRCHVPE	3	1	1	1
12	Doctoral Programme	10	1	3	6
TOTAL		379	56	107	216

Detailed Area Program (Built Up Area)					Annexure 8. 29
		Requirement as per DPR	Existing	Proposed	Remarks
		SQM	SQM	SQM	
I)	Academic Building				
1	Laboratory Complex	17,004	11,504	5,501	Existing CB1, CB2 & CB3. Labs and Faculty Rooms are designed in these buildings itself.
2	Administrative & Faculty Building	22,449	8,756	13,693	
3	Class Rooms Complex	9,408	12,348	-2940	Classrooms are part of CB1, CB2 & CB3. Hence the requirement from 'Central Classroom Complex' is moved to Academic Building.
		48,861	32,607	16,254	Surplus Classroom Area to be used for Laboratory.
II)	Administrative Building				
1	Main Administrative Building	6,727	24,717	-17990	Existing Main Building, Director Office and Admin Building (Next to Amrita Paul Building)
2				5600	Existing Staff of Distance Learning [400 Staff Existing, 10sqm per person (Carpet Area)] (For Built-Up=Carpet x 1.4)
		6,727	24,717	-12390	Surplus Area to be used for Central Academic Services Facilities
III)	Central Academic Services Facilities				
1	Central Workshop	5,575	-	5,575	Proposed Building.
2	Central Instrumentation Centre	2,800	-	2,800	Proposed Building.
3	Computer Centre	2,681	-	2,681	Surplus Area of Admin Building used for Computer Centre.
4	Virtual Learning Centre	1,669	-	1,669	Surplus Area of Admin Building used for Virtual Learning Centre
5	Continuing Education Centre	427	-	427	Surplus Area of Admin Building used for Continuing Education Centre.

6	Technology Innovation-cum-Incubation Centre	1,050	-	1,050	Surplus Area of Admin Building used for Technology Innovation-cum-Incubation Centre
7	Central Classroom Complex	-	-	-	Included in Academic Building
8	Seminar Hall/Conference	340	340	-	Existing
9	Auditorium	3,663	3,663	-	Work in Progress
10	Cafeteria/ Canteen	1,725	1,725	-	Includes Canteen from Main Admin Building and Library
11	Library	4,921	4,921	-	Existing
12	Student Activity Centre	250	-	250	Proposed Building.
		25,101	10,649	8,625	
IV)	Residential and Hostel Complex				
1	Boys Hostel - UG & PG Program - (G+2)	14,088	2,438	8,960	512 more Beds required Area based on Double Seater Rooms
2	Boys Hostel - UG & PG Program - (G+8)		10,552		
3	Girls Hostel - UG & PG Program - (G+2)	14,088	2,438	10,448	597 more Beds required Area based on Double Seater Rooms
4	Girls Hostel - UG & PG Program - (G+8)		6,748		
5	Boy's Hostel -Masters & Doctoral Program	11,060	-	11,060	316 more Beds required, Single Seater Rooms
6	Girl's Hostel - Masters & Doctoral Program	11,060	-	11,060	316 more Beds required, Single Seater Rooms
7	Hostel for Married/Studio Apts.	8,848	4,409	5,936	106 Nos. more required.
8	Hostel for CEC Students	1,050	-	1,050	
9	Guest House	712	-	712	4 Rooms + Restaurant from Hotel, Tourism & Travel Management Course also included
10	Faculty Housing				
11	Vice Chancellor	370	-	370	
12	Functional Deans	258	258	-	Existing Residence to be given to the Functional Dean.
13	Professor	3,800	-	3,800	
14	Associate Professor	7,600	1,318	6,282	

15	Assistant Professor	9,728	-	9,728	
16	Deans Faculties of Study	2,000	-	2,000	
17	Non Faculty Housing				
18	Category I	600	-	600	
19	Category II	160	-	160	
20	Category III	980	-	980	
21	Category IV	-	-	-	
22	Academic Non-Teaching	400	-	400	
23	Academic Non-Teaching (for Central Instrumentation Centre)	512	-	512	
24	Warden	-	-	-	
25	Care Taker	-	-	-	
26	Commercial Centre/Shopping Complex	350	60	290	3 Shops of 60 sqm already existing in Library.
27	Bank and Post Office	-	167	-	Existing Structure to be used.
28	Health Centre	250	-	250	Assumption
29	Community Centre (For Faculty)	500	-	500	
30	Play School	300	-	300	
31	Utilities and Services	200	-	200	
		88,913	28,388	75,598	
V)	Sports Facilities				
1	Sports Track (8 Tracks)			1	
2	Football Ground			1	
3	Cricket			1	
4	Basketball			1	
5	Badminton			1	
6	Volley Ball			1	
7	Tennis Court			1	
8	Indoor Sports Stadium			200 sqm	
9	Swimming Pool (Half Olympic Size)			1	

DETAIL CAPITAL COST Annexure 8.30						
	AREA	BUILT UP AREA	PER SQM COST	AS PER CPWD	TOTAL COST	Remarks
C	CENTRAL ACADEMIC SERVICES FACILITIES					
1	Seminar Hall/Conference	340	Sqm	-	-	Already Existing
2	Auditorium	3,663	Sqm	-	-	Already Existing
3	Cafeteria/ Canteen	1,725	Sqm	-	-	Already Existing
4	Library	4,921	Sqm	-	-	Already Existing
D	RESIDENTIAL COMPLEX					
1	Staff Quarters (6 Nos.)	1,318	Sqm	-	-	Used for Faculty Housing-Associate Professors
2	Boys Hostel - (G+2) (For 92 Boys)	2,438	Sqm	-	-	Already Existing
3	Boys Hostel - (G+8) (For 201 Boys)	10,552	Sqm	-	-	Work in Progress
4	Girls Hostel - (G+2) (For 92 Girls)	2,438	Sqm	-	-	Already Existing
5	Girls Hostel - (G+8) (For 116 Girls)	6,748	Sqm	-	-	Work in Progress
6	Commercial Centre/Shopping Complex	60	Sqm	-	-	Already Existing
7	Hostel for Married/Studio Appts.	4,409	Sqm	-	-	Work in Progress
8	Bank and Post Office	167	Sqm	-	-	Already Existing
(II)	EXISTING AREA (Renovation Cost)					
A	ACADEMIC BUILDING					
1	Labs Area	11,504	Sqm	1,859	2,13,79,673	5% of CPWD PAR 2012, Annexure 8.93
2	Faculty and Admin Area	8,756	Sqm	1,749	1,53,13,530	5% of CPWD PAR 2012, Annexure 8.91

3	Lecture & Class Rooms / Central Classroom Complex	12,348	Sqm	1,749	2,15,96,772	5% of CPWD PAR 2012, Annexure 8.92
B ADMINISTRATIVE BUILDING						
1	Main Building (Including Director's Office)	18,890	Sqm	1,749	3,30,38,960	Total Building Area=24,717sq m. 5,827sqm allocated to Central Academic Service Facilities. Renovation cost of 5% of CPWD PAR 2012 taken on remaining area of 18,890 sqm, Annexure 8.91
C CENTRAL ACADEMIC SERVICES FACILITIES						
1	Computer Centre	2,681	Sqm	8,745	2,34,45,345	Can be accommodated in Main Building. Hence 25% of the cost taken for Renovation. CPWD PAR 2012, Annexure 8.95
2	Virtual Learning Centre	1,669	Sqm	8,745	1,45,93,656	Can be accommodated in Main Building. Hence 25% of the cost taken for Renovation. CPWD PAR 2012, Annexure 8.95
3	Continuing Education Centre	427	Sqm	8,745	37,34,115	Can be accommodated in Main Building. Hence 25% of the cost taken for Renovation.

						CPWD PAR 2012, Annexure 8.92
4	Technology Innovation-cum-Incubation Centre	1,050	Sqm	9,293	97,57,125	Can be accommodated in Main Building. Hence 25% of the cost taken for Renovation. CPWD PAR 2012, Annexure 8.93
D RESIDENTIAL COMPLEX						
1	Functional Dean's Residence	258	Sqm	2,317	5,97,786	10% of CPWD PAR 2012, Annexure 8.100
(III) PROPOSED AREA (New Construction)						
A ACADEMIC BUILDING						
1	Academic Building	16,254	Sqm	36,075	58,63,63,568	Average of CPWD PAR 2012, Annexure 8.91 & 8.93
C CENTRAL ACADEMIC SERVICES FACILITIES						
1	Central Workshop	5,575	Sqm	38,900	21,68,59,720	CPWD PAR 2012, Annexure 8.94
2	Central Instrumentation Centre	2,800	Sqm	38,900	10,89,20,000	CPWD PAR 2012, Annexure 8.94
3	Student Activity Centre	250	Sqm	35,150	87,87,500	CPWD PAR 2012, Annexure 8.97
D RESIDENTIAL COMPLEX						
1	Guest House	712	Sqm	23,250	1,65,54,000	CPWD PAR 2012, Annexure 8.102
2	Boys Hostel (UG & PG Program)	8,960	Sqm	25,630	22,96,44,800	CPWD PAR 2012, Annexure 8.99
3	Girls Hostel (UG & PG Program)	10,448	Sqm	25,630	26,77,69,425	CPWD PAR 2012, Annexure 8.99
4	Boys Hostel (Masters & Doctoral Program)	11,060	Sqm	25,630	28,34,67,800	CPWD PAR 2012, Annexure 8.99

5	Girls Hostel (Masters & Doctoral Program)	11,060	Sqm	25,630	28,34,67,80 0	CPWD PAR 2012, Annexure 8.99
6	Hostel for Married/Studio Appts for remaining 107 Students	5,936	Sqm	25,630	15,21,39,68 0	CPWD PAR 2012, Annexure 8.99
7	Hostel for CEC Students	1,050	Sqm	25,630	2,69,11,50 0	CPWD PAR 2012, Annexure 8.99
8	Faculty Residence					
9	Vice Chancellor Residence	370	Sqm	24,270	89,79,900	CPWD PAR 2012, Annexure 8.100
10	Professor	3,800	Sqm	24,270	9,22,26,00 0	CPWD PAR 2012, Annexure 8.101
11	Associate Professor (Existing Staff Quarter Area Deducted)	6,282	Sqm	24,270	15,24,64,14 0	CPWD PAR 2012, Annexure 8.101
12	Assistant Professor	9,728	Sqm	24,270	23,60,98,56 0	CPWD PAR 2012, Annexure 8.101
13	Deans Faculties of Study	2,000	Sqm	24,270	4,85,40,00 0	CPWD PAR 2012, Annexure 8.101
14	Non Faculty Housing					
15	Category I	600	Sqm	24,270	1,45,62,00 0	CPWD PAR 2012, Annexure 8.101
16	Category II	160	Sqm	24,270	38,83,200	CPWD PAR 2012, Annexure 8.101
17	Category III	980	Sqm	24,270	2,37,84,60 0	CPWD PAR 2012, Annexure 8.101
18	Category IV	-	Sqm	24,270	-	CPWD PAR 2012, Annexure 8.101
19	Academic Non-Teaching	400	Sqm	24,270	97,08,000	CPWD PAR 2012, Annexure 8.101
20	Academic Non-Teaching (for Central Instrumentation Centre)	512	Sqm	24,270	1,24,26,24 0	CPWD PAR 2012, Annexure 8.101

21	Commercial Centre/Shopping Complex	290	Sqm	35,380	1,02,60,200	CPWD PAR 2012, Annexure 8.104
22	Health Centre	250	Sqm	35,380	88,45,000	CPWD PAR 2012, Annexure 8.104
23	Community Centre (For Faculty)	500	Sqm	35,400	1,77,00,000	CPWD PAR 2012, Annexure 8.103
24	Play School	300	Sqm	35,400	1,06,20,000	CPWD PAR 2012, Annexure 8.103
25	Utilities and Services	200	Sqm	20,000	40,00,000	Assumption - Rs. 20,000 per SQM
E	DEVELOPMENT OF SITE					
S. No	Description	QTY	UNIT	RATE	TOTAL COST	REMARKS
1	Development of Site	2,95,421	Sqm	475.00	14,03,24,746	Annexure 8.107, 50% cost taken into consideration as site is in good condition.
2	Boundary Wall	-		6,000.00	-	Assuming Boundary Wall is already present
F	ALLIED PROVISIONS				With reference to Annexure 8.105	
1	Sub Station Equipment's	15,655	Per Kva	7,000	10,95,82,284	Area * Watt / Sqm *1.2 / 1000 Annexure 8.31
2	DG Set	740	Per Kva	10,000	74,00,000	1500 Kva Assumed, 760Kva existing
3	UPS	25	Per Kva	20,000	5,00,000	Assumed as 25 Kva as per standard Institute
4	VRF System	1,940	Per HP	55,000	10,67,25,274	Assuming 1 HP per 12 Sqm of AC space Annexure 8.32
5	Precision Air Conditioning	50	Per Tonne	1,10,000	55,00,000	Assuming 1 Tonne per 12 Sqm of AC

						space
6	CCTV System	1,28,864	Per Sqm	300	3,86,59,294	Assuming 1 Sqm per 12 Sqm of AC space Annexure 8.33
7	Access Control System	68,135	Per Sqm	200	1,36,27,040	Assuming 1 Sqm per 12 Sqm of AC space Annexure 8.34
8	Building Management System					Annexure 8.105 - H
(a)	Upto 10,000 Sqm	1	LS	30,00,000	30,00,000	
(b)	Beyond 10,000 Sqm	14,879	Per Sqm	100	14,87,881	
9	Others					
(a)	Tube well and pumping stations	2	Set	6,00,000	12,00,000	Market Price. Total required-3 (Assumption: 1 is already existing)
(b)	STP, ETP, WTP		LS		4,50,00,000	Assumption
(c)	Overhead Storage Tanks	4,76,597	Per Litre	15	71,48,950	2/3 amount of Total Water Consumption taken. Average Full day capacity Refer Annexure 8.36
(d)	Underground Storage Tanks	2,38,298	Per Litre	15	35,74,475	2/3 amount of Total Water Consumption taken. Average Half day capacity Refer Annexure 8.36
10	Solar Water Heating system with heat exchanger	1,47,690	Per Litre	230	3,39,68,700	230000 per 1000 litre
G	SPORTS INFRASTRUCTURE				Annexure 8.106 - Sports	
1	Sports Track (8 Tracks)	1	LS	1,45,11,000	1,45,11,000	
2	Football Ground	1	LS	2,83,50,000	2,83,50,000	
3	2 Practice Nets for	1	LS	1,08,000	1,08,000	

	Cricket					
4	Basketball	1	LS	21,00,000	21,00,000	
5	Badminton	1	LS	5,00,000	5,00,000	
6	Volley Ball	1	LS	97,200	97,200	
7	Tennis Court	1	LS	1,72,800	1,72,800	
8	Swimming Pool (Half Olympic Size)	1	LS	1,12,50,000	1,12,50,000	
9	Indoor Sports Stadium	200	Sqm	35,150	70,30,000	CPWD PAR 2012, Annexure 8.97
H	TOTAL (A+B+C+D+E+F+G)			3,56,02,58,240		
				Rs. In Crores	356.03	
J	COST INDEX	102	(Y)	H x Y/100	363.15	
K	OTHERS (Calculated on J)				Amount (in Crore)	As Per Govt. Regulations
1	PMC / Architects		5.75%		20.88	As per COA guidelines, Including Service Tax
2	Taxes [Service Tax (6%), Labour Cess (1%), Punjab Infrastructure Fund (1%), Heritage Cess (1%)]		9.0%		32.68	
		(K)			53.56	
L	TOTAL INFRASTRUCTURE COST		(J + K)	Rs. In Crores	416.71	
M	EQUIPMENT					
1	Labs				20.20	Refer Annexure 8.35
2	Workshops				0.95	Total 19 units, 5 lakhs per workshop
3	Central Instrumentation Centre				1.20	Total 04 units, 30 lakhs per workshop
4	IT Infra/eLibrary/Licensed Software				21.00	(Annexure 8.110)
5	Vehicles				0.75	2 Buses, 4 Cars
6	Health Centre Equipment				0.10	Lump sum
	TOTAL COST (M)			Rs. In Crores	44.20	

N FURNITURE						
1	Hostel furniture for Students	1,595	46,000	0.0046	7.337	(Annexure 8.112)
2	Lecture Room for 120 Students	1	20,40,000	0.2040	0.204	(Annexure 8.115)
3	Lecture Room for 60 Students	6	14,40,000	0.1440	0.864	(Annexure 8.115)
4	Lecture Room for 45 Students	20	12,60,000	0.1260	2.520	(Annexure 8.115)
5	Tutorial Room for 30 Students	50	11,10,000	0.1110	5.550	(Annexure 8.116)
6	Drawing Hall for 60 Students	4	13,20,000	0.1320	0.528	(Annexure 8.116)
7	Faculty/Non-Teaching Staff Academic Furniture	685	88,000	0.0088	6.028	(Annexure 8.113)
8	Furniture for Contractual Staff	-	20,000		0.0020	(Annexure 8.111)
9	Guest House Furniture	11	1,80,000	0.0180	0.198	(Annexure 8.114)
10	Library Furniture	3,515	2,000	0.0002	0.703	(Annexure 8.111)
11	Auditorium Furniture	800	5,000	0.0005	0.400	(Annexure 8.111)
	TOTAL (N)			Rs. In Crores	24.33	
P	TOTAL EQUIPMENT & FURNITURE COST	(M + N)		Rs. In Crores	68.53	
Q	CAPITAL COST	(L + P)			485.24	
R	Contingency Factor (Calculated on Q)		3.00%		14.56	
S	TOTAL CAPITAL COST	(Q + R)		Rs. In Crores	499.80	

Electrical Load Estimations						Annexure 8.31
For Kapurthala						
	Light Load	Type of Building	Load in W per sq. m	Diversity	Area Percentage	W/sq. m
		Institutional	150	0.75	0.47	53.07
Assumption		Residential	50	0.5	0.53	13.21
		Total				66.28
Built up Area						
	Total Built Up (in sqm)	Light load in W	Load (in kW)	Load (Kva) Say	Percentage for Residential Area = Total Built Up Area of Residential ÷ Total Built Up of the Campus	
	1,96,838	1,30,45,510	13,045.51	15,655	Percentage for Institutional Area = 1 - Percentage for Residential Area	

Areas to be Provided with VRF System					Annexure 8. 32
S. No	Department	Existing		Proposed	
1	Academic Building	32,607	×	16,254	16,254
2	Administrative Building	24,717	×	×	×
3	Central Academic Services Facilities	10,649	×	8,625	7,032
4	Residential and Hostel Complex	28,388	×	75,598	×
			-		23,286
	Total Area requiring VRF System			23,286	

Areas to be Provided with CCTV					Annexure 8. 33
S. No	Department	Existing		Proposed	
1	Academic Building	32,607	×	16,254	16,254
2	Administrative Building	24,717	×	×	×
3	Central Academic Services Facilities	10,649	×	8,625	8,625
4	Residential and Hostel Complex	28,388	28,388	75,598	75,598
			28,388		1,00,476
	Total Area requiring CCTV			1,28,864	

Areas to be Provided with Access Control System					Annexure 8. 34	
S. No	Department	Existing		Proposed		
1	Academic Building	32,607	32,607	16,254	16,254	
2	Administrative Building	24,717	×	×	×	
3	Central Academic Services Facilities	10,649	10,649	8,625	8,625	
4	Residential and Hostel Complex	28,388	×	75,598	×	
			43,256		24,879	
	Total Area requiring Access Control System			68,135		

For Laboratories Equipment Cost Calculation						Annexure 8. 35
S. No	Department	Nos.	Cost Per Lab	Total Cost	In Crore	Remarks
1	Engineering Labs	77	20,00,000	15,40,00,000	15.400	Annexure 8.108
2	Other Labs	96	5,00,000	4,80,00,000	4.800	Annexure 8.108
	Total Cost for Laboratories Equipment				20.20	

Occupancy for Water Consumption					Annexure 8. 36
A	Residential				Remarks
1	Faculty + Staff	181	4	724	Assuming 4 person per unit
2	Students	2,242	1	2,242	
3	Married/ Studio Apartment	158	2	316	Assuming 2 person per unit
B	Institutional				
1	Faculty + Non Faculty Staff	685	1	685	
2	Students	4,800	1	4,800	
Water Consumption					
1	Residential	135	3,282	4,43,070	135 Litre per day (With reference to NBC 2005, Part 9 - 4.1.2 - Table 1)
3	Institutional	45	5,485	2,46,825	45 Litre per day (With reference to NBC 2005, Part 9 - 4.1.2 - Table 1)
3	Cafeteria, Community Centre and other Ancillary buildings		Lump sum	25,000	Assumption
Total Water Consumption		(in Litres Per Day)		7,14,895	
Total Hot Water Consumption for Residential		45	3,282	1,47,690	45 litre out of 135 litre taken for Residential housing

IKGPTU AMRITSAR CAMPUS					
EXISTING INFRASTRUCTURE (Data provided by Institute)					Annexure 8.37
	IKGPTU AMRITSAR	IIM	TOTAL CARPET		
	Area	Area	AREA	Remarks	
	SQM	SQM	SQM		
A	FACULTY BUILDING			388	
1	Administrative Building	244.00	79.00		
2	Director Room		39.00		
3	Staff Room		-		
B	ACADEMIC / LABORATORY COMPLEX			1,880.00	
1	Classrooms	441.00	81.00		
2	Tutorial Rooms		106.00		
3	Laboratories/Studios		837.00		
C	CENTRAL ACADEMIC SERVICES FACILITIES			1,191.00	
1	Computer Centre	172.00	-		
2	Seminar Hall/Conference	69.00	-		
3	Library	67.00	-		
4	Student Activities Centre	423.00	79.00		
5	Cafeteria/Canteen		31.00		
6	Toilets		49.00		
7	Store	-	26.00		
8	Multi-Purpose Hall	-	275.00		
	TOTAL	1,522.00	746.00	3,459.00	Carpet Area
					4,842.60

Facilities Shared Between IKGPTU Amritsar Campus & Amritsar Polytechnic College					
	AREA	Nos.	TOTAL CARPET AREA (C)	TOTAL BUILT UP AREA (C*1.4)	Remarks
	SQM		SQM	SQM	
A	ACADEMIC / LABORATORY COMPLEX				
1	Lecture Hall	100.00	2	200.00	280.00
2	Classrooms	75.00	4	300.00	420.00
	TOTAL		500.00	700.00	
B	CENTRAL ACADEMIC SERVICES FACILITIES				
1	Workshops	150.00	1	150.00	210.00

C RESIDENTIAL COMPLEX						
1	Boys Hostel	10 Rooms	30 Students	250.00	350.00	Carpet Area of 1 Hostel Room assumed as 25sqm.
2	Girls Hostel	5 Rooms	15 Students	125.00	175.00	Carpet Area of 1 Hostel Room assumed as 25sqm.
3	Faculty Housing	75.00	2.00	150.00	150.00	
D MISCELLANEOUS					675.00	
1	Cricket	Outdoor Facilities				
2	Athletic Track					
3	Hockey					
4	Table Tennis	Indoor Facilities				
5	Badminton					
TOTAL BUILT UP AREA					1,585.00	

DEVELOPMENT OF SITE AND ALLIED PROVISIONS - Existing / Shared between Amritsar Polytechnic College and IKGPTU Amritsar Campus				Annexure 8.38
A	Development of Site			
S. No	Item	Existing Area	Remarks	
1	Levelling	27.54 Acres	Shared	
2	Internal roads and paths	3.1 Kms	Shared	
3	Sewer	2.1 Acres	Shared	
4	Filter Water Supply	-	Using own facilities	
5	Storm Water Drains	-	Not available	
6	Horticulture Operations	-	Using own Horticulture	
7	Street Lighting	-	Using own lightings	
8	Sports facilities/Playgrounds	1.2 Acres	Shared	
9	Parking	0.44 Acres	Shared	
10	Boundary Wall (in Perimeter / running meter)	3900 m	Shared	
B	Allied Provisions			
S. No	Item	Existing	Units	Remarks
1	Sub Station	-	Per Kva	Not Available
2	DG Set	82.5 KVA	Per Kva	Using Own DG Set
3	UPS	6 KVA (2Nos), 1 KVA (2Nos)	Per Kva	Using Own UPS
4	VRF System	12 units	Per HP	Using own ACs (1.5 ton each)

5	Tube well and pumping stations	-	Set	Using own
6	STP, ETP, WTP	-	LS	
7	Overhead Storage Tanks	8 tanks of 2000 litres each	Per Litre	Using Own facilities
8	Underground Storage Tanks	-	Per Litre	Not Available

DETAIL AREA ANALYSIS					Annexure 8. 39
S. No	Description	As per DPR	No. of Rooms	Total Area	Remarks
		SQM		SQM	
ADMINISTRATIVE & FACULTY BUILDING (Carpet Area)					
1	Office of the Principal / Director IKGPTU Amritsar	30	1	30	
2	Administrative Offices of IKGPTU Amritsar	80	1	80	For 8 no. of staff
3	Offices of the Heads of Department	15	2	30	Area as per AICTE norms insufficient. Hence more area is allocated.
4	Reception Lounge	20	1	20	Assumed
5	Faculty Offices	10	17	170	Area as per AICTE norms insufficient. Hence more area is allocated.
6	Cubicles for Project Staff & Post-Doctoral Fellows	25	1	25	1 room with 5 cubicles
7	Cubicles for Research Scholars (05 cubicles)	25	1	25	1 room with 5 cubicles
8	Offices for Visiting Faculty	20	1	20	1 room with 3 visiting faculty
9	Seminar – cum - Committee Rooms	40	1	40	Seating capacity of 12 to 15 people.
10	First Aid Medical Room	10	1	10	
11	Common Room for Students / Faculty	100	2	200	
12	Pantry	10	1	10	Only for Staff
13	Reprography and Stationary Store	10	1	10	
14	Strong Room	30	1	30	
15	Examination Control Room	30	1	30	
16	Store	10	2	20	
17	Toilets (Faculty)	25	1	25	

Total(A)				775	
CLASSROOM & LABORATORY COMPLEX (Carpet Area)					
1	Lecture Halls for 60 students	120	2	-	Already Existing
2	Lecture Halls for 45 students	90	4	-	Already Existing
3	Tutorial Rooms for 30 students	60	6	360	@ 2 sqm per student
4	Drawing Halls for 60 students	240	1	240	@ 4 sqm per student
5	Language Laboratory	66	1	66	
6	Applied Sciences Laboratories	66	2	132	
7	Engineering Sciences Laboratories	66	2	132	
8	CSE Laboratories	66	3	198	
9	Plastics Engineering & Technology Laboratories	66	6	396	
10	Toilets (Students)	100	1	100	
Total (B)				1,624	
TOTAL (A+B)				2,399	Built Up Area (Carpet Area x 1.4) = 3358.6 sqm
CENTRAL ACADEMIC SERVICES FACILITIES (Carpet Area)					
1	Central Computing Facility	150	1	-	To be accommodated in existing surplus area of Administrative & Faculty Building and Classroom & Laboratory Complex
2	Central Library Facility	400	1	-	
3	Educational Technology & Video Conferencing Facility	100	1	-	
4	Central Workshop Facility	200	1	-	
5	Hobby-cum-Innovation Centre	50	1	-	
6	Auditorium: to seat 300 persons	600	1	600	@ 2 sqm per person.
7	Canteen	150	1	150	Assumption
8	Sport's Club	200	1	200	Assumption
9	Student Activities Centre/ Community Centre/ Daily Needs Shop	250	1	250	Assumption
Total (C)				1,200	Built Up Area (Carpet Area x 1.4) = 1680 sqm.
RESIDENTIAL COMPLEX (Built Up Area)					With reference to Annexure 8.40
1	Principal's Quarter	268	1	268	As per CPWD, Revised PAR Norms, Type-6 Cat.
2	Guest House	42	2	-	Already Existing Faculty Housing to be Allocated

3	Boy's Hostel	35	16	560	Carpet Area per Room = 25sqm. Hence, Built up Area= 25 x 1.4 = 35sqm. Hostel for 30 Boys existing. Additional 16 Double Rooms for 32 boys required.
4	Girl's Hostel	35	24	840	Carpet Area per Room= 25sqm. Hence, Built up Area= 25 x 1.4 = 35sqm. Hostel for 15 Girls existing. Additional 24 Double Rooms for 47 girls required.
5	Faculty Residence				
a	Professor	200	1	200	As per CPWD, Revised PAR Norms, Type-5 Cat.
b	Associate Professor	200	2	400	As per CPWD, Revised PAR Norms, Type-5 Cat.
c	Assistant Professor	128	4	512	As per CPWD, Revised PAR Norms, Type-4 Cat.
Total (D)				2,780	
MISCELLANEOUS					
1	Cricket	-	1	-	Facilities existing within the campus. (Annexure - 8.37)
2	Athletic	-	1	-	
3	Hockey	-	1	-	
4	Table Tennis	-	1	-	
5	Badminton	-	1	-	
Total (E)				-	

Residential, Hostel Requirement for Students and Faculty					Annexure 8.40
		Total Number	Residence Required	Required Rooms	
A	Faculty	17	7		Remarks
1	Professor	2	1		Assuming 35% require Residence Facility
2	Associate Professor	5	2		
3	Assistant Professor	10	4		
B		250	125	62	
1	Boys	125	62	31	Assuming 50% require Residence Facility Double Seater Rooms each
2	Girls	125	62	31	
C	Non - Faculty Staff	42	0		
D	Principal's Quarter	1	1		
E	Guest House	2	2		

Electrical Load Estimations						Annexure 8.41
For Amritsar						
Assumption	Light Load	Type of Building	Load in W per sq. m	Diversity	Area Percentage*	W/sq. m
		Institutional	150.00	0.75	0.72	80.50
		Residential	50.00	0.50	0.28	7.11
		Total				87.61
Built up Area						
Total Built Up (in sqm)	Light load in W	Load (in kW)	Load (Kva) Say	*Percentage for Residential Area = Total Built Up Area of Residential ÷ Total Built Up of the Campus		
12,147.60	10,64,292.50	1,064.29	1,277.15	*Percentage for Institutional Area = 1 - Percentage for Residential Area		

Occupancy Load for Water Calculation					Annexure 8.42
S. No	Description	No. of Faculty / Students	Occupancy per Unit	Total Occupancy	Remarks
A	Residential				
1	Faculty + Staff	10	4	40	Assuming 4 person per unit
2	Students	125	1	125	
B	Institutional				
1	Faculty + Staff	59	1	59	
2	Students	250	1	250	
Total Occupancy					
i)	Water Usage - Residential	135	165	22,275	135 Litre per day (With reference to NBC 2005, Part 9 - 4.1.2 - Table 1)
ii)	Water Usage - Institutional	45	309	13,905	45 Litre per day (With reference to NBC 2005, Part 9 - 4.1.2 - Table 1)
Total Water Consumption			(in Litres Per Day)	36,180	

For Laboratories Equipment Cost Calculation					Annexure 8.43	
S. No	Description	Nos.	Cost Per Lab	Total Cost	In Crore	Remarks
1	Engineering Laboratory	11	20,00,000	2,20,00,000	2.200	Annexure 8.108
2	Other Laboratory	3	5,00,000	15,00,000	0.150	Annexure 8.108
Total Cost for Laboratories Equipment					2.35	

DETAIL CAPITAL COST						Annexure 8.44
S. No	Description	AREA	UNIT	PER SQM COST	TOTAL COST	Remarks
		BUILT UP AREA		AS PER CPWD		
(I)	EXISTING AREA (Renovation Cost)					
A	CLASSROOM & LABORATORY COMPLEX					
1	Admin, Faculty Building and Classroom-Lab Complex	5,752.6	Sqm	7,142.0	4,10,85,069.20	Renovation Cost for Existing Structure (IKGPTU Amritsar, Shared Polytechnic - 20% of PAR, CPWD PAR 2012, Annexure 8.91, 8.92 & 8.93
B	CENTRAL ACADEMIC SERVICES FACILITIES					
1	Central Computing Facility	210.0	Sqm	3,498.0	7,34,580.0	10% of CPWD PAR 2012, Annexure 8.95 (Existing IKGPTU Amritsar Campus)
2	Central Library Facility	560.0	Sqm	3,683.0	20,62,480.0	10% of CPWD PAR 2012, Annexure 8.98 (Existing IKGPTU Amritsar Campus)
3	Educational Technology & Video Conferencing Facility	140.0	Sqm	3,498.0	4,89,720.0	10% of CPWD PAR 2012, Annexure 8.95 (Existing IKGPTU Amritsar Campus)
4	Central Workshop Facility	280.0	Sqm	3,890.0	10,89,200.0	10% of CPWD PAR 2012, Annexure 8.94 (Existing Workshop Renovation)
5	Hobby-cum-Innovation Centre	70.0	Sqm	3,717.0	2,60,190.0	10% of CPWD PAR 2012, Annexure 8.93 (Existing IKGPTU Amritsar Campus)
C	RESIDENTIAL COMPLEX					
1	Boys Hostel	350.0	Sqm	10,252.0	35,88,200.0	CPWD PAR 2012, Annexure 8.99.40% Cost of renovation assumed, Built Up Area assumed at 25sqm per room
2	Girls Hostel	175.0	Sqm	10,252.0	17,94,100.0	CPWD PAR 2012, Annexure 8.99.40% Cost of renovation assumed, Built Up Area assumed at 25sqm per room

3	Guest House	150.0	Sqm	9,300.0	13,95,000.0	CPWD PAR 2012, Annexure 8.100.40% Cost of renovation assumed
(II)	PROPOSED AREA (New Building Cost)					
B	CENTRAL ACADEMIC SERVICES FACILITIES					
1	Auditorium: to seat 300 persons	840.0	Sqm	39,320.0	3,30,28,800.0	CPWD PAR 2012, Annexure 8.96
2	Canteen	210.0	Sqm	35,150.0	73,81,500.0	CPWD PAR 2012, Annexure 8.97
3	Sport's Club	280.0	Sqm	35,150.0	98,42,000.0	CPWD PAR 2012, Annexure 8.97
4	Student Activities Centre/ Community Centre/ Daily Needs Shop	350.0	Sqm	35,150.0	1,23,02,500.0	CPWD PAR 2012, Annexure 8.97
C	RESIDENTIAL COMPLEX					
1	Principal's Quarter	268.0	Sqm	23,170.0	62,09,560.0	CPWD PAR 2012, Annexure 8.100
2	Boy's Hostel	560.0	Sqm	25,630.0	1,43,52,800.0	CPWD PAR 2012, Annexure 8.99
3	Girl's Hostel	840.0	Sqm	25,630.0	2,15,29,200.0	CPWD PAR 2012, Annexure 8.99
4	Professor Residence	200.0	Sqm	23,170.0	46,34,000.0	CPWD PAR 2012, Annexure 8.100
5	Associate Professor Residence	400.0	Sqm	23,170.0	92,68,000.0	CPWD PAR 2012, Annexure 8.100
6	Assistant Professor Residence	512.0	Sqm	23,170.0	1,18,63,040.0	CPWD PAR 2012, Annexure 8.100
D	DEVELOPMENT OF SITE					
S. no	DESCRIPTION	QTY	UNIT	RATE	TOTAL COST	REMARKS
1	Development of Site	91,216.14	Sqm	237.50	2,16,63,834.14	Annexure 8.107, 25% of overall cost assumed as site condition is reasonably good.
2	Boundary Wall	-		6,000.0	-	Assuming Boundary Wall is already present
E	ALLIED PROVISIONS					With reference to Annexure 8.105
1	Sub Station Equipment	1,277.15	Per Kva	7,000.0	89,40,057.0	Area * Watt / Sqm * 1.2 / 1000 Annexure 8.41

2	DG Set	417.50	Per Kva	10,000.0	41,75,000.0	500Kva Assumed, 82.5Kva Existing (Annexure 8.38)
3	UPS	11.0	Per Kva	20,000.0	2,20,000.0	Assumed as 25 Kva as per standard Institute, 14 Existing (Annexure 8.38)
4	VRF System	140.0	Per HP	55,000.0	77,00,000.0	Only for Proposed Infrastructure excluding Residential Complex, assuming 1 HP per 12 Sqm of AC space, 12 units of 1.5 tonnes existing for existing buildings. (Annexure 8.38)
5	Precision Air Conditioning	20.0	Per Tonne	1,10,000.0	22,00,000.0	Assuming 1 Tonne per 12 Sqm of AC space
6	CCTV System	12,147.60	Per Sqm	300.0	36,44,280.0	For entire campus
7	Access Control System	8,692.60	Per Sqm	200.0	17,38,520.0	For Administrative & Faculty Building, Classroom & Laboratory Complex, Central Academic Services Facilities
8	Building Management System					Annexure 8.105 - H
(a)	Upto 10,000 Sqm	1.0	LS	30,00,000.0	30,00,000.0	
(b)	Beyond 10,000 Sqm	-	Per Sqm	100.0	-	
9	Others					
(a)	Tube well and pumping stations	1.0	Set	6,00,000.0	6,00,000.0	Market Price
(b)	STP, ETP, WTP	1.0	LS	1,00,00,000.0	1,00,00,000.0	Assumption
(c)	Overhead Storage Tanks	20,180.0	Per Litre	15.0	3,02,700.0	Average Full day capacity (Annexure 8.42), 16,000 litres existing (Annexure 8.38)
(d)	Underground Storage Tanks	18,090.0	Per Litre	15.0	2,71,350.0	Average Half day capacity (Annexure 8.42)
F	SPORTS INFRASTRUCTURE					Annexure 8.106 - Sports
1	Cricket	1.0	LS	-	-	Already Existing (Annexure 8.37)
2	Athletic	1.0	LS	-	-	
3	Hockey	1.0	LS	-	-	
4	Table Tennis	1.0	LS	-	-	
5	Badminton	1.0	LS	-	-	

G	TOTAL (A+B+C+D+E)		24,73,65,680.34			
			Rs. In Crores	24.74		
H	COST INDEX	107.0	(Y)	$\frac{G \times Y}{100}$	26.47	
J	OTHERS (Calculated on G)		Amount (in Crore)			As Per Govt. Regulations
1	PMC / Architects	5.75 %			1.52	As per COA guidelines, Including Service Tax
2	Taxes [Service Tax (6%), Labour Cess (1%), Punjab Infrastructure Fund (1%)]	8%			2.12	
		(J)			3.64	
K	TOTAL INFRASTRUCTURE COST	(H+J)	Rs. In Crores		30.11	
L	EQUIPMENT					
1	Labs				2.35	Refer Annexure 8.43
2	Workshop				0.10	Lump sum (5 Lakh per Engg. course, number of Engg. course = 2)
3	IT Infra				1.50	(Annexure 8.110)
4	Vehicles				-	
	TOTAL (L)		Rs. In Crores		3.95	
M	FURNITURE					With reference to Annexure 8.111
1	Hostel furniture for Students	40	46,000.0	0.0	0.18	(Annexure 8.112), Hostel Furniture proposed for 16 Boys Hostel Room and 24 Girls Hostel Room
2	Lecture Room for 60 Students	2	14,40,000.0	0.14	0.29	(Annexure 8.115)
3	Lecture Room for 45 Students	4	12,60,000.0	0.13	0.50	(Annexure 8.115)
4	Tutorial Room for 30 Students	6	11,10,000.0	0.11	0.67	(Annexure 8.116)
5	Drawing Hall for 60 Students	1	13,20,000.0	0.13	0.13	(Annexure 8.116)
6	Faculty/Non-Teaching Staff Academic Furniture	59	88,000.0	0.01	0.52	(Annexure 8.113)
7	Furniture for Contractual Staff	-	20,000.0	-	0.0020	(Annexure 8.111)

8	Guest House Furniture	-	1,80,000.0	0.02	-	(Annexure 8.114)
9	Library Furniture	400	2,000.0	0.0002	0.080	(Annexure 8.111)
10	Auditorium Furniture	300	5,000.0	0.0005	0.15	(Annexure 8.111)
	TOTAL	(M)	Rs. In Crores		2.53	
N	TOTAL EQUIPMENT & FURNITURE COST	(L+M)	Rs. In Crores		6.48	
P	CAPITAL COST		(J+K+L)		36.58	
Q	Contingency Factor (Calculated on P)		(Q)	3%	1.10	
R	TOTAL CAPITAL COST	(P + Q)	Rs. In Crores		37.68	

IKGPTU BATALA CAMPUS					
EXISTING INFRASTRUCTURE (Data provided by Institute)					Annexure 8.45
		MAIN BUILDING	WORKSHOP	TOTAL CARPET	Remarks
		Area	Area	AREA	
		SQM	SQM	SQM	
A	FACULTY BUILDING			721.00	
1	Administrative Building	384.00	-		
2	Director Room	28.00	-		
3	Staff Room	309.00	-		
B	LABORATORY COMPLEX			1,120.00	
1	Classrooms	672.00	-		
2	Tutorial Rooms				
3	Laboratories/Studios	448.00	-		
C	CENTRAL ACADEMIC SERVICES FACILITIES			1,963.00	
1	Computer Centre	-	-		
2	Seminar Hall / Conference	197.00	-		
3	Library	-	-		
4	Student Activities Centre	-	-		
5	Cafeteria/Canteen	-	-		
6	Toilets	372.00	-		
7	Store	392.00	-		
8	Multi-Purpose Hall / Workshop	-	1,002.00		
	TOTAL	2,802.00	1,002.00	3,804.00	Carpet Area
		3,922.80	1,402.80	5,325.60	Built Up Area (Carpet x 1.4)

Facilities Shared Between IKGPTU Batala Campus & Polytechnic College					
S. No	Description	AREA	Nos.	TOTAL BUILT UP AREA	Remarks
		SQM		SQM	
A	RESIDENTIAL COMPLEX				
1	Boys Hostel	23 Rooms	69 Students	805.00	Carpet Area of 1 room assumed as 25sqm. Built Up Area = 25*1.4 = 35sqm

2	Girls Hostel	18 Rooms	54 Students	630.00	Carpet Area of 1 room assumed as 25sqm. Built Up Area = 25*1.4 = 35sqm
3	Faculty Housing-Type II	75.00	5.00	375.00	
4	Faculty Housing-Type III	100.00	5.00	500.00	
5	Faculty Housing-Type IV	125.00	4.00	500.00	
B MISCELLANEOUS					
1	Cricket				Outdoor Facilities
2	Volley Ball				
TOTAL BUILT UP AREA				2,810.00	

DEVELOPMENT OF SITE AND ALLIED PROVISIONS - Existing / Shared between Batala Polytechnic College and IKGPTU Batala Campus					Annexure 8.46
Development of Site					
S. No	Item	Existing Area		Remarks	
1	Levelling	0.903 Acres		Not shared with Polytechnic	
2	Internal roads and paths	2 Km		Shared	
3	Sewer	0.8 Km		Not Shared	
4	Filter Water Supply	-		Using own facilities	
5	Storm Water Drains	-		Available	
6	Horticulture Operations	-		Not available	
7	Street Lighting	-		Shared with polytechnic	
8	Sports facilities/Playgrounds	0.95 Acres		Shared	
9	Parking	0.16 Acres		Using own land for parking	
10	Boundary Wall (in Perimeter / running meter)	0.8476 Km		Not Shared	
Allied Provisions					
S. No	Item	Existing	Units	Remarks	
1	Sub Station	-	Per Kva	Not Available	
2	DG Set	-	Per Kva	Not Available	
3	UPS	4 Nos	Per Kva	Using Own UPS (600V.A. each)	
4	VRF System	10 Nos	Per HP	Using own Acs (1.5 Ton)	
5	Tube well and pumping stations	1(Submersible)	Set	Using own	
6	STP, ETP, WTP	-	LS		
7	Overhead Storage Tanks	6 Tanks of 2000 litres each	Per Litre	Using Own facilities	
8	Underground Storage Tanks	-	Per Litre	Not Available	

DETAIL AREA ANALYSIS					Annexure 8.47
S. No	Description	As per DPR	No. of Room	Area	Remarks
		SQM		SQM	
ADMINISTRATIVE & FACULTY BUILDING (Carpet Area)					
1	Office of the Principal / Director IKGPTU Batala	30	1	30	
2	Administrative Offices of IKGPTU Batala	80	1	80	For 8 no. of staff
3	Offices of the Heads of Department	15	3	45	Area as per AICTE norms insufficient. Hence more area is allocated.
4	Reception Lounge	20	1	20	Assumed
5	Faculty Offices	10	30	300	Area as per AICTE norms insufficient. Hence more area is allocated.
6	Cubicles for Project Staff & Post-Doctoral Fellows	25	1	25	1 room with 5 cubicles
7	Cubicles for Research Scholars (05 cubicles)	25	1	25	1 room with 5 cubicles
8	Offices for Visiting Faculty	20	1	20	1 room with 3 visiting faculty
9	Seminar – cum - Committee Rooms	40	1	40	Seating capacity of 12 to 15 people
10	First Aid Medical Room	10	1	10	
11	Common Room for Students / Faculty	100	2	200	
12	Pantry	10	1	10	Only for Staff
13	Reprography and Stationary Store	10	1	10	
14	Examination Control Room	30	1	30	
15	Strong Room	30	1	30	
16	Store	10	2	20	
17	Toilets (Faculty)	25	1	25	
Total(A)				920	
CLASSROOM & LABORATORY COMPLEX (Carpet Area)					
1	Lecture Halls for 60 students	120	3	360	@ 2 sqm per student
2	Lecture Halls for 45 students	90	6	540	@ 2 sqm per student

3	Tutorial Rooms for 30 students	60	9	540	@ 2 sqm per student
4	Drawing Halls for 60 students	240	2	480	@ 4 sqm per student
5	Language Laboratory	66	1	66	
6	Applied Sciences Laboratories	66	2	132	
7	CE Laboratories	66	6	396	
8	EE Laboratories	66	3	198	
9	ME Laboratories	66	6	396	
10	Toilets (Students)	100	1	100	
Total (B)			39	3,208	
TOTAL (A+B)				4,128	Built Up Area (Carpet Area x 1.4) = 5779.2 sqm
CENTRAL ACADEMIC SERVICES FACILITIES (Carpet Area)					
1	Central Computing Facility	150	1	150	
2	Central Library Facility	400	1	400	
3	Educational Technology & Video Conferencing Facility	100	1	100	
4	Central Workshop Facility	-	-	-	Already Existing
5	Hobby-cum-Innovation Centre	50	1	50	
6	Auditorium: to seat 300 persons	600	1	600	@ 2 sqm per student
7	Canteen	150	1	150	Assumption
8	Sport's Club	200	1	200	Assumption
9	Student Activities Centre/ Community Centre/ Daily Needs Shop	250	1	250	Assumption
Total (C)				1,900	Built Up Area (Carpet Area x 1.4) = 2660 sqm
RESIDENTIAL COMPLEX (Built Up Area)					
With reference to Annexure 8.45, 8.48					
1	Principal's Quarter	268	1	268	As per CPWD, Revised PAR Norms, Type-6 Cat.
2	Guest House	42	2	84	Carpet Area per Room = 30sqm. Hence, Built up Area= 30 x 1.4 = 42sqm.

3	Boy's Hostel	35	22	770	Carpet Area per Room = 25sqm. Hence, Built up Area= 25 x 1.4 = 35sqm. 23 rooms for 69 Boys existing (Triple Sharing Rooms). Additional 22 rooms for 43 boys proposed (Double Sharing Rooms).
4	Girl's Hostel	35	29	1,015	Carpet Area per Room = 25sqm. Hence, Built up Area= 25 x 1.4 = 35sqm. 18 rooms for 54 Girls existing (Triple Sharing Rooms). Additional 29 rooms for 58 girls proposed (Double Sharing Rooms).
5	Faculty Residence				
a	Professor	200	2	-	Already Existing Staff Quarters to be renovated, Type IV Cat.
b	Associate Professor	200	3	-	Already Existing Staff Quarters to be renovated, Type III Cat.
c	Assistant Professor	128	6	-	Already Existing Staff Quarters to be renovated, Type II Cat.
Total (D)				2,137	
MISCELLANEOUS					
1	Playground			-	
a	Volley Ball	-	1	-	
b	Cricket	-	1	-	
Total (E)				-	

Residential, Hostel Requirement for Students and Faculty					Annexure 8.48
		Total Number	Residence Required	Required Rooms	
A	Faculty	30	11		Remarks
1	Professor	4	2		Assuming 35% require Residence Facility
2	Associate Professor	9	3		
3	Assistant Professor	17	6		
B	Student	450	225	112	
1	Boys	225	113	56	Assuming 50% require Residence Facility Double Seater Rooms each
2	Girls	225	113	56	
C	Non - Faculty Staff	46	0		
D	Principal's Quarter	1	1		
E	Guest House	2	2		

Electrical Load Estimations-							Annexure 8.49
For Batala							
Assumption	Light Load	Type of Building	Load in W per sq. m	Diversity	Area Percentage*	W/sq. m	
		Institutional	150.00	0.75	0.67	74.87	
		Residential	50.00	0.50	0.33	8.36	
		Total				83.23	
Built up Area							
Total Built Up (in sqm)	Light load in W	Load (in kW)	Load (Kva) Say	*Percentage for Residential Area = Total Built Up Area of Residential ÷ Total Built Up of the Campus			
14,789.00	12,30,900.00	1,230.90	1,477.08	*Percentage for Institutional Area = 1 - Percentage for Residential Area			

Occupancy Load for Water Calculation					Annexure 8.50
S. No	Description	No. of Faculty / Students	Occupancy per Unit	Total Occupancy	Remarks
A	Residential				
1	Faculty + Staff	14	4	56	Assuming 4 person per unit
2	Students	225	1	225	
B	Institutional				
1	Faculty + Staff	76	1	76	
2	Students	450	1	450	
Total Occupancy					
i)	Water Usage - Residential	135	281	37,935	135 Litre per day (With reference to NBC 2005, Part 9 - 4.1.2 - Table 1)
ii)	Water Usage - Institutional	45	526	23,670	45 Litre per day (With reference to NBC 2005, Part 9 - 4.1.2 - Table 1)
Total Water Consumption			(in Litres Per Day)	61,605	

For Laboratories/ Workshops Equipment Cost Calculation						Annexure 8.51
S. No	Description	No s.	Cost Per Lab	Total Cost	In Crore	Remarks
1	Engineering Labs	15	20,00,000	3,00,00,000	3.000	Annexure 8.108
2	Other Labs	3	5,00,000	15,00,000	0.150	Annexure 8.108
Total Cost for Laboratories Equipment					3.15	

DETAIL CAPITAL COST (Built Up Area)						Annexure 8.52
S. No	Description	AREA	Unit	PER SQM COST	TOTAL COST	Remarks
		BUILT UP AREA		AS PER CPWD		
(I)	EXISTING AREA (Renovation Cost)					
A	ADMINISTRATIVE - FACULTY AND CLASSROOM - LABORATORY COMPLEX					
1	Area of Admin, Faculty Building and Classroom-Lab Complex	3,923	Sqm	8,928	3,50,20,797	Renovation Cost for Existing Structure - 25% of PAR, CPWD PAR 2012, Annexure 8.91, 8.92 & 8.93
B	CENTRAL ACADEMIC SERVICES FACILITIES					
1	Central Workshop Facility	1,403	Sqm	7,780	1,09,13,784	20% Renovation Cost Assumed, CPWD PAR 2012, Annexure 8.94
C	RESIDENTIAL COMPLEX					
1	Boy's Hostel	805	Sqm	19,223	1,54,74,113	CPWD PAR 2012, Annexure 8.99, 75% Renovation Cost, Existing Built-up Area assumed @25sqm per room
2	Girl's Hostel	630	Sqm	19,223	1,21,10,175	CPWD PAR 2012, Annexure 8.99, 75% Renovation Cost, Existing Built-up Area assumed @25sqm per room
3	Professor Residence	500	Sqm	17,378	86,88,750	CPWD PAR 2012, Annexure 8.100, 75% Renovation Cost
4	Associate Professor Residence	500	Sqm	17,378	86,88,750	CPWD PAR 2012, Annexure 8.100, 75% Renovation Cost
5	Assistant Professor Residence	375	Sqm	17,378	65,16,563	CPWD PAR 2012, Annexure 8.100, 75% Renovation Cost
(II)	PROPOSED AREA (New Building Cost)					
A	ADMINISTRATIVE - FACULTY AND CLASSROOM - LABORATORY COMPLEX					
1	Area of Admin, Faculty Building and Classroom-Lab Complex	1,856	Sqm	35,710	6,62,92,044	CPWD PAR 2012, Average of Annexure 8.91, Annexure 8.92 and Annexure 8.93
B	CENTRAL ACADEMIC SERVICES FACILITIES					

1	Central Computing Facility	210	Sqm	34,980	73,45,800	CPWD PAR 2012, Annexure 8.95
2	Central Library Facility	560	Sqm	36,830	2,06,24,800	CPWD PAR 2012, Annexure 8.98
3	Educational Technology & Video Conferencing Facility	140	Sqm	34,980	48,97,200	CPWD PAR 2012, Annexure 8.95
4	Hobby-cum-Innovation Centre	70	Sqm	37,170	26,01,900	CPWD PAR 2012, Annexure 8.93
5	Auditorium: to seat 300 persons	840	Sqm	39,320	3,30,28,800	CPWD PAR 2012, Annexure 8.96
6	Canteen	210	Sqm	35,150	73,81,500	CPWD PAR 2012, Annexure 8.97
7	Sport's Club	280	Sqm	35,150	98,42,000	CPWD PAR 2012, Annexure 8.97
8	Student Activities Centre / Community Centre	350	Sqm	35,150	1,23,02,500	CPWD PAR 2012, Annexure 8.97
C	RESIDENTIAL COMPLEX					
1	Principal's Quarter	268	Sqm	23,170	62,09,560	CPWD PAR 2012, Annexure 8.100
2	Guest House	84	Sqm	23,250	19,53,000	CPWD PAR 2012, Annexure 8.102
3	Boy's Hostel	770	Sqm	25,630	1,97,35,100	CPWD PAR 2012, Annexure 8.99
4	Girl's Hostel	1,015	Sqm	25,630	2,60,14,450	CPWD PAR 2012, Annexure 8.99
D	DEVELOPMENT OF SITE					
S.no	DESCRIPTION	QTY	UNI T	RATE	TOTAL COST	REMARKS
1	Development of Site	79,480	Sqm	380.00	3,02,02,499	Annexure 8.107, 40% of overall cost assumed as site condition is average.
2	Boundary Wall	-		6,000.00	-	* Assuming Boundary Wall is already present
E	ALLIED PROVISIONS					With reference to Annexure 8.105
1	Sub Station Equipment's	1,477	Per Kva	7,000	1,03,39,560	Area * Watt / Sqm *1.2 / 1000 Annexure 8.49
2	DG Set	500	Per Kva	10,000	50,00,000	500Kva Assumed
3	UPS	22.60	Per Kva	20,000	4,52,000	Assumed as 25 Kva as per standard Institute, 2.4 Kva Existing

						(Annexure 8.46)
4	VRF System	376	Per HP	55,000	2,07,00,167	Only for Proposed Infrastructure excluding Residential Complex, assuming 1 HP per 12 Sqm of AC space, 10 units of 1.5 tonnes existing for existing buildings. (Annexure 8.46)
5	Precision Air Conditioning	20	Per Tonne	1,10,000	22,00,000	Assuming 1 Tonne per 12 Sqm of AC space
6	CCTV System	14,789	Per Sqm	300	44,36,700	For entire campus
7	Access Control System	9,842	Per Sqm	200	19,68,400	For Administrative & Faculty Building, Classroom & Laboratory Complex, Central Academic Services Facilities
8	Building Management System					Annexure 8.105 - H
(a)	Upto 10,000 Sqm	1	LS	30,00,000	30,00,000	
(b)	Beyond 10,000 Sqm	-	Per Sqm	100	-	
9	Others					
(a)	Tube well and pumping stations	-	Set	6,00,000	-	Already Existing (Annexure 8.46)
(b)	STP, ETP, WTP	1	LS	1,00,00,000	1,00,00,000	Assumption
(c)	Overhead Storage Tanks	49,605	Per Litre	15	7,44,075	Average Full day capacity Annexure 8.50, 12,000 Litre existing (Annexure 8.46)
(d)	Underground Storage Tanks	30,803	Per Litre	15	4,62,038	Average Half day capacity Annexure 8.50
F	SPORTS INFRASTRUCTURE					Annexure 8.106 - Sports
1	Cricket	1	LS	-	-	Already Existing (Annexure 8.45)
2	Volley Ball	1	LS	-	-	
G	TOTAL (A+B+C+D+E+F)			40,51,47,023		
			Rs. In Crores		40.51	
H	COST INDEX	102	(Y)	$\frac{G}{Y} \times 100$	41.32	

J	OTHERS (Calculated on H)				Amount (in Crore)	As Per Govt. Regulations
1	PMC / Architects		5.75 %		2.38	As per COA guidelines, Including Service Tax
2	Taxes [Service Tax (6%), Labour Cess (1%), Punjab Infrastructure Fund (1%)]		8.0%		3.31	
		(J)			5.68	
K	TOTAL INFRASTRUCTUR E COST	(H + J)		Rs. In Crores	47.01	
L	EQUIPMENT					
1	Labs				3.15	Refer Annexure 8.51
2	Workshops				0.15	Lump sum (5 Lakh per Engg. course, number of Engg. course = 3)
3	IT Infra				1.50	(Annexure 8.110)
4	Vehicles				-	
	TOTAL COST	(L)		Rs. In Crores	4.80	
M	FURNITURE					With reference to Annexure 8.111
1	Hostel furniture for Students	112	46,000	0.0046	0.515	(Annexure 8.112)
2	Lecture Halls for 60 students	3	14,40,000	0.1440	0.432	(Annexure 8.115)
3	Lecture Halls for 45 students	6	12,60,000	0.1260	0.756	(Annexure 8.115)
4	Tutorial Rooms for 30 students	9	11,10,000	0.1110	0.999	(Annexure 8.116)
5	Drawing Halls for 60 students	2	13,20,000	0.1320	0.264	(Annexure 8.116)
6	Faculty/Non- Teaching Staff Academic Furniture	76	88,000	0.0088	0.669	(Annexure 8.113)
7	Furniture for Contractual Staff	-	20,000	-	0.0020	(Annexure 8.111)
8	Guest House Furniture	2	1,80,000	0.0180	0.036	(Annexure 8.114)
9	Library Furniture	400	2,000	0.0002	0.080	(Annexure 8.111)
10	Auditorium Furniture	300	5,000	0.0005	0.150	(Annexure 8.111)
	TOTAL	(M)		Rs. In Crores	3.90	
N	TOTAL EQUIPMENT'S & FURNITURE COST	(L + M)		Rs. In Crores	8.70	

P	CAPITAL COST		(K+L+M)	55.71	
Q	Contingency Factor (Calculated on P)		(Q)	3.00%	1.67
R	TOTAL CAPITAL COST	(P + Q)	Rs. In Crores	57.38	

IKGPTU BHIKIWIND CAMPUS					
EXISTING INFRASTRUCTURE (Data provided by Institute)					Annexure 8.53
		BUILDING 1	BUILDING 2	TOTAL	
		Area	Area	Area	Remarks
		SQM	SQM	SQM	
A	FACULTY BUILDING			761.00	
1	Administrative Building	383.00	98.00		
2	Director Room	28.00	28.00		
3	Staff Room	112.00	112.00		
B	CLASSROOM- LABORATORY COMPLEX			896.00	
1	Classrooms	336.00	-		
2	Tutorial Rooms	-	-		
3	Laboratories/Studios	448.00	112.00		
C	CENTRAL ACADEMIC SERVICES FACILITIES			774.00	
1	Computer Centre	-	-		
2	Seminar Hall / Conference	196.00	-		
3	Library	-	-		
4	Student Activities Centre	-	154.00		
5	Cafeteria/Canteen	-	-		
6	Toilets	205.00	107.00		
7	Store	112.00	-		
8	Multi-Purpose Hall	-	-		
	TOTAL	1,820.00	611.00	2,431.00	Carpet Area
		2,548.00	855.40	3,403.40	Built Up Area (Carpet x 1.4)

Facilities Shared Between IKGPTU Bhikiwind Campus & Bhikiwind Polytechnic College					
S. No	Description	AREA	Nos.	TOTAL BUILT UP AREA	Remarks
		SQM		SQM	
A	RESIDENTIAL COMPLEX				
1	Boys Hostel	30 Rooms	60 Students	1,050.00	Carpet Area of 1 room assumed as 25sqm. Built Up Area = 25*1.4 = 35sqm
2	Faculty Housing-Type II	75.00	6.00	450.00	Only 6 out of 8 residence required. 4 given to Assistant Professor and 2 given to Guest House.
3	Faculty Housing-Type III	100.00	2.00	200.00	Only 2 out of 8 residence required.
4	Faculty Housing-Type IV	125.00	1.00	125.00	Only 1 out of 8 residence required.
B	MISCELLANEOUS				
1	Cricket				Outdoor Facilities
2	Basketball				
3	Badminton				
4	Volley Ball				
	TOTAL BUILT UP AREA			1,825.00	

DEVELOPMENT OF SITE AND ALLIED PROVISIONS - Existing / Shared between Bhikiwind Polytechnic College and IKGPTU Bhikiwind Campus			Annexure 8.54	
Development of Site				
S. No	Item	Existing Area		Remarks
1	Levelling	14 Acres		Shared
2	Internal roads and paths	602 Meters		Shared
3	Sewer	450 Meters		Using own Sewerage
4	Filter Water Supply	-		Using own
5	Storm Water Drains	-		Not available
6	Horticulture Operations	726 Sqm.		Using own facility
7	Street Lighting	490 Meters		Shared
8	Sports facilities/Playgrounds	7550 Sqm.		Shared
9	Parking	188 Sqm.		Shared
10	Boundary Wall (in Perimeter / running meter)	1557 Metres		Shared
Allied Provisions				
S. No	Item	Existing	Units	Remarks
1	Sub Station	50 Kva	Per Kva	Using own Sub Station
2	DG Set	-	Per Kva	Not Available
3	UPS	-	Per Kva	Not Available
4	VRF System	7 ACs	Per Tonne	Using own ACs
5	Tube well and pumping stations	-	Set	Not Available
6	STP, ETP, WTP	-	LS	Not Available
7	Overhead Storage Tanks	4 Tanks of 2000 litres each	Per Litre	Own Facility
8	Underground Storage Tanks	-	Per Litre	Not Available

DETAIL AREA ANALYSIS					Annexure 8.55
		As per DPR	No. of Room	Area	Remarks
		SQM		SQM	
ADMINISTRATIVE & FACULTY BUILDING (Carpet Area)					
1	Office of the Principal / Director IKGPTU Bhikiwind	30	1	30	
2	Administrative Offices of IKGPTU Bhikiwind	80	1	80	For 8 no. of staff
3	Offices of the Heads of Department	15	2	30	Area as per AICTE norms insufficient. Hence more area is allocated.
4	Reception Lounge	20	1	20	Assumed
5	Faculty Offices	10	20	200	Area as per AICTE norms insufficient. Hence more area is allocated.
6	Cubicles for Project Staff & Post-Doctoral Fellows	25	1	25	1 room with 5 cubicles
7	Cubicles for Research Scholars (05 cubicles)	25	1	25	1 room with 5 cubicles
8	Offices for Visiting Faculty	20	1	20	1 room with 3 visiting faculty
9	Seminar – cum - Committee Rooms	40	1	40	Seating capacity of 12 to 15 people
10	First Aid Medical Room	10	1	10	
11	Common Room for Students / Faculty	100	2	200	
12	Pantry	10	1	10	Only for Staff
13	Reprography and Stationary Store	10	1	10	
14	Examination Control Room	30	1	30	
15	Strong Room	30	1	30	
16	Store	10	2	20	More area required
17	Toilets (Faculty)	25	1	25	
Total(A)				805	
CLASSROOM & LABORATORY COMPLEX (Carpet Area)					
1	Lecture Halls for 60 students	120	2	240	@ 2 sqm per student
2	Lecture Halls for 45	90	4	360	@ 2 sqm per student

	students				
3	Tutorial Rooms for 30 students	60	6	360	@ 2 sqm per student
4	Drawing Halls for 60 students	240	1	240	@ 4 sqm per student
5	Language Laboratory	66	1	66	
6	Applied Sciences Laboratories	66	2	132	
7	Engineering Sciences Laboratories	66	2	132	
8	CSE Laboratories	66	3	198	
9	ME Laboratories	66	6	396	
10	Toilets (Students)	100	1	100	
Total (B)			28	2,224	
TOTAL (A+B)				3,029	Built Up Area (Carpet Area x 1.4) = 4240.6 sqm
CENTRAL ACADEMIC SERVICES FACILITIES (Carpet Area)					
1	Central Computing Facility	150	1	150	
2	Central Library Facility	400	1	400	According to no. of courses = 5
3	Educational Technology & Video Conferencing Facility	100	1	100	
4	Central Workshop Facility	200	1	200	
5	Hobby-cum-Innovation Centre	50	1	50	
6	Auditorium: to seat 300 persons	600	1	600	@ 2 sqm per student
7	Canteen	150	1	150	Assumption
8	Sport's Club	200	1	200	Assumption
9	Student Activities Centre/ Community Centre/ Daily Needs Shop	250	1	250	Assumption
Total (C)				2,100	Built Up Area (Carpet Area x 1.4) = 2940 sqm
RESIDENTIAL COMPLEX (Built Up Area)					With reference to Annexure 8.53, 8.56
1	Principal's Quarter	268	1	268	As per CPWD, Revised PAR Norms, Type-6 Cat.
2	Guest House	42	2	-	Carpet Area per Room = 30sqm. Hence, Built up Area= 30 x 1.4 = 42sqm. Already Existing Residences to be allocated.

3	Boy's Hostel	35	8	280	Carpet Area per Room = 25sqm. Hence, Built up Area= 25 x 1.4 = 35sqm. Additional 8 Double Rooms required, Hostel for 60 Students already existing.
4	Girl's Hostel	35	38	1,330	Carpet Area per Room = 25sqm. Hence, Built up Area= 25 x 1.4 = 35sqm. 38 Double Rooms required.
5	Faculty Residence				
a	Professor	200	1	-	Existing Residences to be allocated.
b	Associate Professor	200	2	-	
c	Assistant Professor	128	4	-	
Total (D)				1,878	
MISCELLANEOUS					
1	Playground			-	
a	Badminton	-	1	-	
b	Cricket	-	1	-	
c	Basket Ball	-	1	-	
d	Volley ball	-	1	-	
Total (E)					

Residential, Hostel Requirement for Students and Faculty					Annexure 8.56
		Total Number	Residence Required	Required Rooms	
A	Faculty	20	7		Remarks
1	Professor	3	1		Assuming 35% require Residence Facility
2	Associate Professor	6	2		
3	Assistant Professor	11	4		
B	Student	300	150	76	
1	Boys	150	75	38	Assuming 50% require Residence Facility Double Seater Rooms each
2	Girls	150	75	38	
C	Non - Faculty Staff	42	0		
D	Principal's Quarter	1	1		
E	Guest House	2	2		



Electrical Load Estimations					Annexure 8.57	
For Bhikiwind						
Assumption	Light Load	Type of Building	Load in W per sq. m	Diversity	Area Percentage	W/sq. m
		Institutional	150.00	0.75	0.66	74.22
		Residential	50.00	0.50	0.34	8.51
		Total				82.73
Built up Area						
Total Built Up (in sqm)	Light load in W	Load (in kW)	Load (Kva) Say	Percentage for Residential Area = Total Built Up Area of Residential ÷ Total Built Up of the Campus		
10,883.60	9,00,392.50	900.39	1,080.47	Percentage for Institutional Area = 1 - Percentage for Residential Area		

Occupancy Load for Water Calculation					Annexure 8.58
S. No	Description	No. of Faculty / Students	Occupancy per Unit	Total Occupancy	Remarks
A	Residential				
1	Faculty + Staff	10	4	40	Assuming 4 person per unit
2	Students	150	1	150	
B	Institutional				
1	Faculty + Staff	62	1	62	
2	Students	300	1	300	
Total Occupancy				552	
i)	Water Usage - Residential	135	190	25,650	135 Litre per day (With reference to NBC 2005, Part 9 - 4.1.2 - Table 1)
ii)	Water Usage - Institutional	45	362	16,290	45 Litre per day (With reference to NBC 2005, Part 9 - 4.1.2 - Table 1)
Total Water Consumption			(in Litres Per Day)	41,940	

For Laboratories Equipment Cost Calculation						Annexure 8.59
S. No	Description	Nos.	Cost Per Lab	Total Cost	In Crore	Remarks
1	Engineering Labs	11	20,00,000	2,20,00,000	2.200	Annexure 8.108
2	Other Labs	3	5,00,000	15,00,000	0.150	Annexure 8.108
Total Cost for Laboratories Equipment					2.35	

DETAIL CAPITAL COST (Built Up Area)						Annexure 8.60
S. No	Description	AREA	Unit	PER SQM COST	TOTAL COST	Remarks
		BUILT UP AREA		AS PER CPWD		
(I)	EXISTING AREA (Renovation Cost)					
A	ADMIN - FACULTY AND CLASSROOM - LABORATORY COMPLEX					
1	Area of Admin, Faculty Building and Classroom-Lab Complex	3,403	Sqm	8,928	3,03,83,854	Renovation Cost for Existing Structure- 25% of PAR, CPWD PAR 2012, Annexure 8.91, 8.92 & 8.93
C	RESIDENTIAL COMPLEX					
1	Boy's Hostel	1,050	Sqm	19,223	2,01,83,625	CPWD PAR 2012, Annexure 8.99, 75% Renovation Cost, Existing Built-up Area assumed @25sqm per room
2	Guest House	150	Sqm	17,438	26,15,625	CPWD PAR 2012,

						Annexure 8.102, 75% Renovation Cost
3	Professor Residence	125	Sqm	17,378	21,72,188	CPWD PAR 2012, Annexure 8.100, 75% Renovation Cost
4	Associate Professor Residence	200	Sqm	17,378	34,75,500	CPWD PAR 2012, Annexure 8.100, 75% Renovation Cost
5	Assistant Professor Residence	300	Sqm	17,378	52,13,250	CPWD PAR 2012, Annexure 8.100, 75% Renovation Cost
(II)	PROPOSED AREA (New Building Cost)					
A	ADMIN - FACULTY AND CLASSROOM - LABORATORY COMPLEX					
1	Area of Admin, Faculty Building and Classroom-Lab Complex	837	Sqm	35,710	2,98,96,412	CPWD PAR 2012, Average of Annexure 8.91, Annexure 8.92 and Annexure 8.93
B	CENTRAL ACADEMIC SERVICES FACILITIES					
1	Central Computing Facility	210	Sqm	34,980	73,45,800	CPWD PAR 2012, Annexure 8.95
2	Central Library Facility	560	Sqm	36,830	2,06,24,800	CPWD PAR 2012, Annexure 8.98
3	Educational Technology & Video Conferencing Facility	140	Sqm	34,980	48,97,200	CPWD PAR 2012, Annexure 8.95
4	Central Workshop Facility	280	Sqm	38,900	1,08,92,000	Area already

460



						available.
5	Hobby-cum-Innovation Centre	70	Sqm	37,170	26,01,900	CPWD PAR 2012, Annexure 8.93
6	Auditorium: to seat 300 persons	840	Sqm	39,320	3,30,28,800	CPWD PAR 2012, Annexure 8.96
7	Canteen	210	Sqm	35,150	73,81,500	CPWD PAR 2012, Annexure 8.97
8	Sport's Club	280	Sqm	35,150	98,42,000	CPWD PAR 2012, Annexure 8.97
9	Student Activities Centre/ Community Centre/ Daily Needs Shop	350	Sqm	35,150	1,23,02,500	CPWD PAR 2012, Annexure 8.97
C	RESIDENTIAL COMPLEX					
1	Principal's Quarter	268	Sqm	23,170	62,09,560	CPWD PAR 2012, Annexure 8.100
2	Boy's Hostel	280	Sqm	25,630	71,76,400	CPWD PAR 2012, Annexure 8.99
3	Girl's Hostel	1,330	Sqm	25,630	3,40,87,900	CPWD PAR 2012, Annexure 8.99
D	DEVELOPMENT OF SITE					
S.no	DESCRIPTION	QTY	UNIT	RATE	TOTAL COST	REMARKS
1	Development of Site	36,422	Sqm	380.00	1,38,40,249	Annexure 8.107, 40% of overall cost assumed as site condition is average.
2	Boundary Wall	-		6,000.00	-	* Assuming Boundary Wall is

						already present
E	ALLIED PROVISIONS	With reference to Annexure 8.105				
1	Sub Station Equipment	1,030	Per Kva	7,000	72,13,297	Area * Watt / Sqm *1.2 / 1000 Annexure 8.57, 50 Kva existing (Annexure 8.54)
2	DG Set	500	Per Kva	10,000	50,00,000	500 Kva Assumed
3	UPS	25	Per Kva	20,000	5,00,000	Assumed as 25 Kva as per standard Institute
4	VRF System	315	Per HP	55,000	1,73,12,167	Only for Proposed Infrastructure excluding Residential Complex, assuming 1 HP per 12 Sqm of AC space, 7 units of 1.5 tonnes existing for existing buildings. (Annexure 8.54)
5	Precision Air Conditioning	20	Per Tonne	1,10,000	22,00,000	Assuming 1 Tonne per 12 Sqm of AC space
6	CCTV System	10,884	Per Sqm	300	32,65,080	For entire campus
7	Access Control System	7,181	Per Sqm	200	14,36,120	For Administrative & Faculty Building, Classroom & Laboratory Complex, Central Academic Services Facilities
8	Building Management System	Annexure 8.105 - H				
(a)	Upto 10,000 Sqm	1	LS	30,00,000	30,00,000	
(b)	Beyond 10,000 Sqm	-	Per Sqm	100	-	
9	Others					
(a)	Tube well and pumping stations	1	Set	6,00,000	6,00,000	Market Price
(b)	STP, ETP, WTP	1	LS	1,00,00,000	1,00,00,000	Assumption
(c)	Overhead Storage Tanks	33,940	Per Litre	15	5,09,100	Average Full day capacity Annexure 8.58, 8000 Litre

						already existing (Annexure 8.54)
(d)	Underground Storage Tanks	20,970	Per Litre	15	3,14,550	Average Half day capacity Annexure 8.58
F	SPORTS INFRASTRUCTURE				Annexure 8.106 - Sports	
1	Cricket	-	LS	-	-	Already Existing (Annexure 8.53)
2	Basketball	-	LS	-	-	
3	Badminton	-	LS	-	-	
4	Volley Ball	-	LS	-	-	
G	TOTAL (A+B+C+D+E+F)				31,55,21,376	
			Rs. In Crores		31.55	
H	COST INDEX	107	(Y)	G x Y/100	33.76	
J	OTHERS (Calculated on H)				Amount (in Crore)	As Per Govt. Regulations
1	PMC / Architects	5.75%			1.94	As per COA guidelines, Including Service Tax
2	Taxes [Service Tax (6%), Labour Cess (1%), Punjab Infrastructure Fund (1%)]	8.0%			2.70	
		(J)			4.64	
K	TOTAL INFRASTRUCTURE COST	(H + J)	Rs. In Crores		38.40	
L	EQUIPMENT					
1	Labs				2.35	Refer Annexure 8.59
2	Workshops				0.10	Lump sum (5 Lakh per Engg. course, number of Engg. course = 2)
3	IT Infra				1.50	(Annexure

						8.110)
4	Vehicles				-	
	TOTAL COST	(L)	Rs. In Crores		3.95	
M	FURNITURE				With reference to Annexure 8.111	
1	Hostel furniture for Students	76	46,000	0.0046	0.350	(Annexure 8.112)
2	Lecture Halls for 60 students	2	14,40,00	0.1440	0.288	(Annexure 8.115)
3	Lecture Halls for 45 students	4	12,60,00	0.1260	0.504	(Annexure 8.115)
4	Tutorial Rooms for 30 students	6	11,10,00	0.1110	0.666	(Annexure 8.116)
5	Drawing Halls for 60 students	1	13,20,00	0.1320	0.132	(Annexure 8.116)
6	Faculty/Non-Teaching Staff Academic Furniture	62	88,000	0.0088	0.546	(Annexure 8.113)
7	Furniture for Contractual Staff	-	20,000		0.0020	(Annexure 8.111)
8	Guest House Furniture	2	1,80,000	0.0180	0.036	(Annexure 8.114)
9	Library Furniture	400	2,000	0.0002	0.080	(Annexure 8.111)
10	Auditorium Furniture	300	5,000	0.0005	0.150	(Annexure 8.111)
	TOTAL	(M)	Rs. In Crores		2.75	
N	TOTAL EQUIPMENT & FURNITURE COST	(L + M)	Rs. In Crores		6.70	
P	CAPITAL COST		(K+L+M)		45.11	
Q	Contingency	(Q)	3.00%		1.35	
R	TOTAL CAPITAL COST	(P + Q)	Rs. In Crores		46.46	

IKGPTU DINANAGAR CAMPUS			
EXISTING INFRASTRUCTURE (Data provided by Institute)			Annexure 8.61
	BUILDING 1	TOTAL CARPET AREA	Remarks
	AREA SQM	SQM	
A	FACULTY BUILDING		888.00
1	Administrative Building	345.00	
2	Director Room	28.00	
3	Staff Room	515.00	
B	LABORATORY COMPLEX		1,036.00
1	Classrooms	588.00	
2	Tutorial Rooms		
3	Laboratories/Studios	448.00	
C	CENTRAL ACADEMIC SERVICES FACILITIES		614.00
1	Computer Centre		
2	Seminar Hall / Conference	196.00	
3	Library		
4	Student Activities Centre		
5	Cafeteria/Canteen		
6	Toilets	250.00	
7	Store	168.00	
8	Multi-Purpose Hall		
	TOTAL	2,538.00	2,538.00
			3,553.20 Built Up Area (Carpet x 1.4)

Facilities Shared Between IKGPTU Dinanagar Campus & Dinanagar Polytechnic College					
		AREA	Nos.	TOTAL BUILT UP AREA	Remarks
		SQM		SQM	
A	RESIDENTIAL COMPLEX				
1	Girls Hostel	42 Rooms	126 Students	1,470.00	Carpet Area of 1 room assumed as 25sqm. Built Up Area=25*1.4=35 sqm
2	Faculty Housing-Type II	75.00	6.00	450.00	12 residences allocated to 4 Associate Professors and 8 Assistant Professors
3	Faculty Housing-Type III	100.00	6.00	600.00	
4	Faculty Housing-Type IV	125.00	4.00	500.00	Only 4 out of 6 available Faculty House required. 2 Residences allocated to Professors and 2 allocated to Guest Houses.
B	MISCELLANEOUS				
1	Basketball				Outdoor Facilities
2	Badminton				
TOTAL BUILT UP AREA (Carpet Area X 1.4)				3,020.00	

**DEVELOPMENT OF SITE AND ALLIED PROVISIONS - Existing / Shared
between Dinanagar Polytechnic College and IKGPTU Dinanagar Campus**

**Annexure
8.62**

Development of Site			
S. No	Item	Existing Area	Remarks
1	Levelling	14.6 Acres	Shared
2	Internal roads and paths	1.5 Kms	Shared
3	Sewer	50 m	Shared
4	Filter Water Supply	-	Shared
5	Storm Water Drains	-	
6	Horticulture Operations	-	
7	Street Lighting	-	
8	Sports facilities/Playgrounds	-	
9	Parking	-	
10	Boundary Wall (in Perimeter / running meter)	1650 m	Shared

Allied Provisions				
S. No	Item	Existing	Units	Remarks
1	Sub Station	-	Per Kva	Not Available
2	DG Set	25.00	Per Kva	Using Own DG Set
3	UPS	5.00	Per Kva	Using Own UPS
4	VRF System	10.00	Per Tonne	Using own ACs
5	Tube well and pumping stations	1.00	Set	Shared
6	STP, ETP, WTP	.	LS	
7	Overhead Storage Tanks	8 Tanks of 2000 litres each	Per Litre	Shared
8	Underground Storage Tanks	.	Per Litre	Not Available

DETAIL AREA ANALYSIS					Annexure 8.63
S. No	Description	As per DPR	No. of Room	Total Area	Remarks
		SQM		SQM	
ADMINISTRATIVE & FACULTY BUILDING (Carpet Area)					
1	Office of the Principal / Director IKGPTU Dinanagar	30	1	30	
2	Administrative Offices of IKGPTU Dinanagar	80	1	80	For 8 no. of staff
3	Offices of the Heads of Department	15	3	45	Area as per AICTE norms insufficient. Hence more area is allocated.
4	Reception Lounge	20	1	20	Assumed
5	Faculty Offices	10	38	380	Area as per AICTE norms insufficient. Hence more area is allocated.
6	Cubicles for Project Staff & Post-Doctoral Fellows	25	1	25	1 room with 5 cubicles
7	Cubicles for Research Scholars (05 cubicles)	25	1	25	1 room with 5 cubicles
8	Offices for Visiting Faculty	20	1	20	1 room with 3 visiting faculty
9	Seminar – cum - Committee Rooms	40	1	40	1 seminar room with seating capacity of 12 to 15 people
10	First Aid Medical Room	10	1	10	
11	Common Room for Students / Faculty	100	2	200	
12	Pantry	10	1	10	Only for Staff
13	Reprography and Stationary Store	10	1	10	
14	Examination Control Room	30	1	30	
15	Strong Room	30	1	30	
16	Store	10	2	20	More area required
17	Toilets (Faculty)	25	1	25	
Total(A)				1,000	
CLASSROOM & LABORATORY COMPLEX (Carpet Area)					
1	Lecture Halls for 60 students	120	3	360	@ 2 sqm per student
2	Lecture Halls for 45	90	6	540	@ 2 sqm per student

	students				
3	Tutorial Rooms for 30 students	60	9	540	@ 2 sqm per student
4	Drawing Halls for 60 students	240	2	480	@ 4 sqm per student
5	Language Laboratory	66	1	66	
6	Applied Sciences Laboratories	66	2	132	
7	CE Laboratories	66	6	396	
8	CSE Laboratories	66	3	198	
10	Toilets (Students)	100	1	100	
Total (B)			33	2,812	
TOTAL (A+B)				3,812	Built Up Area (Carpet Area x 1.4) = 5336.8 sqm
CENTRAL ACADEMIC SERVICES FACILITIES (Carpet Area)					
1	Central Computing Facility	150	1	150	
2	Central Library Facility	400	1	400	According to no. of courses = 5
3	Educational Technology & Video Conferencing Facility	100	1	100	
4	Central Workshop Facility	200	1	200	
5	Hobby-cum-Innovation Centre	50	1	50	
6	Auditorium: to seat 300 persons	600	1	600	@ 2 sqm per student
7	Canteen	150	1	150	
8	Sport's Club	200	1	200	
9	Student Activities Centre/ Community Centre/ Daily Needs Shop	250	1	250	
Total (C)				2,100	Built Up Area (Carpet Area x 1.4) = 2940 sqm
RESIDENTIAL COMPLEX (Built Up Area)					
With reference to Annexure 8.61, 8.64					
1	Principal's Quarter	268	1	268	As per CPWD, Revised PAR Norms, Type-6 Cat.
2	Guest House	42	2	-	Carpet Area per Room = 30sqm. Hence, Built up Area= 25 x 1.4 = 42sqm. Already Existing Staff

					Quarters to be renovated, Type IV Cat.
3	Boy's Hostel	35	60	2,100	Carpet Area per Room = 25sqm. Hence, Built up Area= 25 x 1.4 = 35sqm. 60 Double Seater Rooms
4	Girl's Hostel	35	60	-	Carpet Area per Room = 25sqm. Hence, Built up Area= 25 x 1.4 = 35sqm. Already existing, to be renovated
5	Faculty Residence				
a	Professor	200	2	-	Already Existing Staff Quarters to be renovated, Type IV Cat.
b	Associate Professor	200	4	-	Already Existing Staff
c	Assistant Professor	128	8	-	Quarters to be renovated, Type II and III Cat.
Total (D)				2,368	
MISCELLANEOUS					
1	Playground			-	Facilities already existing with the campus.
a	Badminton / Basket Ball	-	1	-	
b	Cricket / Football	-	1	-	
Total (E)				-	

Residential, Hostel Requirement for Students and Faculty					Annexure 8.64
		Total Number	Residence Required	Required Rooms	
A	Faculty	38	14		Remarks Assuming 35% require Residence Facility
1	Professor	5	2		
2	Associate Professor	11	4		
3	Assistant Professor	22	8		
B	Student	480	240	120	Assuming 50% require Residence Facility Double Seater Rooms each
1	Boys	240	120	60	
2	Girls	240	120	60	
C	Non - Faculty Staff	42	0		
D	Principal's Quarter	1	1		
E	Guest House	2	2		

Electrical Load Estimations-						Annexure 8.65
For Dinanagar						
Assumption	Light Load	Type of Building	Load in W per sq. m	Diversity	Area Percentage*	W/sq. m
		Institutional	150	0.75	0.61	68.14
		Residential	50	0.5	0.39	9.86
		Total				78.00
Built up Area						
Total Built Up (in sqm)	Light load in W	Load (in kW)	Load (Kva) Say	Percentage for Residential Area = Total Built Up Area of Residential ÷ Total Built Up of the Campus		
13,664.80	10,65,840.00	1,065.84	1,279.01	Percentage for Institutional Area = 1 - Percentage for Residential Area		

Occupancy Load for Water Calculation					Annexure 8.66
S. No	Description	No. of Faculty / Students	Occupancy per Unit	Total Occupancy	Remarks
A Residential					
1	Faculty + Staff	17	4	68	Assuming 4 person per unit
2	Students	240	1	240	
B Institutional					
1	Faculty + Staff	80	1	80	
2	Students	480	1	480	
Total Occupancy					
i)	Water Usage - Residential	135	308	41,580	135 Litre per day (With reference to NBC 2005, Part 9 - 4.1.2 - Table 1)
ii)	Water Usage - Institutional	45	560	25,200	45 Litre per day (With reference to NBC 2005, Part 9 - 4.1.2 - Table 1)
Total Water Consumption			(in Litres Per Day)	66,780	

For Laboratories Equipment Cost Calculation					Annexure 8.67	
S. No	Description	No s.	Cost Per Lab	Total Cost	In Crore	Remarks
1	Engineering Labs	9	20,00,000	1,80,00,000	1.800	Annexure 8.108
2	Other Labs	3	5,00,000	15,00,000	0.150	Annexure 8.108
Total Cost for Laboratories Equipment					1.95	

DETAIL CAPITAL COST (Built Up Area)						Annexure 8. 68
S. No	Description	AREA	UNIT	PER SQM COST	TOTAL COST	Remarks
		BUILT UP AREA		AS PER CPWD		
(I)	EXISTING AREA (Renovation Cost)					
A	ADMIN - FACULTY AND CLASSROOM - LABORATORY COMPLEX					
1	Area of Admin, Faculty Building and Classroom-Lab Complex	3,553	Sqm	14,284	5,07,53,909	Renovation Cost for Existing Structure-40% of PAR, CPWD PAR2012, Annexure 8. 8.91,8.92&8.93
C	RESIDENTIAL COMPLEX					
1	Girls Hostel	1,470	Sqm	19,223	2,82,57,075	CPWD PAR 2012, Annexure 8.99, 75% Renovation Cost, Existing Built-up Area assumed @25sqm per room
2	Guest House	250	Sqm	17,438	43,59,375	CPWD PAR 2012, Annexure 8.102, 75% Renovation Cost
3	Professor Residence	250	Sqm	17,378	43,44,375	CPWD PAR 2012, Annexure 8.100, 75% Renovation Cost
4	Associate Professor Residence	600	Sqm	17,378	1,04,26,500	CPWD PAR 2012, Annexure 8.100, 75% Renovation Cost
5	Assistant Professor Residence	450	Sqm	17,378	78,19,875	CPWD PAR 2012, Annexure 8.100, 75% Renovation Cost
(II)	PROPOSED AREA (New Building Cost)					
A	ADMIN - FACULTY AND CLASSROOM - LABORATORY COMPLEX					
1	Area of Admin, Faculty Building and	1,784	Sqm	35,710	6,36,92,35	CPWD PAR 2012, Average of

	Classroom-Lab Complex				6	Annexure 8. 8.91, Annexure 8. 8.92 and Annexure 8. 8.93
B	CENTRAL ACADEMIC SERVICES FACILITIES					
1	Central Computing Facility	210	Sqm	34,980	73,45,800	CPWD PAR 2012, Annexure 8.95
2	Central Library Facility	560	Sqm	36,830	2,06,24,800	CPWD PAR 2012, Annexure 8.98
3	Educational Technology & Video Conferencing Facility	140	Sqm	34,980	48,97,200	CPWD PAR 2012, Annexure 8.95
4	Central Workshop Facility	280	Sqm	38,900	1,08,92,000	CPWD PAR 2012, Annexure 8.94
5	Hobby-cum-Innovation Centre	70	Sqm	37,170	26,01,900	CPWD PAR 2012, Annexure 8.93
6	Auditorium: to seat 300 persons	840	Sqm	39,320	3,30,28,800	CPWD PAR 2012, Annexure 8.96
7	Canteen	210	Sqm	35,150	73,81,500	CPWD PAR 2012, Annexure 8.97
8	Sport's Club	280	Sqm	35,150	98,42,000	CPWD PAR 2012, Annexure 8.97
9	Student Activities Centre/ Community Centre/ Daily Needs Shop	350	Sqm	35,150	1,23,02,500	CPWD PAR 2012, Annexure 8.97
C	RESIDENTIAL COMPLEX					
1	Principal's Quarter	268	Sqm	23,170	62,09,560	CPWD PAR 2012, Annexure 8.100
2	Boys Hostel	2,100	Sqm	25,630	5,38,23,000	CPWD PAR 2012, Annexure 8.99

D DEVELOPMENT OF SITE						
S.no	DESCRIPTION	QTY	UNIT	RATE	TOTAL COST	REMARKS
1	Development of Site	36,422	Sqm	712.50	2,59,50,467	Annexure 8.107, 75% of overall cost assumed as site needs major uplifting.
2	Boundary Wall	-		6,000.00	-	* Assuming Boundary Wall is already present
E	ALLIED PROVISIONS				With reference to Annexure 8.105	
1	Sub Station Equipment's	1,279	Per Kva	7,000	89,53,056	Area * Watt / Sqm *1.2 / 1000 Annexure 8.65
2	DG Set	475	Per Kva	10,000	47,50,000	500 Kva assumed, 25 Kva existing (Annexure 8.62)
3	UPS	20	Per Kva	20,000	4,00,000	Assumed as 25 Kva as per standard Institute, 5 Kva Existing (Annexure 8.62)
4	VRF System	394	Per HP	55,000	2,16,49,833	Only for Proposed Infrastructure excluding Residential Complex, assuming 1 HP per 12 Sqm of AC space, 10 units of 1.5 tonnes existing for existing buildings. (Annexure 8.62)
5	Precision Air Conditioning	20	Per Tonne	1,10,000	22,00,000	Assuming 1 Tonne per 12 Sqm of AC space
6	CCTV System	13,665	Per Sqm	300	40,99,440	For entire campus
7	Access Control System	8,277	Per Sqm	200	16,55,360	For Administrative & Faculty Building, Classroom & Laboratory Complex, Central Academic

						Services Facilities
8	Building Management System					Annexure 8.105 - H
(a)	Upto 10,000 Sqm	1	LS	30,00,000	30,00,000	
(b)	Beyond 10,000 Sqm	-	Per Sqm	100	-	
9	Others					
(a)	Tube well and pumping stations	-	Set	6,00,000	-	Already Existing (Annexure 8.62)
(b)	STP, ETP, WTP	1	LS	1,00,00,000	1,00,00,000	Assumption
(c)	Overhead Storage Tanks	50,780	Per Litre	15	7,61,700	Average Full day capacity (Annexure 8.66), 16000 litres existing (Annexure 8.62)
(d)	Underground Storage Tanks	33,390	Per Litre	15	5,00,850	Average Half day capacity (Annexure 8.66)
F	SPORTS INFRASTRUCTURE					
1	Basketball	-	LS	-	-	Already Existing (Annexure 8.61)
2	Badminton	-	LS	-	-	
G	TOTAL (A+B+C+D+E+F)			42,25,23,231		
			Rs. In Crores	42.25		
H	COST INDEX	102	(Y)	G x Y/100	43.10	
J	OTHERS (Calculated on H)				Amount (in Crore)	As Per Govt. Regulations
1	PMC / Architects			5.75%	2.48	As per COA guidelines, Including Service Tax
2	Taxes [Service Tax (6%), Labour Cess (1%), Punjab Infrastructure Fund (1%)]			8.0%	3.45	
		(J)			5.93	
K	TOTAL INFRASTRUCTURE COST		(H + J)	Rs. In Crores	49.02	
L	EQUIPMENT					
1	Labs				1.95	Refer Annexure 8.67

2	Workshops				0.05	Lump sum (5 Lakh per Engg. course, number of Engg. course = 1)
3	IT Infra				1.50	(Annexure 8.110)
4	Vehicles				-	
	TOTAL COST	(L)	Rs. In Crores		3.50	
M	FURNITURE				With reference to Annexure 8.111	
1	Hostel furniture for Students	120	46,000	0.0046	0.552	(Annexure 8.112)
2	Lecture Room for 60 Students	3	14,40,000	0.1440	0.432	(Annexure 8.115)
3	Lecture Room for 45 Students	6	12,60,000	0.1260	0.756	(Annexure 8.115)
4	Tutorial Room for 30 Students	9	11,10,000	0.1110	0.999	(Annexure 8.116)
5	Drawing Hall for 60 Students	2	13,20,000	0.1320	0.264	(Annexure 8.116)
6	Faculty/Non-Teaching Staff Academic Furniture	80	88,000	0.0088	0.704	(Annexure 8.113)
7	Furniture for Contractual Staff	-	20,000	-	0.0020	(Annexure 8.111)
8	Guest House Furniture	2	1,80,000	0.0180	0.036	(Annexure 8.114)
9	Library Furniture	400	2,000	0.0002	0.080	(Annexure 8.111)
10	Auditorium Furniture	300	5,000	0.0005	0.150	(Annexure 8.111)
	TOTAL	(M)	Rs. In Crores		3.98	
N	TOTAL EQUIPMENT & FURNITURE COST		(L + M)	Rs. In Crores	7.48	
P	CAPITAL COST		(K+L+M)		56.50	
Q	Contingency Factor (Calculated on P)	(Q)		3.00%	1.69	
R	TOTAL CAPITAL COST		(P + Q)	Rs. In Crores	58.19	

IKGPTU HOSHIARPUR CAMPUS				
EXISTING INFRASTRUCTURE (Data provided by Institute)				Annexure 8. 69
		BUILDING 1	TOTAL CARPET	
		Area	AREA	Remarks
		SQM	SQM	
A	FACULTY BUILDING		336.00	
1	Administrative Building	205.00		
2	Director Room	51.00		
3	Staff Room	80.00		
B	LABORATORY COMPLEX		1,206.00	
1	Classrooms	471.00		
2	Tutorial Rooms	105.00		
3	Laboratories/Studios	630.00		
C	CENTRAL ACADEMIC SERVICES FACILITIES		410.00	
1	Computer Centre	105.00		
2	Seminar Hall / Conference			
3	Library	105.00		
4	Student Activities Centre			
5	Cafeteria/Canteen			
6	Toilets	200.00		
7	Store			
8	Multi-Purpose Hall			
	TOTAL	1,952.00	1,952.00	Carpet Area
				2,732.80

Facilities Shared Between IKGPTU Hoshiarpur Campus & Hoshiarpur Polytechnic College					
		AREA	Nos.	TOTAL BUILT UP AREA	Remarks
		SQM		SQM	
A	CENTRAL ACADEMIC SERVICES FACILITIES				
1	Auditorium	930	1	1,302	Built Up Area (Carpet x 1.4)
2	Student activities Centre/Cafeteria/Canteen	55	1	77	Built Up Area (Carpet x 1.4)
B	RESIDENTIAL COMPLEX				

1	Boys Hostel	30 Rooms	90 Students	1,050	Carpet Area of 1 room assumed as 25sqm. Built Up Area = 25*1.4 = 35sqm
2	Girls Hostel	15 Rooms	45 Students	525	Carpet Area of 1 room assumed as 25sqm. Built Up Area = 25*1.4 = 35sqm
3	Faculty Housing-Type II	75	4	300	To be allocated for 1 Professor, 3 Associate Professors and 6 Assistant Professors.
4	Faculty Housing-Type III	100	3	300	
5	Faculty Housing-Type IV	125	3	375	
6	Director/Principal Residence	200	1	200	
Total Built up Area of Residential Complex Existing				2,750	
C MISCELLANEOUS					
1	Cricket				Outdoor Facilities
2	Kabaddi				
3	Volley Ball				
TOTAL BUILT UP AREA				4,129	

DEVELOPMENT OF SITE AND ALLIED PROVISIONS - Existing / Shared between Hoshiarpur Polytechnic College and IKGPTU Hoshiarpur Campus			Annexure 8. 70	
Development of Site				
S. No	Item	Existing Area		Remarks
1	Levelling	27.6 Acres		Shared
2	Internal roads and paths	3.5 Kms		Shared
3	Sewer	110 m		Shared
4	Filter Water Supply	-		Using own facilities
5	Storm Water Drains	-		Not available
6	Horticulture Operations	0.09 Acres		Using own Horticulture
7	Street Lighting	-		Using own lightings
8	Sports facilities/Playgrounds	0.91 Acres		Shared
9	Parking	0.16 Acres		Shared
10	Boundary Wall (in Perimeter / running meter)	4400 m		Shared
Allied Provisions				
S. No	Item	Existing	Units	Remarks
1	Sub Station	-	Per Kva	Not Available
2	DG Set	82 KVA	Per Kva	Using Own DG Set
3	UPS	19.80	Per Kva	Using Own UPS
4	VRF System	11 units	Per HP	Using own ACs (1.5 ton each)
5	Tube well and pumping stations	1.00	Set	Shared
6	STP, ETP, WTP	-	LS	
7	Overhead Storage Tanks	8 tanks of 2000 litres each	Per Litre	Using Own facilities
8	Underground Storage Tanks	-	Per Litre	Not Available

DETAIL AREA ANALYSIS					Annexure 8. 71
S. No	Description	As per DPR	No. of Room	Area	Remarks
		SQM		SQM	
ADMINISTRATIVE & FACULTY BUILDING (Carpet Area)					
1	Office of the Principal / Director IKGPTU Hoshiarpur	30	1	30	
2	Administrative Offices of IKGPTU Hoshiarpur	80	1	80	For 8 no. of staff
3	Offices of the Heads of Department	15	3	45	Area as per AICTE norms insufficient. Hence more area is allocated.
4	Reception Lounge	20	1	20	Assumed
5	Faculty Offices	10	30	300	Area as per AICTE norms insufficient. Hence more area is allocated.
6	Cubicles for Project Staff & Post-Doctoral Fellows	25	1	25	1 room with 5 cubicles
7	Cubicles for Research Scholars (05 cubicles)	25	1	25	1 room with 5 cubicles
8	Offices for Visiting Faculty	20	1	20	1 room with 3 visiting faculty
9	Seminar – cum - Committee Rooms	40	1	40	Seating capacity of 12 to 15 people
10	First Aid Medical Room	10	1	10	
11	Common Room for Students / Faculty	100	2	200	
12	Pantry	10	1	10	Only for Staff
13	Reprography and Stationary Store	10	1	10	
14	Examination Control Room	30	1	30	
15	Strong Room	30	1	30	
16	Store	10	2	20	More area required
17	Toilets (Faculty)	25	1	25	
Total(A)				920	
CLASSROOM & LABORATORY COMPLEX (Carpet Area)					
1	Lecture Halls for 60 students	120	3	360	@ 2 sqm per student
2	Lecture Halls for 45 students	90	6	540	@ 2 sqm per student
3	Tutorial Rooms for 30	60	9	540	@ 2 sqm per student

	students				
4	Drawing Halls for 60 students	240	2	480	@ 4 sqm per student
5	Language Laboratory	66	1	66	
6	Applied Sciences Laboratories	66	3	198	
7	CE Laboratories	66	6	396	
8	CS & E Laboratories	66	3	198	
8	ME Laboratories	66	6	396	
10	Toilets (Students)	100	1	100	
Total (B)			40	3,274	
TOTAL (A+B)				4,194	Built Up Area (Carpet Area x 1.4) = 5871.6 sqm
CENTRAL ACADEMIC SERVICES FACILITIES (Carpet Area)					
1	Central Computing Facility	150	1	150	
2	Central Library Facility	400	1	400	According to no. of courses = 5
3	Educational Technology & Video Conferencing Facility	100	1	100	
4	Central Workshop Facility	200	1	200	
5	Hobby-cum-Innovation Centre	50	1	50	
6	Auditorium: to seat 300 persons	600	1	-	Already Existing
7	Canteen	150	1	95	55sqm already existing
8	Sport's Club	200	1	200	Assumption
9	Student Activities Centre/Community Centre/Daily Needs shop	250	1	250	Assumption
Total (C)				1,445	Built Up Area (Carpet Area x 1.4) = 2023 sqm
RESIDENTIAL COMPLEX (Built Up Area)					With reference to Annexure 8.69, 8.72
1	Principal's Quarter	268	1	-	Already Existing Principal's Quarter to be renovated.
2	Guest House	42	2	84	Carpet Area per Room = 30sqm. Hence, Built up Area= 30 x 1.4 = 42sqm.

3	Boy's Hostel	35	30	1,050	Carpet Area per Room = 25sqm. Hence, Built up Area= 25 x 1.4 = 35sqm. 30 Hostel rooms for 90 boys (triple sharing basis) existing, additional 30 rooms for 60 boys (double sharing basis) proposed.
4	Girl's Hostel	35	53	1,855	Carpet Area per Room = 25sqm. Hence, Built up Area= 25 x 1.4 = 35sqm. 15 Hostel rooms for 45 girls (triple sharing basis) existing, additional 53 rooms for 105 girls (double sharing basis) proposed.
5	Faculty Residence				
a	Professor	200	1	-	Already Existing Staff Quarters to be renovated, Type IV Cat.
b	Associate Professor	200	3	-	Already Existing Staff Quarters to be renovated, Type III Cat.
c	Assistant Professor	128	6	-	Already Existing Staff Quarters to be renovated, Type II Cat.
Total (D)				2,989	
MISCELLANEOUS					
1	Playground			-	
a	Volley Ball	-	1	-	
b	Cricket	-	1	-	
c	Kabaddi	-	1	-	
Total (E)				-	

Residential, Hostel Requirement for Students and Faculty					Annexure 8.72
		Total Number	Residence Required	Required Rooms	
A	Faculty	30	10		Remarks
1	Professor	4	1		Assuming 35% require Residence Facility
2	Associate Professor	9	3		
3	Assistant Professor	17	6		
B	Student	600	300	150	
1	Boys	300	150	75	Assuming 50% require Residence Facility Double Seater Rooms each
2	Girls	300	150	75	
C	Non - Faculty Staff	47	0		
D	Principal's Quarter	1	1		
E	Guest House	2	2		

Electrical Load Estimations-							Annexure 8.73
For Hoshiarpur							
Assumption	Light Load	Type of Building	Load in W per sq. m	Diversity	Area Percentage	W/sq. m	
		Institutional	150	0.75	0.62	69.49	
		Residential	50	0.5	0.38	9.56	
		Total				79.05	
Built up Area							
Total Built Up (in sqm)	Light load in W	Load (in kW)	Load (Kva) Say	Percentage for Residential Area = Total Built Up Area of Residential ÷ Total Built Up of the Campus			
15,012.60	11,86,755.00	1,186.76	1,424.11	Percentage for Institutional Area = 1 - Percentage for Residential Area			

Occupancy Load for Water Calculation					Annexure 8.74
S. No	Description	No. of Faculty / Students	Occupancy per Unit	Total Occupancy	Remarks
A	Residential				
1	Faculty + Staff	13	4	52	Assuming 4 person per unit
2	Students	300	1	300	
B	Institutional				
1	Faculty + Staff	77	1	77	
2	Students	600	1	600	
	Total Occupancy				
i)	Water Usage - Residential	135	352	47,520	135 Litre per day (With reference to NBC 2005, Part 9 - 4.1.2 - Table 1)
ii)	Water Usage - Institutional	45	677	30,465	45 Litre per day (With reference to NBC 2005, Part 9 - 4.1.2 - Table 1)
	Total Water Consumption		(in Litres Per Day)	77,985	

For Laboratories Equipment Cost Calculation						Annexure 8.75
S. No	Description	Nos.	Cost Per Lab	Total Cost	In Crore	Remarks
1	Engineering Labs	15	20,00,000	3,00,00,000	3.000	Annexure 8.108
2	Other Labs	4	5,00,000	20,00,000	0.200	Annexure 8.108
	Total Cost for Laboratories Equipment				3.20	

DETAIL CAPITAL COST (Built Up Area)						Annexure 8.76
S. No	Description	AREA	UNIT	PER SQM COST	TOTAL COST	Remarks
		BUILT UP AREA		AS PER CPWD		
(I) EXISTING AREA (Renovation Cost)						
A ADMIN - FACULTY AND CLASSROOM - LABORATORY COMPLEX						
1	Area of Admin, Faculty Building and Classroom-Lab Complex	2,733	Sqm	3,571	97,58,829	Renovation Cost for Existing Structure -10% of PAR, CPWD PAR 2012, Annexure 8.91, 8.92 & 8.93
B CENTRAL ACADEMIC SERVICES FACILITIES						
1	Auditorium	1,302	Sqm	9,830	1,27,98,660	Renovation Cost for Existing Structure - 25% of PAR, CPWD PAR 2012, Annexure 8.96
2	Canteen	77	Sqm	3,515	2,70,655	Renovation Cost for Existing Structure - 10% of PAR, CPWD PAR 2012, Annexure 8.97
C RESIDENTIAL COMPLEX						
1	Principal's Quarter	200	Sqm	11,585	23,17,000	CPWD PAR 2012, Annexure 8.100, 50% Renovation Cost
2	Boy's Hostel	1,050	Sqm	12,815	1,34,55,750	CPWD PAR 2012, Annexure 8.99, 50% Renovation Cost
3	Girl's Hostel	525	Sqm	12,815	67,27,875	CPWD PAR 2012, Annexure 8.99, 50% Renovation Cost
4	Professor Residence	375	Sqm	11,585	43,44,375	CPWD PAR 2012, Annexure 8.100,

						50% Renovation Cost
5	Associate Professor Residence	300	Sqm	11,585	34,75,500	CPWD PAR 2012, Annexure 8.100, 50% Renovation Cost
6	Assistant Professor Residence	300	Sqm	11,585	34,75,500	CPWD PAR 2012, Annexure 8.100, 50% Renovation Cost
(II)	PROPOSED AREA (New Building Cost)					
A	ADMIN - FACULTY AND CLASSROOM - LABORATORY COMPLEX					
1	Area of Admin, Faculty Building and Classroom-Lab Complex	3,139	Sqm	35,710	11,20,86,548	CPWD PAR 2012, Average of Annexure 8.91, Annexure 8.92 and Annexure 8.93
B	CENTRAL ACADEMIC SERVICES FACILITIES					
1	Central Computing Facility	210	Sqm	-	-	Area already available (Annexure 8.69)
2	Central Library Facility	560	Sqm	-	-	Area already available (Annexure 8.69)
3	Educational Technology & Video Conferencing Facility	140	Sqm	34,980	48,97,200	CPWD PAR 2012, Annexure 8.95
4	Central Workshop Facility	280	Sqm	38,900	1,08,92,000	CPWD PAR 2012, Annexure 8.94
5	Hobby-cum-Innovation Centre	70	Sqm	37,170	26,01,900	CPWD PAR 2012, Annexure 8.93
6	Auditorium: to seat 300 persons	-	Sqm	-	-	Already Existing
7	Canteen	133	Sqm	35,150	46,74,950	CPWD PAR 2012, Annexure 8.97
8	Sport's Club	280	Sqm	35,150	98,42,000	CPWD PAR 2012, Annexure 8.97
9	Student Activities Centre/Community Centre/Daily Needs shop	350	Sqm	35,150	1,23,02,500	CPWD PAR 2012, Annexure 8.97
C	RESIDENTIAL COMPLEX					
1	Guest House	84	Sqm	23,250	19,53,000	CPWD PAR 2012, Annexure 8.102
2	Boy's Hostel	1,050	Sqm	25,630	2,69,11,500	CPWD PAR 2012,

						Annexure 8.99
3	Girl's Hostel	1,855	Sqm	25,630	4,75,43,650	CPWD PAR 2012, Annexure 8.99
D	DEVELOPMENT OF SITE					
S.no	DESCRIPTION	QTY	UNIT	RATE	TOTAL COST	REMARKS
1	Development of Site	91,459	Sqm	237.50	2,17,21,502	Annexure 8.17, 25% of overall cost assumed as site condition is reasonably good
2	Boundary Wall	-		6,000.00	-	* Assuming Boundary Wall is already present
E	ALLIED PROVISIONS				With reference to Annexure 8.15	
1	Sub Station Equipment	1,424	Per Kva	7,000	99,68,742	Area * Watt / Sqm *1.2 / 1000 Annexure 8.73
2	DG Set	668	Per Kva	10,000	66,80,000	750Kva, Assumed. 82Kva Existing (Annexure 8.70)
3	UPS	5.20	Per Kva	20,000	1,04,000	Assumed as 25 Kva as per standard Institute, 19.80 Existing (Annexure 8.70)
4	VRF System	430	Per HP	55,000	2,36,58,250	Only for Proposed Infrastructure excluding Residential Complex, assuming 1 HP per 12 Sqm of AC space, 11 units of 1.5 tonnes existing for existing buildings. (Annexure 8.70)
5	Precision Air Conditioning	20	Per Tonne	1,10,000	22,00,000	Assuming 1 Tonne per 12 Sqm of AC space
6	CCTV System	15,013	Per Sqm	300	45,03,780	For entire campus
7	Access Control System	9,274	Per Sqm	200	18,54,720	For Administrative & Faculty Building,

						Classroom & Laboratory Complex, Central Academic Services Facilities
8	Building Management System	Annexure 8.105 - H				
(a)	Upto 10,000 Sqm	1	LS	30,00,000	30,00,000	
(b)	Beyond 10,000 Sqm	-	Per Sqm	100	-	
9	Others					
(a)	Tube well and pumping stations	-	Set	6,00,000	-	Already Existing (Annexure 8.70)
(b)	STP, ETP, WTP	1	LS	1,00,00,000	1,00,00,000	Assumption
(c)	Overhead Storage Tanks	61,985	Per Litre	15	9,29,775	Average Full day capacity Annexure 8.74, 16000 litres existing (Annexure 8.70)
(d)	Underground Storage Tanks	38,993	Per Litre	15	5,84,888	Average Half day capacity Annexure 8.74
F	SPORTS INFRASTRUCTURE				Annexure 8. 16 - Sports	
1	Cricket	-	LS	-	-	Already Existing (Annexure 8.69)
2	Kabaddi	-	LS	-	-	
3	Volley Ball	-	LS	-	-	
G	TOTAL (A+B+C+D+E+F)				37,55,35,048	
				Rs. In Crores	37.55	
H	COST INDEX	102	(Y)	$\frac{G}{Y} \times 100$	38.30	
J	OTHERS (Calculated on H)				Amount (in Crore)	As Per Govt. Regulations
1	PMC / Architects		5.75%		2.20	As per COA guidelines, Including Service Tax
2	Taxes [Service Tax (6%), Labour Cess (1%), Punjab Infrastructure Fund (1%)]		8.0%		3.06	
		(H)			5.27	

K	TOTAL INFRASTRUCTURE COST	(J + H)	Rs. In Crores		43.57	
L	EQUIPMENT					
1	Labs				3.20	Refer Annexure 8.75
2	Workshops				0.15	Lump sum (5 Lakh per Engg. course, number of Engg. course = 3)
3	IT Infra				1.50	(Annexure 8.110)
4	Vehicles				-	
	TOTAL COST	(L)	Rs. In Crores		4.85	
M	FURNITURE				With reference to Annexure 8.111	
1	Hostel furniture for Students	150	46,000	0.0046	0.690	(Annexure 8.112)
2	Lecture Room for 60 Students	3	14,40,000	0.1440	0.432	(Annexure 8.115)
3	Lecture Room for 45 Students	6	12,60,000	0.1260	0.756	(Annexure 8.115)
4	Tutorial Room for 30 Students	9	11,10,000	0.1110	0.999	(Annexure 8.116)
5	Drawing Hall for 60 Students	2	13,20,000	0.1320	0.264	(Annexure 8.116)
6	Faculty/Non-Teaching Staff Academic Furniture	77	88,000	0.0088	0.678	(Annexure 8.113)
7	Furniture for Contractual Staff	-	20,000	-	0.0020	(Annexure 8.111)
8	Guest House Furniture	2	1,80,000	0.0180	0.036	(Annexure 8.114)
9	Library Furniture	400	2,000	0.0002	0.080	(Annexure 8.111)
	TOTAL	(M)	Rs. In Crores		3.94	
N	TOTAL EQUIPMENT & FURNITURE COST	(M + L)	Rs. In Crores		8.79	
P	CAPITAL COST		(K+L+M)		52.36	
Q	Contingency Factor (Calculated on P)			(Q)	3.00%	1.57
R	TOTAL CAPITAL COST	(P + Q)	Rs. In Crores		53.93	

IKGPTU SULTANPUR LODHI CAMPUS								
EXISTING INFRASTRUCTURE (Data provided by Institute)						Annexure 8.77		
S. No	Description	BUILDING 1	BUILDING 2	BUILDING 3	BUILDING 4	BUILDING 5	TOTAL CARPET AREA (C)	TOTAL BUILT UP AREA (C * 1.4)
		Area	Area	Area	Area	Area		
		SQM	SQM	SQM	SQM	SQM		
A	FACULTY BUILDING						1,239.5	1,735.30
1	Administrative Building	380.50	-	-	-	-		
2	Director Room	53.50	-	-	-	-		
3	Staff Room	-	230.00	219.00	178.00	178.50		
B	LABORATORY COMPLEX						4,393.0	6,150.20
1	Classrooms	-	360.00	354.00	267.00	-		
2	Tutorial Rooms	-	180.00	176.00	-	-		
3	Laboratories/Studios	-	630.00	610.00	892.00	924.00		
C	CENTRAL ACADEMIC SERVICES FACILITIES						2,429.5	3,401.30
1	Computer Centre	-	-	-	-	312.00		
2	Seminar Hall / Conference	105.00	43.50	43.50	30.00	-		
3	Library	451.00	22.50	22.50	-	-		
4	Student Activities Centre	52.00	22.00	22.00	45.00	72.00		
5	Cafeteria/Canteen	14.00	-	-	-	-		
6	Toilets	210.00	138.00	138.00	138.00	223.50		
7	Store	149.00	22.00	-	74.00	80.00		
8	Multi-Purpose Hall	-	-	-	-	-		
	TOTAL CARPET AREA	1,415.00	1,648.00	1,585.00	1,624.00	1,790.00	8,062.00	11,286.80

Residential, Hostel Requirement for Students and Faculty	Annexure 8.78
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		Total Number	Residence Required	Required Rooms	
A	Faculty	32	11		Remarks
1	Professor	5	2		Assuming 35% require Residence Facility
2	Associate Professor	9	3		
3	Assistant Professor	18	6		
B	Student	470	235	118	
1	Boys	235	118	59	Assuming 50% require Residence Facility Double Seater Rooms each
2	Girls	235	118	59	
C	Non - Faculty Staff	48	0		
D	Principal's Quarter	1	1		
E	Guest House	2	2		

Electrical Load Estimations-					Annexure 8.79		
For Sultanpur Lodhi							
Assumption	Light Load	Type of Building		Load in W per sq. m	Diversity	Area Percentage*	W/sq. m
		Institutional	150.00	0.75	0.68	76.44	
		Residential	50.00	0.50	0.32	8.01	
		Total				84.45	
Built up Area							
Total Built Up (in sqm)	Light load in W	Load (in kW)	Load (Kva) Say	*Percentage for Residential Area = Total Built Up Area of Residential ÷ Total Built Up of the Campus			
19,496.80	16,46,515.00	1,646.52	1,975.82	*Percentage for Institutional Area = 1 - Percentage for Residential Area			

Occupancy Load for Water Calculation					Annexure 8.80
S. No	Description	No. of Faculty / Students	Occupancy per Unit	Total Occupancy	Remarks
A	Residential				
1	Faculty + Staff	14	4	56	Assuming 4 person per unit
2	Students	235	1	235	
B	Institutional				
1	Faculty + Staff	80	1	80	
2	Students	470	1	470	
	Total Occupancy				
i)	Water Usage - Residential	135	291	39,285	135 Litre per day (With reference to NBC 2005, Part 9 - 4.1.2 - Table 1)
ii)	Water Usage - Institutional	45	550	24,750	45 Litre per day (With reference to NBC 2005, Part 9 - 4.1.2 - Table 1)
	Total Water Consumption		(in Litres Per Day)	64,035	

For Laboratories Equipment Cost Calculation					Annexure 8.81	
S. No	Description	Nos.	Cost Per Lab	Total Cost	In Crore	Remarks
1	Engineering Labs	8	20,00,000	1,60,00,000	1.600	Annexure 8.108
2	Other Labs	8	5,00,000	40,00,000	0.400	Annexure 8.108
	Total Cost for Laboratories Equipment				2.00	

DETAIL CAPITAL COST (Built Up Area)						Annexure 8.82
		AREA	UNIT	PER SQM COST	TOTAL COST	Remarks
		BUILT UP AREA		AS PER CPWD		
(I)	EXISTING AREA (Renovation Cost)					
1	Area of Admin, Faculty Building and Classroom-Lab Complex	11,286.80	Sqm	3,571.00	4,03,05,162.80	Renovation Cost for Existing Structure - 10% of PAR, CPWD PAR 2012, Annexure 8.91, 8.92 & 8.93
(II)	PROPOSED AREA (New Building Cost)					
A	CENTRAL ACADEMIC SERVICES FACILITIES					
1	Central Computing Facility	-	Sqm	-	-	Area already available. (Annexure 8.77)
2	Central Library Facility	-	Sqm	-	-	Area already available. (Annexure 8.77)
3	Educational Technology & Video Conferencing Facility	-	Sqm	-	-	Area already available. (Annexure 8.77)
4	Hobby-cum-Innovation Centre	-	Sqm	-	-	Area already available. (Annexure 8.77)
5	Central Workshop Facility	280.00	Sqm	38,900.00	1,08,92,000.00	CPWD PAR 2012, Annexure 8.94
6	Auditorium: to seat 300 persons	840.00	Sqm	39,320.00	3,30,28,800.00	CPWD PAR 2012, Annexure 8.96
7	Canteen	210.00	Sqm	35,150.00	73,81,500.00	CPWD PAR 2012, Annexure 8.97
8	Sport's Club	280.00	Sqm	35,150.00	98,42,000.00	CPWD PAR 2012, Annexure 8.97
9	Student Activities Centre/ Community Centre/ Daily Needs Shop	350.00	Sqm	35,150.00	1,23,02,500.00	CPWD PAR 2012, Annexure 8.97
B	RESIDENTIAL COMPLEX					
1	Principal's Quarter	268.00	Sqm	23,170.00	62,09,560.00	CPWD PAR 2012, Annexure 8.100
2	Guest House	84.00	Sqm	23,250.00	19,53,000.00	CPWD PAR 2012, Annexure 8.102
3	Boy's Hostel	2,065.	Sqm	25,630.00		CPWD PAR 2012, Annexure

		00			5,29,25,950.00	8.99
4	Girl's Hostel	2,065.00	Sqm	25,630.00	5,29,25,950.00	CPWD PAR 2012, Annexure 8.99
5	Professor Residence	400.00	Sqm	23,170.00	92,68,000.00	CPWD PAR 2012, Annexure 8.100
6	Associate Professor Residence	600.00	Sqm	23,170.00	1,39,02,000.00	CPWD PAR 2012, Annexure 8.100
7	Assistant Professor Residence	768.00	Sqm	23,170.00	1,77,94,560.00	CPWD PAR 2012, Annexure 8.100
C	DEVELOPMENT OF SITE					
S. no	DESCRIPTION	QTY	UNIT	RATE	TOTAL COST	REMARKS
1	Development of Site	40,063.88	Sqm	712.50	2,85,45,513.49	Annexure 8.107, 75% of overall cost assumed as site condition is needs major uplifting.
2	Boundary Wall	-		6,000.00	-	* Assuming Boundary Wall is already present
D	ALLIED PROVISIONS					With reference to Annexure 8.105
1	Sub Station Equipment's	1,975.82	Per Kva	7,000.00	1,38,30,726.00	Area * Watt / Sqm * 1.2 / 1000 Annexure 8.79
2	DG Set	500.00	Per Kva	10,000.00	50,00,000.00	500Kva Assumed
3	UPS	25.00	Per Kva	20,000.00	5,00,000.00	Assumed as 25 Kva as per standard Institute
4	VRF System	163.33	Per HP	55,000.00	89,83,333.33	Only for Proposed Infrastructure excluding Residential Complex, Assuming 1 HP per 12 Sqm of AC space
5	Precision Air Conditioning	20.00	Per Tonne	1,10,000.00	22,00,000.00	Assuming 1 Tonne per 12 Sqm of AC space
6	CCTV System	19,496.80	Per Sqm	300.00	58,49,040.00	For entire campus
7	Access Control System	13,246.80	Per Sqm	200.00	26,49,360.00	For Administrative & Faculty Building, Classroom & Laboratory Complex, Central Academic Services Facilities
8	Building Management System					Annexure 8.105 - H
(a)	Upto 10,000 Sqm	1.00	LS	30,00,000.00	30,00,000.00	
(b)	Beyond 10,000 Sqm	3,246.	Per	100.00	3,24,680	

		80	Sqm		.00	
9	Others					
(a)	Tube well and pumping stations	1.00	Set	6,00,000.00	6,00,000.00	Market Price
(b)	STP, ETP, WTP	1.00	LS	1,00,00,000.00	1,00,00,000.00	Assumption
(c)	Overhead Storage Tanks	64,035.00	Per Litre	15.00	9,60,525.00	Average Full day capacity Annexure 8.80
(d)	Underground Storage Tanks	32,017.50	Per Litre	15.00	4,80,262.50	Average Half day capacity Annexure 8.80
E	SPORTS INFRASTRUCTURE					Annexure 8.106 - Sports
1	Badminton	2.00	LS	5,00,000.00	10,00,000.00	Can be used for Basketball also.
2	Hockey/Football	1.00	LS	2,83,50,000.00	2,83,50,000.00	Can be used for Cricket also.
G	TOTAL (A+B+C+D+E)			38,10,04,423.12		
				Rs. In Crores	38.10	
H	COST INDEX	102.00	(Y)	G x Y/100	38.86	
J	OTHERS (Calculated on H)			Amount (in Crore)		As Per Govt. Regulations
1	PMC / Architects		5.75%		2.23	As per COA guidelines, Including Service Tax
2	Taxes [Service Tax (6%), Labour Cess (1%), Punjab Infrastructure Fund (1%)]		8%		3.11	
		(J)			5.34	
K	TOTAL INFRASTRUCTURE COST		(J + H)	Rs. In Crores	44.21	
L	EQUIPMENT					
1	Labs				2.00	Refer Annexure 8.81
2	Workshops				0.05	Lump sum (5 Lakh per Engg. course, number of Engg. course = 1)
3	IT Infra				1.50	(Annexure 8.110)
4	Vehicles				-	
	TOTAL COST (L)			Rs. In Crores	3.55	
M	FURNITURE					With reference to Annexure 8.111
1	Hostel furniture for Students	118	46,000	0.00	0.54	(Annexure 8.112)
2	Lecture Room for 60 Students	3	14,40,000	0.14	0.43	(Annexure 8.115)

3	Lecture Room for 45 Students	6	12,60,000	0.13	0.76	(Annexure 8.115)
4	Tutorial Room for 30 Students	9	11,10,000	0.11	1.00	(Annexure 8.116)
5	Drawing Hall for 60 Students	2	13,20,000	0.13	0.26	(Annexure 8.116)
6	Faculty/Non-Teaching Staff Academic Furniture	80	88,000	0.01	0.70	(Annexure 8.113)
7	Furniture for Contractual Staff	-	20,000	-	0.00	(Annexure 8.111)
8	Guest House Furniture	2	1,80,000	0.02	0.04	(Annexure 8.114)
9	Library Furniture	400	2,000	0.000 2	0.08	(Annexure 8.111)
10	Auditorium Furniture	300	5,000	0.000 5	0.15	(Annexure 8.111)
	TOTAL (M)		Rs. In Crores		3.97	
N	TOTAL EQUIPMENT'S & FURNITURE COST	(L + M)	Rs. In Crores		7.52	
P	CAPITAL COST		(K+L +M)		51.72	
Q	Contingency Factor (Calculated on P)		(Q)	3%	1.55	
R	TOTAL CAPITAL COST	(P + Q)	Rs. In Crores		53.27	

Summary of Buildings/ Infrastructure Cost Estimations			
Basis of Estimate: Preliminary Plinth Area Rates of CPWD PAR 2012			Annexure 8.90
Annexure	Name of Building	Covered Area in sqm	Rate per sqm
	ACADEMIC COMPLEX		
8.91	Academic cum Administrative Building	1	34,980
8.92	Lecture Hall Complex & Continuing Education Centre	1	34,980
8.93	Laboratory Complex & Technology Innovation-cum-Incubation Centre	1	37,170
8.94	Workshops	1	38,900
8.95	Computer Centre & Virtual Learning Centre	1	34,980
8.96	Conference Complex / Auditorium	1	39,320
8.97	Student Activity Centre / Sports Club / Cafeteria	1	35,150
8.98	Library Building	1	36,830
	RESIDENTIAL COMPLEX		
8.99	Students Hostels with Common Facilities	1	25,630
8.100	Faculty Housing - Regional Campuses	1	23,170
8.101	Faculty Housing - Main Campus	1	24,270
8.102	Guest House	1	23,250
8.103	Community Centre	1	35,400
8.104	Commercial Centre & Health Centre	1	35,380

Annexure 8.91					
CPWD PAR 2012					
Academic Complex cum Administration Building (G+3), Floor Height=3.65 M					
S No	Description	Quantity	Unit	Rate (Rs.)	Amount (Rs.)
A STRUCTURAL COSTS					
1	RCC Framed Structure	1	Sq. M	23500	23,500.00
2	Add for each additional floor height of 0.30 M above 3.35 M up to 3.65 M = $[(3.65-3.35)/0.3] \times 270=270$	1	Sq. M	270	270.00
TOTAL - STRUCTURAL COSTS					23,770.00
B OTHER COSTS					
1	For every 0.3 M deeper foundation beyond 1.2 M up to 1.5 M on ground floor area $[(1.5-1.2)/0.3] \times 270=270$	0.25	Sq. M	270	67.50
2	Earthquake resistant forces	1	Sq. M	1140	1,140.00
3	Fire Fighting - Wet riser	1	Sq. M	500	500.00
4	Fire Alarm System	1	Sq. M	500	500.00
5	Larger Modules over 35 sqm	1	Sq. M	1800	1,800.00
TOTAL - OTHER COSTS					4,007.50
C INTERNAL SERVICES					
1	Water supply (@4%)	23,770.00	Rs	0.04	950.80
2	External service connection (@5%)	23,770.00	Rs	0.05	1,188.50
3	Internal electric including power, telephone LAN, Lightening conductor, etc. @ (19%)	23,770.00	Rs	0.19	4,516.30
TOTAL - INTERNAL SERVICES					6,655.60
D ELEVATORS					
1	Elevators for 13 passengers & G+3 stories	1	No	22,00,000.00	550.00
	Assuming 1 Lifts @ 18 Lacs per Lift for 4000 SQM space				
TOTAL - ELEVATORS					550.00
GRAND TOTAL					34,983.10
GRAND TOTAL (ROUND OFF)					34,980.00

Annexure 8.92					
CPWD PAR 2012					
Lecture Hall Complex & Continuing Education Centre (G+3), Floor Height=3.65 M					
S No	Description	Quantity	Unit	Rate (Rs.)	Amount (Rs.)
A STRUCTURAL COSTS					
1	RCC Framed Structure	1	Sq. M	23500	23,500.00
2	Add for each additional floor height of 0.30 M above 3.35 M up to 3.65 M = $[(3.65-3.35)/0.3] \times 270=270$	1	Sq. M	270	270.00
TOTAL - STRUCTURAL COSTS					23,770.00
B OTHER COSTS					
1	For every 0.3 M deeper foundation beyond 1.2 M up to 1.5 M on ground floor area $[(1.5-1.2)/0.3] \times 270=270$	0.25	Sq. M	270	67.50
2	Earthquake resistant forces	1	Sq. M	1140	1,140.00
3	Fire Fighting - Wet riser	1	Sq. M	500	500.00
4	Fire Alarm System	1	Sq. M	500	500.00
5	Larger Modules over 35 sqm	1	Sq. M	1800	1,800.00
TOTAL - OTHER COSTS					4,007.50
C INTERNAL SERVICES					
1	Water supply (@4%)	23,770.00	Rs	0.04	950.80
2	External service connection (@5%)	23,770.00	Rs	0.05	1,188.50
3	Internal electric including power, telephone LAN, Lightening conductor, etc. @ (19%)	23,770.00	Rs	0.19	4,516.30
TOTAL - INTERNAL SERVICES					6,655.60
D ELEVATORS					
1	Elevators for 13 passengers & G+3 stories	1	No	22,00,000.00	550.00
	Assuming 1 Lifts @ 18 Lacs per Lift for 4000 SQM space				
TOTAL - ELEVATORS					550.00
GRAND TOTAL					34,983.10
GRAND TOTAL (ROUND OFF)					34,980.00

Annexure 8.93					
CPWD PAR 2012					
Laboratory Complex & Technology Innovation-cum-Incubation Centre (G+3), Floor Height=4.25 M					
S No	Description	Quantity	Unit	Rate (Rs.)	Amount (Rs.)
A STRUCTURAL COSTS					
1	RCC Framed Structure	1	Sq. M	23500	23,500.00
2	Add for each additional floor height of 0.30 M above 3.35 M up to 4.25 M = $[(4.25-3.35)/0.3] \times 270=810$	1	Sq. M	810	810.00
TOTAL - STRUCTURAL COSTS					24,310.00
B OTHER COSTS					
1	For every 0.3 M deeper foundation beyond 1.2 M up to 1.5 M on ground floor area $[(1.5-1.2)/0.3] \times 270=270$	0.25	Sq. M	270	67.50
2	Earthquake resistant forces	1	Sq. M	1140	1,140.00
3	Fire Fighting - Wet riser	1	Sq. M	500	500.00
4	Fire Alarm System	1	Sq. M	500	500.00
5	Larger Modules over 35 sqm	1	Sq. M	1800	1,800.00
6	Stronger structural members to take heavy loads above 500 kg/sqm up to 1000 kg/sqm.	1	Sq. M	1500	1,500
TOTAL - OTHER COSTS					5,507.50
C INTERNAL SERVICES					
1	Water supply (@4%)	24,310.00	Rs	0.04	972.40
2	External service connection (@5%)	24,310.00	Rs	0.05	1,215.50
3	Internal electric including power, telephone LAN, Lightening conductor, etc. @ (19%)	24,310.00	Rs	0.19	4,618.90
TOTAL - INTERNAL SERVICES					6,806.80
D ELEVATORS					
1	Elevators for 13 passengers & G+3 stories	1	No	22,00,000.00	550.00
	Assuming 1 Lifts @ 18 Lacs per Lift for 4000 SQM space				
TOTAL - ELEVATORS					550.00
GRAND TOTAL					37,174.30
GRAND TOTAL (ROUND OFF)					37,170.00

Annexure 8.94
CPWD PAR 2012
Workshop (Ground Floor Only), Floor Height=6 M

S No	Description	Quantity	Unit	Rate (Rs.)	Amount (Rs.)
A	STRUCTURAL COSTS				
1	RCC Framed Structure	1	Sq. M	23500	23,500.00
2	Add for each additional floor height of 0.30 M above 3.35 M up to 6 M = $[(6-3.35)/0.3] \times 270=2430$	1	Sq. M	2430	2,430.00
	TOTAL - STRUCTURAL COSTS				25,930.00
B	OTHER COSTS				
1	For every 0.3 M deeper foundation beyond 1.2 M up to 1.5 M on ground floor area $[(1.5-1.2)/0.3] \times 270=270$	1.00	Sq. M	270	270.00
2	Earthquake resistant forces	1	Sq. M	1140	1,140.00
3	Fire Fighting - Wet riser	1	Sq. M	500	500.00
4	Fire Alarm System	1	Sq. M	500	500.00
5	Larger Modules over 35 sqm	1	Sq. M	1800	1,800.00
6	Stronger structural members to take heavy loads above 500 kg/sqm up to 1000 kg/sqm.	1	Sq. M	1500	1,500
	TOTAL - OTHER COSTS				5,710.00
C	INTERNAL SERVICES				
1	Water supply (@4%)	25,930.00	Rs	0.04	1,037.20
2	External service connection (@5%)	25,930.00	Rs	0.05	1,296.50
3	Internal electric including power, telephone LAN, Lightening conductor, etc. @ (19%)	25,930.00	Rs	0.19	4,926.70
	TOTAL - INTERNAL SERVICES				7,260.40
	GRAND TOTAL				38,900.40
	GRAND TOTAL (ROUND OFF)				38,900.00

Annexure 8.95 CPWD PAR 2012 Computer Centre & Virtual Learning Centre (G+3), Floor Height=3.65 M					
S No	Description	Quantity	Unit	Rate (Rs.)	Amount (Rs.)
A	STRUCTURAL COSTS				
1	RCC Framed Structure	1	Sq. M	23500	23,500.00
2	Add for each additional floor height of 0.30 M above 3.35 M up to 3.65 M = $[(3.65-3.35)/0.3] \times 270=270$	1	Sq. M	270	270.00
	TOTAL - STRUCTURAL COSTS				23,770.00
B	OTHER COSTS				
1	For every 0.3 M deeper foundation beyond 1.2 M up to 1.5 M on ground floor area $[(1.5-1.2)/0.3] \times 270=270$	0.25	Sq. M	270	67.50
2	Earthquake resistant forces	1	Sq. M	1140	1,140.00
3	Fire Fighting - Wet riser	1	Sq. M	500	500.00
4	Fire Alarm System	1	Sq. M	500	500.00
5	Larger Modules over 35 sqm	1	Sq. M	1800	1,800.00
	TOTAL - OTHER COSTS				4,007.50
C	INTERNAL SERVICES				
1	Water supply (@4%)	23,770.00	Rs	0.04	950.80
2	External service connection (@5%)	23,770.00	Rs	0.05	1,188.50
3	Internal electric including power, telephone LAN, Lightening conductor, etc. @ (19%)	23,770.00	Rs	0.19	4,516.30
	TOTAL - INTERNAL SERVICES				6,655.60
D	ELEVATORS				
1	Elevators for 13 passengers & G+3 stories	1	No	22,00,000.00	550.00
	Assuming 1 Lifts @ 18 Lacs per Lift for 4000 SQM space				
	TOTAL - ELEVATORS				550.00
	GRAND TOTAL				34,983.10
	GRAND TOTAL (ROUND OFF)				34,980.00

Annexure 8.96
CPWD PAR 2012
Conference Complex/ Auditorium (Ground Floor Only), Floor Height=5.75 M

S No	Description	Quantity	Unit	Rate (Rs.)	Amount (Rs.)
A STRUCTURAL COSTS					
1	RCC Framed Structure	1	Sq. M	23500	23,500.00
2	Add for each additional floor height of 0.30 M above 3.35 M up to 5.75 M = $[(5.75-3.35)/0.3] \times 270 = 8 \times 270 = 2160$	1	Sq. M	2160	2,160.00
TOTAL - STRUCTURAL COSTS					25,660.00
B OTHER COSTS					
1	Making stronger foundations to take load of one additional floor at later date (on area of additional floor only)	1		2270	2,270.00
2	For every 0.3 M deeper foundation beyond 1.2 M up to 1.5 M on ground floor area $[(1.5-1.2)/0.3] \times 270 = 270$	1	Sq. M	270	270.00
3	Earthquake resistant forces	1	Sq. M	1140	1,140.00
4	Fire Fighting - Wet riser	1	Sq. M	500	500.00
5	Fire Alarm System	1	Sq. M	500	500.00
6	Larger Modules over 35 sqm	1	Sq. M	1800	1,800.00
TOTAL - OTHER COSTS					6,480.00
C INTERNAL SERVICES					
1	Water supply (@4%)	25,660.00	Rs	0.04	1,026.40
2	External service connection (@5%)	25,660.00	Rs	0.05	1,283.00
3	Internal electric including power, telephone LAN, Lightning conductor, etc. @ (19%)	25,660.00	Rs	0.19	4,875.40
TOTAL - INTERNAL SERVICES					7,184.80
GRAND TOTAL					39,324.80
GRAND TOTAL (ROUND OFF)					39,320.00

Annexure 8.97
CPWD PAR 2012
Student Activity Centre/ Sports Club/ Cafeteria(G+2), Floor Height=4.25 M

S No	Description	Quantity	Unit	Rate (Rs.)	Amount (Rs.)
A STRUCTURAL COSTS					
1	RCC Framed Structure	1	Sq. M	23500	23,500.00
2	Add for each additional floor height of 0.30 M above 3.35 M up to 4.25 M = $[(4.25-3.35)/0.3] \times 270=810$	1	Sq. M	810	810.00
TOTAL - STRUCTURAL COSTS					24,310.00
B OTHER COSTS					
1	For every 0.3 M deeper foundation beyond 1.2 M up to 1.5 M on ground floor area $[(1.5-1.2)/0.3] \times 270=270$	0.33	Sq. M	270	90.00
2	Earthquake resistant forces	1	Sq. M	1140	1,140.00
3	Fire Fighting - Wet riser	1	Sq. M	500	500.00
4	Fire Alarm System	1	Sq. M	500	500.00
5	Larger Modules over 35 sqm	1	Sq. M	1800	1,800.00
TOTAL - OTHER COSTS					4,030.00
C INTERNAL SERVICES					
1	Water supply (@4%)	24,310.00	Rs	0.04	972.40
2	External service connection (@5%)	24,310.00	Rs	0.05	1,215.50
3	Internal electric including power, telephone LAN, Lightning conductor, etc. @ (19%)	24,310.00	Rs	0.19	4,618.90
TOTAL - INTERNAL SERVICES					6,806.80
GRAND TOTAL					35,146.80
GRAND TOTAL (ROUND OFF)					35,150.00



Annexure 8.98
CPWD PAR 2012
Central Library Building (Ground Floor only), Floor Height=4.25 M

S No	Description	Quantity	Unit	Rate (Rs.)	Amount (Rs.)
A STRUCTURAL COSTS					
1	RCC Framed Structure	1	Sq. M	23500	23,500.00
2	Add for each additional floor height of 0.30 M above 3.35 M up to 4.25 M = $[(4.25-3.35)/0.3] \times 270=810$	1	Sq. M	810	810.00
TOTAL - STRUCTURAL COSTS					24,310.00
B OTHER COSTS					
1	For every 0.3 M deeper foundation beyond 1.2 M up to 1.5 M on ground floor area $[(1.5-1.2)/0.3] \times 270=270$	1.00	Sq. M	270	270.00
2	Earthquake resistant forces	1	Sq. M	1140	1,140.00
3	Fire Fighting - Wet riser	1	Sq. M	500	500.00
4	Fire Alarm System	1	Sq. M	500	500.00
5	Larger Modules over 35 sqm	1	Sq. M	1800	1,800.00
6	Stronger structural members to take heavy loads above 500 kg/sqm up to 1000 kg/sqm.	1	Sq. M	1500	1,500
TOTAL - OTHER COSTS					5,710.00
C INTERNAL SERVICES					
1	Water supply (@4%)	24,310.00	Rs	0.04	972.40
2	External service connection (@5%)	24,310.00	Rs	0.05	1,215.50
3	Internal electric including power, telephone LAN, Lightning conductor, etc. @ (19%)	24,310.00	Rs	0.19	4,618.90
TOTAL - INTERNAL SERVICES					6,806.80
GRAND TOTAL					36,826.80

	GRAND TOTAL (ROUND OFF)				36,830.00
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Annexure 8.99
CPWD PAR 2012
Student Hostels and Apartments(G+6), Floor Height=2.90 M

S No	Description	Quantity	Unit	Rate (Rs.)	Amount (Rs.)
A STRUCTURAL COSTS					
1	RCC Framed Structure	1	Sq. M	16500	16,500.00
TOTAL - STRUCTURAL COSTS					16,500.00
B OTHER COSTS					
1	For every 0.3 M deeper foundation beyond 1.2 M up to 1.5 M on ground floor area [(1.5-1.2)/0.3]x270=270	0.14	Sq. M	270	38.57
2	Earthquake resistant forces	1	Sq. M	1140	1,140.00
3	Every additional storey over six storeys up to nine storey	1	Sq. M	1120	1,120.00
4	Fire Alarm System	1	Sq. M	500	500.00
5	Fire Fighting - Wet riser	1	Sq. M	500	500.00
TOTAL - OTHER COSTS					3,298.57
C INTERNAL SERVICES					
1	Water supply (50% attached toilet and 50% common toilets avg: 12.5%)	16,500.00	Rs	0.125	2,062.50
2	External service connection (@5%)	16,500.00	Rs	0.05	825.00
3	Internal electric including telephone LAN, Lightening conductor, etc. @ (14%)	16,500.00	Rs	0.14	2,310.00
TOTAL - INTERNAL SERVICES					5,197.50
D ELEVATORS					
1	Elevators for 8 passengers & G+6 stories	1	No	25,25,000.00	631.25
	Assuming 1 Lifts @ 18 Lacs per Lift for 4000 SQM space				
TOTAL - ELEVATORS					631.25
GRAND TOTAL					25,627.32
GRAND TOTAL (ROUND OFF)					25,630.00

Annexure 8.100
CPWD PAR 2012
Faculty Housing Total Area (G+2), Floor Height= 2.90 M

S No	Description	Quantity	Unit	Rate (Rs.)	Amount (Rs.)
A	STRUCTURAL COSTS				
1	RCC Framed Structure	1	Sq. M	16000	16,000.00
	TOTAL - STRUCTURAL COSTS				16,000.00
B	OTHER COSTS				
1	For every 0.3 M deeper foundation beyond 1.2 M up to 1.5 M on ground floor area $[(1.5-1.2)/0.3] \times 270 = 270$	0.33	Sq. M	270	89.10
2	Earthquake resistant forces	1	Sq. M	1140	1,140.00
3	Fire Fighting - Wet riser	1	Sq. M	500	500.00
	TOTAL - OTHER COSTS				1,729.10
C	INTERNAL SERVICES				
1	Water supply (attached toilets: 15%)	16,000.00	Rs	0.15	2,400.00
2	External service connection (@5%)	16,000.00	Rs	0.05	800.00
3	Internal electric including power, telephone LAN, Lightning conductor, etc. @ (14%)	16,000.00	Rs	0.14	2,240.00
	TOTAL - INTERNAL SERVICES				5,440.00
	GRAND TOTAL				23,169.10
	GRAND TOTAL (ROUND OFF)				23,170.00

Annexure 8.101
CPWD PAR 2012
Faculty Housing Total Area (G+4 or more), Floor Height= 2.90 M

S No	Description	Quantity	Unit	Rate (Rs.)	Amount (Rs.)
A STRUCTURAL COSTS					
1	RCC Framed Structure	1	Sq. M	16000	16,000.00
TOTAL - STRUCTURAL COSTS					16,000.00
B OTHER COSTS					
1	For every 0.3 M deeper foundation beyond 1.2 M up to 1.5 M on ground floor area $[(1.5-1.2)/0.3] \times 270 = 270$	0.20	Sq. M	270	54.00
2	Earthquake resistant forces	1	Sq. M	1140	1,140.00
3	Fire Alarm System	1	Sq. M	500	500.00
4	Fire Fighting - Wet riser	1	Sq. M	500	500.00
TOTAL - OTHER COSTS					2,194.00
C INTERNAL SERVICES					
1	Water supply (attached toilets: 15%)	16,000.00	Rs	0.15	2,400.00
2	External service connection (@5%)	16,000.00	Rs	0.05	800.00
3	Internal electric including power, telephone LAN, Lightning conductor, etc. @ (14%)	16,000.00	Rs	0.14	2,240.00
TOTAL - INTERNAL SERVICES					5,440.00
D ELEVATORS					
1	Elevators for 8 passengers & G+5 stories	1	No	25,25,000.00	631.25
	Assuming 1 Lifts @ 18 Lacs per Lift for 4000 SQM space				
TOTAL - ELEVATORS					631.25
GRAND TOTAL					24,265.25
GRAND TOTAL (ROUND OFF)					24,270.00

Annexure 8.102
CPWD PAR 2012
Guest House (G+2), Floor Height=3.8 M

S No	Description	Quantity	Unit	Rate (Rs.)	Amount (Rs.)
A STRUCTURAL COSTS					
1	RCC Framed Structure	1	Sq. M	16000	16,000.00
2	Add for each additional floor height of 0.30 M above 2.9 M up to 3.8 M = $[(3.8-2.9)/0.3] \times 270=810$	1	Sq. M	810	810.00
TOTAL - STRUCTURAL COSTS					16,810.00
B OTHER COSTS					
1	For every 0.3 M deeper foundation beyond 1.2 M up to 1.5 M on ground floor area $[(1.5-1.2)/0.3] \times 270=270$	0.33	Sq. M	270	90.00
2	Earthquake resistant forces	1	Sq. M	1140	1,140.00
TOTAL - OTHER COSTS					1,230.00
C INTERNAL SERVICES					
1	Water supply (@12%)	16,810.00	Rs	0.12	2,017.20
2	External service connection (@5%)	16,810.00	Rs	0.05	840.50
3	Internal electric including, telephone LAN, Lightning conductor, etc. @ (14%)	16,810.00	Rs	0.14	2,353.40
TOTAL - INTERNAL SERVICES					5,211.10
GRAND TOTAL					23,251.10
GRAND TOTAL (ROUND OFF)					23,250.00

Annexure 8.103
CPWD PAR 2012
Community Centre (G+1), Floor Height=3.95 M

S No	Description	Quantity	Unit	Rate (Rs.)	Amount (Rs.)
A	STRUCTURAL COSTS				
1	RCC Framed Structure	1	Sq. M	23500	23,500.00
2	Add for each additional floor height of 0.30 M above 3.35 M up to 3.95 M = [(3.95-3.35)/0.3] x 270=540	1	Sq. M	540	540.00
	TOTAL - STRUCTURAL COSTS				24,040.00
B	OTHER COSTS				
1	For every 0.3 M deeper foundation beyond 1.2 M up to 1.5 M on ground floor area [(1.5-1.2)/0.3]x270=270	0.50	Sq. M	270	135.00
2	Earthquake resistant forces	1	Sq. M	1140	1,140.00
3	Fire Fighting - Wet riser	1	Sq. M	500	500.00
4	Fire Alarm System	1	Sq. M	500	500.00
5	Larger Modules over 35 sqm	1	Sq. M	1800	1,800.00
	TOTAL - OTHER COSTS				4,075.00
C	INTERNAL SERVICES				
1	Water supply (@4%)	24,040.00	Rs	0.04	961.60
2	External service connection (@5%)	24,040.00	Rs	0.05	1,202.00
3	Internal electric including power, telephone LAN, Lightning conductor, etc. @ (19%)	24,040.00	Rs	0.19	4,567.60
	TOTAL - INTERNAL SERVICES				6,731.20
D	ELEVATORS				
1	Elevators for 13 passengers & G+3 stories	1	No	22,00,000.00	550.00
	Assuming 1 Lifts @ 18 Lacs per Lift for 4000 SQM space				
15	TOTAL - ELEVATORS				550.00
	GRAND TOTAL				35,396.20
	GRAND TOTAL (ROUND OFF)				35,400.00

Annexure 8.104
CPWD PAR 2012
Commercial Centre & Health Centre (G+2), Floor Height=3.95 M

S No	Description	Quantity	Unit	Rate (Rs.)	Amount (Rs.)
A	STRUCTURAL COSTS				
1	RCC Framed Structure	1	Sq. M	23500	23,500.00
2	Add for each additional floor height of 0.30 M above 3.35 M up to 3.95 M = [(3.95-3.35)/0.3] x 270=540	1	Sq. M	540	540.00
	TOTAL - STRUCTURAL COSTS				24,040.00
B	OTHER COSTS				
1	For every 0.3 M deeper foundation beyond 1.2 M up to 1.5 M on ground floor area [(1.5-1.2)/0.3]x270=270	0.33	Sq. M	270	90.00
2	Earthquake resistant forces	1	Sq. M	1140	1,140.00
3	Fire Fighting - Wet riser	1	Sq. M	500	500.00
4	Fire Alarm System	1	Sq. M	500	500.00
5	Larger Modules	1	Sq. M	1800	1,800.00
	TOTAL - OTHER COSTS				4,030.00
C	INTERNAL SERVICES				
1	Water supply (@4%)	24,040.00	Rs	0.04	961.60
2	External service connection (@5%)	24,040.00	Rs	0.05	1,202.00
3	Internal electric including power, telephone LAN, Lightning conductor, etc. @ (19%)	24,040.00	Rs	0.19	4,567.60
	TOTAL - INTERNAL SERVICES				6,731.20
D	ELEVATORS				
1	Elevators for 13 passengers & G+2 stories	1	No	22,00,000.00	550.00
	Assuming 1 Lifts @ 18 Lacs per Lift for 4000 SQM space				
1	Elevators for 20 passengers & G+2 stories	1	No	22,00,000.00	600.00
	Assuming 1 Lifts @ 18 Lacs per Lift for 4000 SQM space				
15	TOTAL - ELEVATORS (Average)				575.00
	GRAND TOTAL				35,376.20
	GRAND TOTAL (ROUND OFF)				35,380.00

Annexure 8.105 - Allied Provisions CPWD PAR 2012				
S No	Description	Unit	Rate	Remarks
A	SUB- STATION EQUIPMENT			
1	Supplying installation testing and commissioning of Sub Station equipment comprising H.T. Panel, Transformer, HT Cable, Bus trunking from Transformer to LT Panel, LT Panel, Automatic power factor corrector panel, Essential Panel i/c Earthing, inter connecting power cables in sub- station, safety equipment.	Per KVA	7,000	Item No 1 - PAR for Specialized E&M Services 2012
B	DIESEL GENERATOR SET			
1	Supplying installation testing and commissioning of silent type D.G. Set, AMF Panel, Bus Trunking /cables from DG Set to essential panel, control cable, Earthing of DG Set and AMF Panel, DG set exhaust piping as per CPCB norms and minor allied works.	Per KVA	10,000	Item No 2 - PAR for specialized E&M Services 2012
C	UNINTERRUPTED POWER SUPPLY			
1	Supplying installation testing and commissioning of online UPS system with 30 minutes' backup i/c batteries.	Per KVA	20,000	Item No 5.1 - PAR for specialized E&M Services 2012
D	VRV/VRF AC SYSTEM			
1	Supplying installation testing and commissioning of VRV/VRF System i/c indoor, outdoor units, piping, cabling / bus trunking / rising main (within the building), wiring, electrical panel and also treated fresh air system.	Per HP	55,000	Item No 7 - PAR for specialized E&M Services 2012
E	PRECISION AIR-CONDITIONING SYSTEM			
1	Supplying installation testing and commissioning of Precision Air-conditioning system i/c piping, controller and cabling etc.	Per Tonne	1,10,000	Item No 8 - PAR for specialized E&M Services

	required for the system.			2012
F	CCTV SYSTEM			
1	Supplying installation testing and commissioning of IP based CCTV system for building security comprising of PTZ, Fixed camera, cabling, recording, display system and hardware per sq. and software support.	Per Sqm	300	Item No 11 - PAR for specialized E&M Services 2012
G	ACCESS CONTROL SYSTEM			
1	Supplying installation testing and commissioning of Access control system for building security comprising of Controller, E&M locks, Reader, Smart cards, cabling, recording, display per sq. system and hardware and software support.	Per Sqm	200	Item No 12 - PAR for specialized E&M Services 2012
H	BUILDING MANAGEMENT SYSTEM			
1	Supplying installation testing and commissioning of Building management system etc. cabling, recording, display system and hardware and software support.			
	Built up area up to 10000 sqm.	LS	30,00,000	Item No 13.1 - PAR for specialized E&M Services 2012
	Add extra for built up area beyond 10000 sqm.	Per Sqm	100	Item No 13.2 - PAR for specialized E&M Services 2012
I	OTHERS			
	Tube well and pumping stations	Each	6,00,000	
	STP, ETP, WTP	LS	1,00,00,000	
	Overhead Storage Tanks	Per Litre	15	
	Underground Storage Tanks	Per Litre	15	

Annexure 8.106 - Sports CPWD PAR 2012							
S No	Description	Area in sqm	Cost per sqm	Quantity	Unit	Cost	Remarks
SPORTS COMPLEX							
1	Synthetic Track (8 lane)	4146	3500	1	LS	1,45,11,000	As per Market Rate
2	2 Practice Nets for Cricket (30m x 12m)	360	150	2	LS	1,08,000	
3	Tennis Court (24m x 12m)	288	600	1	LS	1,72,800	
4	Badminton (24m x 15m)	400	1250	1	LS	5,00,000	
5	Half Olympic size swimming pool (50m x 25m)	1250	9000	1	LS	1,12,50,000	
6	Squash Court (50m x 25m)	1250	160	1	LS	2,00,000	
7	Hockey/Football (90m x 45m)	4050	7000	1	LS	2,83,50,000	
8	Basket Ball (28m x 15m)	420	5000	1	LS	21,00,000	
9	Volley Ball (18m x 9m)	162	600	1	LS	97,200	

Annexure 8.107: Development of Site CPWD PAR 2012		
S.No.	Description	Amount (Per SQM Rate)
1	Levelling	95
2	Internal roads and paths	145
3	Sewer	110
4	Filter Water Supply	
a	Distribution lines 100 mm dia and below	80
b	Peripheral grid 150 mm to 300 mm dia pipes	60
c	Unfiltered water supply distribution lines	45
5	Storm Water Drains	85
6	Horticulture Operations	80
7	Street Lighting	
a	With HPSV Lamps	165
b	Exit Sign board i/c electric signage	85
8	Total	950
	Boundary wall	6000

Equipment Cost for Other Regional Campuses			Annexure 8.108
S.No.	Particulars	Amount (in Crore)	Remarks
1	Equipment		
a	Engineering Laboratory/ Workshop	0.20	Assumed
b	Other Course Laboratory/ Workshop	0.05	Assumed
c	IT Infra	1.50	(Annexure 8.110)
2	Vehicles	-	
Equipment Cost for IKGPTU Main Camps, Kapurthala			Annexure 8.109
S.No.	Particulars	Amount (in Crore)	Remarks
1	Equipment		
a	Engineering Laboratory/ Workshop	0.20	Assumed
b	Other Course Laboratory/ Workshop	0.05	Assumed
c	IT Infra/eLibrary/Licensed Software	21.00	(Annexure 8.110)
2	Vehicles	0.75	2 Buses, 4 Cars

IT Infrastructure (assumption as per IT Consultant)					Annexure 8. 110	
S. No	Description	Unit	Quantity	Rate	Amount	Amount (in Rs. Crore)
1	Leased Line 160 Mbps	Lump sum	1	30,00,000	30,00,000	0.30
2	Routers	Lump sum	1	4,00,000	4,00,000	0.04
3	Switches & networking					
a)	Core Switch with redundancy	Each	2	50,00,000	1,00,00,000	1.00
b)	Switches	Each	120	1,00,000	1,20,00,000	1.20
c)	Multi core fibre	per km	5	10,00,000	50,00,000	0.50
4	Firewall	Lump sum	1	25,00,000	25,00,000	0.25
5	Access Point for Wi-Fi network	Each	300	60,000	1,80,00,000	1.80
6	Controller	Lump sum	1	3,00,00,000	3,00,00,000	3.00
7	Computer Nodes	Lump sum	1	3,60,00,000	3,60,00,000	3.60
8	Servers	Each	10	20,00,000	2,00,00,000	2.00
9	Video Conferencing	Lump sum	1	30,00,000	30,00,000	0.30
10	Software and Campus licenses (Microsoft) and other licenses (like SPSS, SAS)	Lump sum	1	2,00,00,000	2,00,00,000	2.00
11	eLibrary (eBooks and eJournals)	Lump sum	1	4,00,00,000	4,00,00,000	4.00
12	Other Expenses	Lump sum	1	1,00,00,000	1,00,00,000	1.00
					Total	20.99

*For Main Kapurthala Campus	(A)	21.00
*For Other Regional Campuses	7% of (A)	1.5

Note: Printers and Photocopier machine shall be installed by vendor and the charges shall be on per page cost

Summary: Furniture Cost				Annexure 8.111
For IKGPTU Campuses				
S.No.	Description	Rate (in Rs.)	(In Crore)	Remarks
1	Hostel furniture for Students	46,000	0.00460	(Annexure 8.112)
2	Lecture Room for 120 Students	20,40,000	0.20400	(Annexure 8.115)
3	Lecture Room for 60 Students	14,40,000	0.14400	(Annexure 8.115)
4	Lecture Room for 45 Students	12,60,000	0.12600	(Annexure 8.115)
5	Tutorial Room for 30 Students	11,10,000	0.11100	(Annexure 8.116)
6	Drawing Hall for 60 Students	13,20,000	0.13200	(Annexure 8.116)
7	Faculty/Non-Teaching Staff Academic Furniture	88,000	0.00880	(Annexure 8.113)
8	Furniture for Contractual Staff	20,000	0.00200	Assumption
9	Guest House Furniture	1,80,000	0.01800	(Annexure 8.114)
10	Library Furniture (Assumed as per Market Rate)	2,000	0.00020	Per sqm of Carpet Area
11	Auditorium Furniture (Assumed as per Market Rate)	5,000	0.00050	Per seat

Furniture Cost for Students				Annexure 8.112
Hostel Furniture and Furnishing per student				
Each Student shall be provided with				
S.No.	Item	Cost	Remarks	
1	Student Almirah	8000	As per Market Price	
2	Student Table with overhead cabinet and pin up board	7700	As per Market Price	
3	Student Bed with side table	7000	As per Market Price	
4	Student Chair	3000	As per Market Price	
5	Mess (chair and table)	7000	As per Market Price	
6	Miscellaneous (Curtains, mattress, etc.)	5000		
	Total	37700		
	Add: VAT @ 12.5%	4712.5		
	Add: Installation & Transportation @ 10%	3770		
	Total	46183		
	Say	46,000		
Furniture Cost for Faculty				Annexure 8.113

Faculty/Non-Teaching Staff Academic Furniture			
S.No.	Item	Cost	Remarks
1	Filing Cabinet	16500	As per Market Price
2	Office Table	10500	As per Market Price
3	Executive Chair	4000	As per Market Price
4	Non-Executive Chair (3 no's)	10500	As per Market Price
5	Sofa (5 seater) with centre table	25000	As per Market Price
6	Computer Table/ Side Table	5000	As per Market Price
	Total	71500	As per Market Price
	Add: VAT @ 12.5%	8937.5	
	Add: Installation & Transportation @ 10%	7150	
	Total	87588	
	Total	87588	
	Say	88,000	

Furniture Cost for Guest House			Annexure 8. 114
Guest House Furnishing			
S.No.	Item	Cost	Remarks
1	Cupboard	20000	As per Market Price
2	Study Table with chair	10000	As per Market Price
3	Double bed	40000	As per Market Price
4	Mattress for Bed	14000	As per Market Price
5	LED TV	20000	As per Market Price
6	Phone	1500	As per Market Price
7	Sofa with coffee table	25000	As per Market Price
8	Amenities like tea/coffee maker, linen, etc.	10000	As per Market Price
9	Misc. - Curtains, Paintings	5000	
	Total	145500	
	Add: VAT @ 12.5%	18187.5	
	Add: Installation & Transportation @ 10%	14550	
	Total	178238	
	Total	178238	
	Say	1,80,000	

Furniture Cost for Lecture Room			Annexure 8.115
Lecture room furniture for 60 students			
Each Student shall be provided with			
S.No.	Item	Cost	Remarks
1	Table (for each student on sharing basis)	5250	As per Market Price
2	Chair	3500	As per Market Price
3	Lecturer Table/podium with chair (one for 60 students)	250	As per Market Price
4	Green chalk board magnetic with slide (4ft x 6 ft.)	364	As per Market Price
5	Smart Classroom board along with lecture capture solution, epodium with projector and screen	10000	As per Market Price
	Total	19364	
	Add: VAT @ 12.5%	2420	
	Add: Installation & Transportation @ 10%	1936	
	Total	23720	
	Total	23720	
	Say	24,000	
	For 60 students	14,40,000	
Lecture room furniture for 45 students			
Each Student shall be provided with			
S.No.	Item	Cost	Remarks
1	Table (for each student on sharing basis)	5250	As per Market Price
2	Chair	3500	As per Market Price
3	Lecturer Table/podium with chair (one for 45 students)	333	As per Market Price
4	Green chalk board magnetic with slide (4ft x 6 ft.)	485	As per Market Price
5	Smart Classroom board along with lecture capture solution, epodium with projector and screen	13333	As per Market Price
	Total	22901	
	Add: VAT @ 12.5%	2863	
	Add: Installation & Transportation @ 10%	2290	
	Total	28054	
	Total	28054	
	Say	28,000	
	For 45 students	12,60,000	

Furniture Cost for Lecture Room			
Lecture room furniture for 120 students			
Each Student shall be provided with			
S.No.	Item	Cost	Remarks
1	Table (for each student on sharing basis)	5250	As per Market Price
2	Chair	3500	As per Market Price
3	Lecturer Table/podium with chair (one for 120 students)	125	As per Market Price
4	Green chalk board magnetic with slide (4ft x 6 ft.)	182	As per Market Price
5	Smart Classroom board along with lecture capture solution, epodium with projector and screen	5000	As per Market Price
	Total	14057	
	Add: VAT @ 12.5%	1757	
	Add: Installation & Transportation @ 10%	1406	
	Total	17220	
	Total	17220	
	Say	17,000	
	For 120 students	20,40,000	

Furniture Cost for Tutorial Room & Drawing Halls			Annexure 8. 116
Tutorial room furniture for 30 students			
Each Student shall be provided with			
S.No.	Item	Cost	Remarks
1	Table (for each student on sharing basis)	5250	As per Market Price
2	Chair	3500	As per Market Price
3	Lecturer Table/podium with chair (one for 30 students)	500	As per Market Price
4	Green chalk board magnetic with slide (4ft x 6 ft.)	727	As per Market Price
5	Smart Classroom board along with lecture capture solution, epodium with projector and screen	20000	As per Market Price
	Total	29977	
	Add: VAT @ 12.5%	3747	
	Add: Installation & Transportation @ 10%	2998	
	Total	36722	
	Total	36722	
	Say	37,000	
	For 30 students	11,10,000	

Drawing Hall furniture for 60 students			
Each Student shall be provided with			
S.No.	Item	Cost	Remarks
1	Studio Table	4000	As per Market Price
2	High Chair	3000	As per Market Price
3	Lecturer Table/podium with chair (one for 60 students)	250	As per Market Price
4	Green chalk board magnetic with slide (4ft x 6 ft.)	364	As per Market Price
5	Smart Classroom board along with lecture capture solution, epodium with projector and screen	10000	As per Market Price
	Total	17614	
	Add: VAT @ 12.5%	2202	
	Add: Installation & Transportation @ 10%	1761	
	Total	21577	
	Total	21577	
	Say	22,000	
	For 60 students	13,20,000	

Annexure 8.117 - Faculty - Residential Accommodation Type			
S. No	Post	Type of Quarter as per CPWD	Built Up Area
	Faculty		SQM
1	Vice Chancellor	Type - VII	370
2	Professor	Type - V	200
3	Associate Professor	Type - V	200
4	Assistant Professor	Type - IV	128
5	Deans Faculties of Study	Type - V (a)	200
6	Functional Deans for Regional Campuses	Type - VI	268
	Support Staff		
7	Category I	Type - V	200
8	Category II	Type - III	80
9	Category III	Type - II	70
10	Category IV	-	-
11	Academic Non-Teaching	Type - V	200

Annexure 8.118 - Cost Index from CPWD, 2012

कार्यालय
मुख्य अभियन्ता(उ0अ0-5),
केन्द्रीय लोक निर्माण विभाग,
लन्दोई ब्रीज, सतवारी कैंट, जम्मू
(जे एण्ड के) पीन 180003
दूरभाष :-0191-2458799, 2458800

Office of the
Chief Engineer(NZ-V),
Central Public Works Department,
Landoi Bridge, Satwari Cantt.
Jammu (J&K) Pin 180003
Phone No. 0191-2458799, 2458800
Email:- cen5.jmu.cpwd@nic.in

पत्रांक: 23(CI)/SE(P)/EE(P)/NZ-V/ 1305

दिनांक: 26/6/2012

कार्यालय ज्ञापन

विषय:- उत्तरी अंचल-V के अन्तर्गत विभिन्न स्थानों के मूल्य सूचकांक।

दिल्ली कुर्सी क्षेत्र दर 2012 (आधार : 100)के सापेक्ष निम्नलिखित स्थानों के मूल्य सूचकांक मुख्य अभियन्ता द्वारा सहर्ष अनुमोदित कर दिये गये हैं। स्थान का नाम, इन स्थान का मूल्य सूचकांक तथा मूल्य सूचकांक लागू होने की तिथि निम्नानुसार है। ये मूल्य सूचकांक दिल्ली कुर्सी क्षेत्र दर 2012 के अनुसार दिनांक 01.10.2012 पर 100 आधार मानकर निकाला गया है:-

क्रम सं०	स्थान का नाम	अनुमोदित मूल्य सूचकांक	मूल्य सूचकांक लागू होने की तिथि
1	जालंधर	106.00	01.04.2014
2	होशियारपुर, कपूरथला, नवांशहर	102.00	01.04.2014
3	लुधियाना, फरौर	107.00	01.04.2014
4	मोगा	102.00	01.04.2014
5	बठिन्डा, बरिगंखेडा, मानसा	104.00	01.04.2014
6	फरीदकोट, फिरोजपुर, फाजिल्का	102.00	01.04.2014
7	संगरूर, लोगोवाल	104.00	01.04.2014
8	हुसैनीवाला(बॉर्डर)	106.00	01.04.2014
9	बादल	104.00	01.04.2014
10	अबोहर	104.00	01.04.2014
11	अमृतसर, तरणतारन	107.00	01.04.2014
12	गुरदासपुर	102.00	01.04.2014
13	मामून (पठानकोट)	104.00	01.04.2014

टिप्पणी:- उपरोक्त सारणी में उल्लिखित स्थान जालंधर केन्द्रीय परिमण्डल, के०लो०नि०वि०, के अन्तर्गत पंजाब में स्थित है।

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कार्यपालक अभियन्ता(यो०)-II
उ०अ०-V, के०लो०नि०वि०, जम्मू।

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ANNEXURES:9.1-9.18

FINANCE (Total Project Cost, Recurring Expenditure, Fellowship Expenditure, Staff Requirement, CTC of Staffs, Administrative Expenses and Hostel Expenses)

Table 9.1b :ESTIMATED TOTAL COST OF PROJECT- I K GUJRAL PUNJAB TECHNICAL UNIVERSITY

S.No	Particulars	TOTAL	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6
1	<u>CAPITAL COST</u>							
	Cost of Renovation (A)	67.79	17.22	18.26	11.03	10.17	11.10	-
	Capital Cost of Additional Construction (B)	621.31	112.25	136.96	113.79	93.20	165.11	-
	Cost of Equipment & Furnishing (C)	117.62	21.68	26.63	20.02	19.08	24.27	3.95
	TOTAL CAPITAL COST (1=A+ B + C)	806.72	151.15	181.85	144.84	122.44	200.49	3.95
2	RECURRING EXPENDITURE OF THE UNIVERSITY	1,853.28	28.82	61.69	100.09	143.09	184.62	221.89
	GRAND TOTAL (1+2)	2,660.00	179.98	243.54	244.93	265.53	385.11	225.85

Annexure 9.1

(RS. IN CRORES)			
A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
-	-	-	-
-	-	-	-
1.41	0.42	0.16	-
1.41	0.42	0.16	-
245.38	265.72	289.66	312.33
246.79	266.14	289.81	312.33

RECURRING EXPENDITURE CAMPUS WISE -I K GUJRAL PUNJAB TECHNICAL UNIVERSITY							
Name	Total	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6
IKGPTU-MAIN CAMPUS KAPURTHALA	1,139.53	20.56	38.56	58.73	81.75	110.60	136.19
IKGPTU-AMRITSAR CAMPUS	85.66	1.12	2.45	4.22	6.58	8.44	10.67
IKGPTU-BATALA CAMPUS	126.23	1.42	4.36	7.60	11.58	13.19	14.92
IKGPTU-BHIKIWIND CAMPUS	97.17	1.27	3.38	5.86	8.72	10.08	11.49
IKGPTU-DINANAGAR CAMPUS	122.65	1.89	4.28	7.29	10.05	12.28	14.70
IKGPTU-HOSHIARPUR CAMPUS	150.31	1.70	5.23	9.25	13.86	15.75	17.70
IKGPTU-SULTANPUR LODHI CAMPUS	131.73	0.87	3.43	7.15	10.55	14.29	16.22
Grand Total	1,853.28	28.82	61.69	100.09	143.09	184.62	221.89

Annexure 9.2

Amt (in Crores)

A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
152.35	165.40	180.84	194.55
11.58	12.47	13.52	14.61
16.20	17.47	18.96	20.52
12.48	13.46	14.61	15.82
15.97	17.23	18.71	20.26
19.22	20.73	22.50	24.37
17.58	18.94	20.52	22.18
245.38	265.72	289.66	312.33

RECURRING EXPENDITURE -I K GUJRAL PUNJAB TECHNICAL						
Particulars	Total	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5
<u>EXPENDITURE</u>						
Employees Remuneration	1,039.32	16.66	33.80	56.06	79.61	103.12
Other Benefit to Employees	237.67	3.33	6.76	11.77	16.72	22.69
Electricity Expenses	181.28	2.16	6.12	10.56	15.60	19.58
Generator Running & Maint. Exp.	8.16	0.07	0.23	0.46	0.71	0.85
Gen. & Admn. Expenses	258.52	4.55	9.90	14.24	19.71	25.98
Hostel Charges	13.00	0.12	0.37	0.66	1.01	1.30
<u>Contractual Services</u>						
Staff Expenses	34.40	0.44	1.02	1.72	2.52	3.36
Security Expenses	80.93	1.48	3.50	4.62	7.21	7.74
Total	1,853.28	28.82	61.69	100.09	143.09	184.62
	69.00	69.00	66.00	68.00	67.00	68.00
Total No. Of Students	32470	810	2245	3700	5245	6260
Cost per Student (In LACS)	5.71	3.56	2.75	2.71	2.73	2.95

CAMPUS WISE RECURRING EXPENDITURE

A. IKGPTU-MAIN CAMPUS KAPURTHALA

Particulars	Total	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5
<u>EXPENDITURE</u>						
Employees Remuneration	605.32	11.39	19.90	31.25	42.96	58.27
Other Benefit to Employees	138.53	2.28	3.98	6.56	9.02	12.82
Electricity Expenses	111.75	1.55	3.66	5.90	8.68	11.59
Generator Running & Maint. Exp.	1.67	0.02	0.05	0.08	0.12	0.16
Gen. & Admn. Expenses	201.36	3.89	8.02	10.92	14.85	20.23
Hostel Charges	8.22	0.09	0.22	0.37	0.57	0.79
<u>Contractual Services</u>						
Staff Expenses	21.72	0.30	0.64	1.05	1.53	2.09
Security Expenses	50.96	1.04	2.10	2.60	4.04	4.65
Total	1,139.53	20.56	38.56	58.73	81.75	110.60

B IKGPTU-AMRITSAR CAMPUS

Particulars	Total	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5
<u>EXPENDITURE</u>						
Employees Remuneration	51.96	0.75	1.54	2.57	3.89	5.05
Other Benefit to Employees	11.90	0.15	0.31	0.54	0.82	1.11
Electricity Expenses	9.91	0.08	0.28	0.53	0.89	1.09
Generator Running & Maint. Exp.	0.95	0.00	0.02	0.04	0.08	0.10

Gen. & Admn. Expenses	6.16	0.08	0.17	0.30	0.47	0.59
Hostel Charges	0.44	0.00	0.01	0.02	0.04	0.05
<u>Contractual Services</u>						
Staff Expenses	1.69	0.02	0.05	0.08	0.12	0.16
Security Expenses	2.67	0.04	0.08	0.13	0.27	0.29
Total	85.66	1.12	2.45	4.22	6.58	8.44

C IKGPTU-BATALA CAMPUS

Particulars	Total	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5
EXPENDITURE						
Employees Remuneration	76.63	0.89	2.58	4.49	6.86	7.99
Other Benefit to Employees	17.49	0.18	0.52	0.94	1.44	1.76
Electricity Expenses	12.45	0.13	0.50	0.90	1.35	1.43
Generator Running & Maint. Exp.	1.02	0.01	0.03	0.07	0.10	0.11
Gen. & Admn. Expenses	10.30	0.12	0.36	0.63	0.93	1.04
Hostel Charges	0.86	0.01	0.03	0.06	0.09	0.09
Contractual Services						
Staff Expenses	2.18	0.02	0.06	0.13	0.18	0.23
Security Expenses	5.31	0.07	0.27	0.38	0.63	0.54
Total	126.23	1.42	4.36	7.60	11.58	13.19

D IKGPTU-BHIKIWIND CAMPUS

Particulars	Total	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5
EXPENDITURE						
Employees Remuneration	59.70	0.81	2.03	3.54	5.26	6.18
Other Benefit to Employees	13.62	0.16	0.41	0.74	1.10	1.36
Electricity Expenses	9.09	0.10	0.37	0.66	0.98	1.04
Generator Running & Maint. Exp.	1.02	0.01	0.03	0.06	0.10	0.11
Gen. & Admn. Expenses	7.50	0.09	0.27	0.45	0.67	0.75
Hostel Charges	0.58	0.00	0.02	0.04	0.06	0.06
Contractual Services						
Staff Expenses	1.86	0.02	0.06	0.10	0.15	0.18
Security Expenses	3.80	0.07	0.19	0.25	0.41	0.39
Total	97.17	1.27	3.38	5.86	8.72	10.08

E IKGPTU-DINANAGAR CAMPUS

Particulars	Total	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5
EXPENDITURE						
Employees Remuneration	75.06	1.15	2.59	4.43	6.10	7.54
Other Benefit to Employees	17.14	0.23	0.52	0.93	1.28	1.66
Electricity Expenses	10.43	0.16	0.41	0.71	0.97	1.13
Generator Running & Maint. Exp.	0.99	0.01	0.03	0.06	0.08	0.10
Gen. & Admn. Expenses	10.41	0.16	0.37	0.61	0.83	1.00
Hostel Charges	0.89	0.01	0.03	0.05	0.07	0.09
Contractual Services						
Staff Expenses	2.13	0.02	0.06	0.11	0.17	0.21
Security Expenses	5.60	0.14	0.27	0.38	0.54	0.54

Total	122.65	1.89	4.28	7.29	10.05	12.28

F IKGPTU-HOSHIARPUR CAMPUS

Particulars	Total	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5
<u>EXPENDITURE</u>						
Employees Remuneration	92.13	1.07	3.12	5.56	8.33	9.66
Other Benefit to Employees	21.02	0.21	0.62	1.17	1.75	2.13
Electricity Expenses	12.02	0.12	0.48	0.88	1.31	1.38
Generator Running & Maint. Exp.	1.53	0.01	0.05	0.10	0.15	0.17
Gen. & Admn. Expenses	12.63	0.14	0.45	0.79	1.17	1.30
Hostel Charges	1.15	0.01	0.04	0.07	0.12	0.12
<u>Contractual Services</u>						
Staff Expenses	2.58	0.02	0.08	0.14	0.21	0.26
Security Expenses	7.25	0.11	0.39	0.55	0.82	0.73
Total	150.31	1.70	5.23	9.25	13.86	15.75

G IKGPTU-SULTANPUR LODHI CAMPUS

Particulars	Total	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5
<u>EXPENDITURE</u>						
Employees Remuneration	78.53	0.62	2.03	4.20	6.21	8.42
Other Benefit to Employees	17.98	0.12	0.41	0.88	1.30	1.85
Electricity Expenses	15.64	0.02	0.43	0.97	1.43	1.91
Generator Running & Maint. Exp.	0.98	0.01	0.02	0.05	0.08	0.11
Gen. & Admn. Expenses	10.16	0.07	0.27	0.55	0.80	1.07
Hostel Charges	0.85	-	0.02	0.05	0.07	0.10
<u>Contractual Services</u>						
Staff Expenses	2.25	0.02	0.06	0.11	0.17	0.23
Security Expenses	5.34	-	0.19	0.34	0.50	0.59
Total	131.73	0.87	3.43	7.15	10.55	14.29

Annexure 9.3

Amt (in Crores)

UNIVERSITY				
A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
124.85	137.82	149.72	162.35	175.34
27.47	31.70	34.44	38.96	43.83
22.86	24.58	25.78	26.83	27.22
0.99	1.08	1.17	1.26	1.36
30.66	33.46	36.36	40.45	43.19
1.56	1.75	1.91	2.07	2.24
4.25	4.65	5.06	5.46	5.90
9.26	10.34	11.29	12.26	13.24
221.89	245.38	265.72	289.66	312.33
69.00	69.00	69.00	70.00	70.00
6970	7240	7320	7350	7350
3.18	3.39	3.63	3.94	4.25

Amt (in Crores)

A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
72.26	81.02	88.38	96.10	103.79
15.90	18.64	20.33	23.06	25.95
14.14	15.51	16.36	17.06	17.31
0.20	0.23	0.25	0.27	0.30
24.15	26.18	28.27	31.50	33.35
0.99	1.13	1.25	1.35	1.46
2.68	2.95	3.23	3.49	3.77
5.87	6.68	7.34	8.00	8.64
136.19	152.35	165.40	180.84	194.55

Amt (in Crores)

A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
6.50	7.02	7.59	8.19	8.85
1.43	1.62	1.74	1.97	2.21
1.31	1.36	1.41	1.47	1.49
0.12	0.13	0.14	0.15	0.16

0.72	0.81	0.91	1.00	1.11
0.06	0.06	0.07	0.07	0.08
0.21	0.23	0.25	0.27	0.29
0.32	0.34	0.37	0.40	0.43
10.67	11.58	12.47	13.52	14.61

Amt (in Crores)

A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
9.17	9.91	10.70	11.56	12.48
2.02	2.28	2.46	2.77	3.12
1.51	1.57	1.63	1.69	1.72
0.12	0.13	0.14	0.15	0.16
1.15	1.29	1.43	1.59	1.75
0.10	0.11	0.12	0.13	0.14
0.26	0.29	0.31	0.33	0.36
0.58	0.63	0.68	0.73	0.79
14.92	16.20	17.47	18.96	20.52

Amt (in Crores)

A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
7.14	7.71	8.33	8.99	9.71
1.57	1.77	1.91	2.16	2.43
1.11	1.15	1.20	1.24	1.26
0.12	0.13	0.14	0.15	0.16
0.83	0.94	1.05	1.16	1.28
0.07	0.07	0.08	0.08	0.09
0.23	0.25	0.27	0.29	0.31
0.42	0.46	0.49	0.53	0.58
11.49	12.48	13.46	14.61	15.82

Amt (in Crores)

A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
9.08	9.80	10.59	11.43	12.35
2.00	2.25	2.44	2.74	3.09
1.31	1.36	1.42	1.47	1.49
0.12	0.13	0.14	0.15	0.16
1.19	1.33	1.48	1.64	1.81
0.11	0.12	0.13	0.14	0.15
0.26	0.29	0.31	0.33	0.36
0.63	0.69	0.74	0.80	0.86

14.70	15.97	17.23	18.71	20.26



Amt (in Crores)

A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
10.98	11.85	12.80	13.83	14.93
2.41	2.73	2.94	3.32	3.73
1.46	1.52	1.58	1.63	1.66
0.18	0.20	0.21	0.23	0.25
1.43	1.58	1.75	1.92	2.11
0.13	0.15	0.16	0.17	0.18
0.32	0.34	0.37	0.40	0.43
0.79	0.86	0.93	1.00	1.08
17.70	19.22	20.73	22.50	24.37



Amt (in Crores)

A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
9.72	10.50	11.34	12.25	13.23
2.14	2.42	2.61	2.94	3.31
2.02	2.11	2.19	2.27	2.30
0.12	0.13	0.14	0.15	0.16
1.19	1.33	1.47	1.63	1.79
0.11	0.11	0.12	0.13	0.14
0.28	0.30	0.33	0.36	0.38
0.63	0.69	0.74	0.80	0.86
16.22	17.58	18.94	20.52	22.18

I K GUJRAL PUNJAB TECHNICAL UNIVERSITY

M. TEC PROGRAM

Expenditure Statement

(in Crores)

Academic Programme		A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5
<u>No. of Students Year wise</u>						
Main Campus-Total		110	220	240	300	400
New Intake		110	110	130	170	230
II YR		0	110	110	130	170
Honorarium	Per Student/year (In Rupees) - For Ist Yr.	148800	148800	148800	148800	156000
	Per Student/year (In Rupees) - For 2nd Yr.	148800	148800	148800	148800	156000
Students Contingency	Per Student/year (In Rupees)	0	0	0	0	0
Honorarium		1.64	3.27	3.57	4.46	6.24
Students Contingency		-	-	-	-	-
Sub-Total		1.64	3.27	3.57	4.46	6.24
Other Administrative Expenses @ 5%		0.08	0.16	0.18	0.22	0.31
Total Cost of M. Tech. Program		1.72	3.44	3.75	4.69	6.55

I K GUJRAL PUNJAB TECHNICAL UNIVERSITY

PHD PROGRAM

Expenditure Statement

(in Crores)

Academic Programme		A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5
No. of Students Year wise						
Main Campus-Total		0	20	40	60	80
New Intake		0	20	20	20	20
II YR		0	0	20	20	20
III YR & Onwards		0	0	0	20	40
Fellowship Honorarium	Per Student/year (In Rupees) - For Ist 2Yrs.	300000	300000	300000	300000	336000
	Per Student/year (In Rupees) - For 3rd Yr.& Onwards	336000	336000	336000	336000	360000
Students Contingency	Per Student/year (In Rupees)	0	0	0	0	0
Fellowship Honorarium		-	0.60	1.20	1.87	2.78
Students Contingency		-	-	-	-	-
Sub-Total		-	0.60	1.20	1.87	2.78
Other Administrative Expenses @ 5%		-	0.03	0.06	0.09	0.14
Total Cost of PHD Program		-	0.63	1.26	1.97	2.92
Grand Total		1.72	4.07	5.01	6.65	9.48

Annexure 9.4

A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
460	460	460	460	460
230	230	230	230	230
230	230	230	230	230
156000	156000	156000	180000	180000
156000	156000	156000	180000	180000
0	0	0	0	0
7.18	7.18	7.18	8.28	8.28
-	-	-	-	-
7.18	7.18	7.18	8.28	8.28
0.36	0.36	0.36	0.41	0.41
7.53	7.53	7.53	8.69	8.69



A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
100	100	100	100	100
20	20	20	20	20
40	40	40	40	40
40	40	40	40	40
336000	336000	336000	360000	360000
360000	360000	360000	384000	384000
0	0	0	0	0
3.46	3.46	3.46	3.70	3.70
-	-	-	-	-
3.46	3.46	3.46	3.70	3.70
0.17	0.17	0.17	0.18	0.18
3.63	3.63	3.63	3.88	3.88

11.16	11.16	11.16	12.57	12.57
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I K GUJRAL PUNJAB TECHNICAL UNIVERSITY**Year-wise Requirement of Academic Staff Posts**

POSTS	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5
FACULTY					
Vice Chancellor	1	1	1	1	1
Deans Faculties of Study	16	16	16	16	16
Principal/Director	6	6	6	6	6
Professors	13	26	42	57	68
Associate Professors	21	49	80	111	133
Assistant Professors	43	101	157	220	265
Sub- Total Faculty Cadres	100	199	302	411	489
ACADEMIC NON-FACULTY					
Librarian	1	1	1	1	1
Deputy Librarian	0	1	2	3	3
Asst. Librarian	8	8	9	10	11
Workshop Superintendent	1	1	1	1	1
Principal Scientific Officer	0	0	1	1	1
Scientific Officer	0	0	1	1	1
Research Engineer	0	0	1	1	1
Design Engineer	0	0	4	4	6
Sub- Total Non-Faculty Cadres	10	11	20	22	25
TOTAL	110	210	322	433	514

Year-wise Requirement of Support Staff Posts

POSTS	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5
Category-I					
Registrar	1	1	1	1	1
Finance Officer	1	1	1	1	1
Controller of Eaxms	1	1	1	1	1
Category-II					
II-A	13	16	26	27	34
II-B	12	17	25	27	40
Category-III					
III-A	12	43	67	96	125
III-B	7	38	63	94	123
Category-IV					
IV-A	14	34	56	83	100
IVB	13	34	56	77	93
Grand Total	74	185	296	407	518

CAMPUS WISE REQUIREMENT OF STAFF

A. IKGPTU-MAIN CAMPUS KAPURTHALA

POSTS	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5
FACULTY					
Vice Chancellor	1	1	1	1	1
Deans & Functional Deans	16	16	16	16	16
Professors	10	17	26	34	44
Associate Professors	17	33	49	68	86
Assistant Professors	35	66	97	134	172
Sub- Total Faculty Cadres	79	133	189	253	319

ACADEMIC NON-FACULTY					
Librarian	1	1	1	1	1
Deputy Librarian	0	1	2	3	3
Asst. Librarian	2	2	3	4	5
Workshop Superintendent	1	1	1	1	1
Principal Scientific Officer	0	0	1	1	1
Scientific Officer	0	0	1	1	1
Research Engineer	0	0	1	1	1
Design Engineer	0	0	4	4	6
Sub- Total Non-Faculty Cadres	4	5	14	16	19
TOTAL	83	138	203	269	338

POSTS	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5
Category-I					
Registrar	1	1	1	1	1
Controller of Exams	1	1	1	1	1
Finance Officer	1	1	1	1	1
Category-II					
II-A	7	10	14	15	22
II-B	6	11	13	15	22
Category-III					
III-A	6	20	34	44	59
III-B	6	20	33	43	58
Category-IV					
IV-A	8	22	38	59	70
IVB	7	22	38	59	69
Grand Total	43	108	173	238	303

B**IKGPTU-AMRITSAR CAMPUS**

POSTS	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5
FACULTY					
Principal/Director	1	1	1	1	1
Professors	1	1	1	2	2
Associate Professors	0	1	2	3	4
Assistant Professors	0	2	4	6	7
Sub- Total Faculty Cadres	2	5	8	12	14
ACADEMIC NON-FACULTY					
Asst. Librarian	1	1	1	1	1
Asst. Workshop Superintendent	0	0	0	0	0
Sub- Total Non-Faculty Cadres	1	1	1	1	1
TOTAL	3	6	9	13	15

POSTS	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5
Category-II					
II-A	1	1	2	2	2
II-B	1	1	2	2	3
Category-III					
III-A	1	3	5	8	10
III-B	0	3	5	8	10
Category-IV					
IV-A	1	2	3	4	5
IVB	1	2	3	3	4
Grand Total	5	12	20	27	34

C

IKGPTU-BATALA CAMPUS

POSTS	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5
FACULTY					
Principal/Director	1	1	1	1	1
Professors	0	2	3	4	4
Associate Professors	1	3	6	9	9
Assistant Professors	2	7	11	17	17
Sub- Total Faculty Cadres	4	13	21	31	31
ACADEMIC NON-FACULTY					
Asst. Librarian	1	1	1	1	1
Asst. Workshop Superintendent					
Sub- Total Non-Faculty Cadres	1	1	1	1	1
TOTAL	5	14	22	32	32

POSTS	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5
Category-II					
II-A	1	1	2	2	2
II-B	1	1	2	2	3
Category-III					
III-A	1	4	6	9	12
III-B	0	3	5	9	11
Category-IV					
IV-A	1	2	3	4	5
IVB	1	2	3	3	4
Grand Total	5	13	21	29	37

D IKGPTU-BHIKIWIND CAMPUS

POSTS	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5
FACULTY					
Principal/Director	1	1	1	1	1
Professors	0	1	2	3	3
Associate Professors	1	2	4	6	6
Assistant Professors	1	5	8	11	11
Sub- Total Faculty Cadres	3	9	15	21	21
ACADEMIC NON-FACULTY					
Asst. Librarian	1	1	1	1	1
Asst. Workshop Superintendent					
Sub- Total Non-Faculty Cadres	1	1	1	1	1
TOTAL	4	10	16	22	22

POSTS	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5
Category-II					
II-A	1	1	2	2	2
II-B	1	1	2	2	3
Category-III					
III-A	1	4	5	8	10
III-B	0	3	5	8	10
Category-IV					
IV-A	1	2	3	4	5
IVB	1	2	3	3	4
Grand Total	5	13	20	27	34

E IKGPTU-DINANAGAR CAMPUS

POSTS	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5
FACULTY					
Principal/Director	1	1	1	1	1

Professors	1	2	3	4	4
Associate Professors	1	3	6	7	8
Assistant Professors	3	7	11	15	17
Sub- Total Faculty Cadres	6	13	21	27	30

ACADEMIC NON-FACULTY					
Asst. Librarian	1	1	1	1	1
Asst. Workshop Superintendent					
Sub- Total Non-Faculty Cadres	1	1	1	1	1
TOTAL	7	14	22	28	31

POSTS	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5
Category-II					
II-A	1	1	2	2	2
II-B	1	1	2	2	3
Category-III					
III-A	1	4	5	8	10
III-B	0	3	5	8	10
Category-IV					
IV-A	1	2	3	4	5
IVB	1	2	3	3	4
Grand Total	5	13	20	27	34

F

IKGPTU-HOSHIARPUR CAMPUS

POSTS	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5
FACULTY					
Principal/Director	1	1	1	1	1
Professors	1	2	4	6	6
Associate Professors	1	5	8	11	11
Assistant Professors	2	9	16	23	23
Sub- Total Faculty Cadres	5	17	29	41	41
ACADEMIC NON-FACULTY					
Asst. Librarian	1	1	1	1	1
Asst. Workshop Superintendent					

Sub- Total Non-Faculty Cadres	1	1	1	1	1
TOTAL	6	18	30	42	42

POSTS	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5
Category-II					
II-A	1	1	2	2	2
II-B	1	1	2	2	3
Category-III					
III-A	1	4	6	9	12
III-B	0	3	5	9	12
Category-IV					
IV-A	1	2	3	4	5
IVB	1	2	3	3	4
Grand Total	5	13	21	29	38

G IKGPTU-SULTANPUR LODHI CAMPUS

POSTS	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5
FACULTY					
Principal/Director	1	1	1	1	1
Professors	0	1	3	4	5
Associate Professors	0	2	5	7	9
Assistant Professors	0	5	10	14	18
Sub- Total Faculty Cadres	1	9	19	26	33
ACADEMIC NON-FACULTY					
Asst. Librarian	1	1	1	1	1
Asst. Workshop Superintendent					
Sub- Total Non-Faculty Cadres	1	1	1	1	1
TOTAL	2	10	20	27	34

POSTS	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5
Category-II					
II-A	1	1	2	2	2
II-B	1	1	2	2	3

Category-III					
III-A	1	4	6	10	12
III-B	1	3	5	9	12
Category-IV					
IV-A	1	2	3	4	5
IVB	1	2	3	3	4
Grand Total	6	13	21	30	38

Total Academic Staff	110	210	322	433	514
Total Non Academic Staff	74	185	296	407	518
G.Total	184	395	618	840	1032
Diff	0	0	0	0	0

Consolidated Off Campus Faculty Strength					
POSTS	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5
Principal/Director	6	6	6	6	6
Professors	3	9	16	23	24
Associate Professors	4	16	31	43	47
Assistant Professors	8	35	60	86	93
Total	21	66	113	158	170

Annexure 9.5

A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
1	1	1	1	1
16	16	16	16	16
6	6	6	6	6
74	78	79	80	80
150	154	156	156	156
305	310	313	314	314
552	565	571	573	573
1	1	1	1	1
3	3	3	3	3
11	11	11	11	11
1	1	1	1	1
1	1	1	1	1
1	1	1	1	1
1	1	1	1	1
6	8	8	8	8
25	27	27	27	27
577	592	598	600	600

A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
1	1	1	1	1
1	1	1	1	1
1	1	1	1	1
36	36	36	36	36
42	42	42	42	42
152	152	152	152	152
146	146	146	146	146
128	128	128	128	128
122	122	122	122	122
629	629	629	629	629

A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
1	1	1	1	1
16	16	16	16	16
50	54	55	56	56
101	105	107	107	107
207	212	215	216	216
375	388	394	396	396

1	1	1	1	1
3	3	3	3	3
5	5	5	5	5
1	1	1	1	1
1	1	1	1	1
1	1	1	1	1
1	1	1	1	1
6	8	8	8	8
19	21	21	21	21
394	409	415	417	417

A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
1	1	1	1	1
1	1	1	1	1
1	1	1	1	1
24	24	24	24	24
24	24	24	24	24
73	73	73	73	73
72	72	72	72	72
86	86	86	86	86
86	86	86	86	86
368	368	368	368	368

A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
1	1	1	1	1
2	2	2	2	2
5	5	5	5	5
10	10	10	10	10
18	18	18	18	18
1	1	1	1	1
0	0	0	0	0
1	1	1	1	1
19	19	19	19	19

A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
2	2	2	2	2
3	3	3	3	3
12	12	12	12	12
11	11	11	11	11
7	7	7	7	7
6	6	6	6	6
41	41	41	41	41

A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
1	1	1	1	1
4	4	4	4	4
9	9	9	9	9
17	17	17	17	17
31	31	31	31	31
1	1	1	1	1
1	1	1	1	1
32	32	32	32	32

A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
2	2	2	2	2
3	3	3	3	3
14	14	14	14	14
13	13	13	13	13
7	7	7	7	7
6	6	6	6	6
45	45	45	45	45

A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
1	1	1	1	1
3	3	3	3	3
6	6	6	6	6
11	11	11	11	11
21	21	21	21	21
1	1	1	1	1
1	1	1	1	1
22	22	22	22	22

A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
2	2	2	2	2
3	3	3	3	3
12	12	12	12	12
11	11	11	11	11
7	7	7	7	7
6	6	6	6	6
41	41	41	41	41

A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
1	1	1	1	1

4	4	4	4	4
9	9	9	9	9
19	19	19	19	19
33	33	33	33	33

1	1	1	1	1
1	1	1	1	1
34	34	34	34	34

A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
2	2	2	2	2
3	3	3	3	3
12	12	12	12	12
11	11	11	11	11
7	7	7	7	7
6	6	6	6	6
41	41	41	41	41

A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
1	1	1	1	1
6	6	6	6	6
11	11	11	11	11
23	23	23	23	23
41	41	41	41	41
1	1	1	1	1

1	1	1	1	1
42	42	42	42	42

A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
2	2	2	2	2
3	3	3	3	3
14	14	14	14	14
14	14	14	14	14
7	7	7	7	7
6	6	6	6	6
46	46	46	46	46

A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
1	1	1	1	1
5	5	5	5	5
9	9	9	9	9
18	18	18	18	18
33	33	33	33	33
1	1	1	1	1
1	1	1	1	1
34	34	34	34	34

A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
2	2	2	2	2
3	3	3	3	3

15	15	15	15	15
14	14	14	14	14
7	7	7	7	7
6	6	6	6	6
47	47	47	47	47

577	592	598	600	600
629	629	629	629	629
1206	1221	1227	1229	1229
0	0	0	0	0

A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
6	6	6	6	6
24	24	24	24	24
49	49	49	49	49
98	98	98	98	98
177	177	177	177	177

I K GUJRAL PUNJAB TECHNICAL UNIVERSITY
Year Wise CTC of Academic Staff Posts

POSTS	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8
FACULTY								
Vice Chancellor	0.24	0.26	0.28	0.30	0.33	0.35	0.38	0.41
Deans & Functional Deans	3.14	3.39	3.66	3.95	4.27	4.61	4.98	5.38
Principal/Director	1.18	1.27	1.37	1.48	1.60	1.73	1.87	2.02
Professors	2.39	5.16	9.00	13.19	16.99	19.97	22.73	24.87
Associate Professors	2.39	6.08	11.34	16.54	21.12	24.81	27.88	30.40
Assistant Professors	1.93	5.66	9.80	14.95	18.77	22.54	24.83	27.08
Sub- Total Faculty Cadres	11.26	21.82	35.45	50.42	63.08	74.01	82.67	90.16
ACADEMIC NON-FACULTY								
Librarian	0.17	0.18	0.19	0.21	0.23	0.24	0.26	0.28
Deputy Librarian	-	0.09	0.20	0.32	0.34	0.37	0.40	0.43
Asst. Librarian	0.62	0.67	0.82	0.98	1.16	1.26	1.36	1.46
Workshop Superintendent	0.08	0.09	0.10	0.11	0.11	0.12	0.13	0.14
Principal Scientific Officer	-	-	0.20	0.22	0.24	0.26	0.28	0.30
Scientific Officer	-	-	0.09	0.10	0.11	0.12	0.13	0.14
Research Engineer	-	-	0.09	0.09	0.10	0.11	0.12	0.13
Design Engineer	-	-	0.36	0.39	0.63	0.68	0.98	1.06
Sub- Total Non-Faculty Cadres	0.87	1.03	2.05	2.41	2.92	3.16	3.65	3.95
TOTAL	12.12	22.85	37.50	52.84	66.00	77.17	86.33	94.10

Year-wise CTC of Support Staff Posts

POSTS	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8
Category-I								
Registrar	0.17	0.18	0.19	0.21	0.23	0.24	0.26	0.28
Finance Officer	0.17	0.18	0.19	0.21	0.23	0.24	0.26	0.28
Controller of Exams	0.17	0.18	0.19	0.21	0.23	0.24	0.26	0.28
Category-II								
II-A	1.09	1.45	2.54	2.85	3.88	4.43	4.79	5.17
II-B	0.92	1.40	2.23	2.60	4.16	4.72	5.10	5.51
Category-III								
III-A	0.69	2.68	4.52	6.99	9.83	12.90	13.94	15.05
III-B	0.39	2.29	4.10	6.60	9.33	11.97	12.92	13.96
Category-IV								
IV-A	0.51	1.35	2.40	3.83	4.99	6.90	7.45	8.04
IVB	0.44	1.24	2.20	3.26	4.26	6.03	6.51	7.03
Grand Total	4.54	10.94	18.56	26.77	37.12	47.68	51.50	55.61

Sl. No.	Head of expenditure	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8
1	Salary								
	Faculty Staff	11.26	21.82	35.45	50.42	63.08	74.01	82.67	90.16
	Non - Faculty Academic Staff	0.87	1.03	2.05	2.41	2.92	3.16	3.65	3.95
	Support Staff (other)	4.54	10.94	18.56	26.77	37.12	47.68	51.50	55.61
	Total	16.66	33.80	56.06	79.61	103.12	124.85	137.82	149.72
2	Others-Components	3.33	6.76	11.77	16.72	22.69	27.47	31.70	34.44
	(Leave Encash ,T.A./L.T.C., Children Edu. Allowances, Prof. Dev. Allowances,Retirement Benefits, other allowances)								
	Total (1+2)	20.00	40.55	67.83	96.32	125.81	152.32	169.52	184.15

CAMPUS WISE SALARY EXPENDITURE

A. IKGPTU-MAIN CAMPUS KAPURTHALA

POSTS	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8
FACULTY								
Vice Chancellor	0.24	0.26	0.28	0.30	0.33	0.35	0.38	0.41
Deans & Functional Deans	3.14	3.39	3.66	3.95	4.27	4.61	4.98	5.38
Professors	1.84	3.37	5.57	7.87	11.00	13.49	15.74	17.31
Associate Professors	1.71	3.13	5.17	7.31	10.21	12.53	14.62	16.08
Assistant Professors	1.31	2.75	4.41	6.60	9.02	11.44	12.84	14.13
Sub- Total Faculty Cadres	8.23	12.90	19.09	26.03	34.82	42.43	48.56	53.32
ACADEMIC NON-FACULTY								
Librarian	0.17	0.18	0.19	0.21	0.23	0.24	0.26	0.28
Deputy Librarian	-	0.09	0.20	0.32	0.34	0.37	0.40	0.43
Asst. Librarian	0.15	0.17	0.27	0.39	0.52	0.57	0.61	0.66
Workshop Superintendent	0.08	0.09	0.10	0.11	0.11	0.12	0.13	0.14
Principal Scientific Officer	-	-	0.20	0.22	0.24	0.26	0.28	0.30
Scientific Officer	-	-	0.09	0.10	0.11	0.12	0.13	0.14
Research Engineer	-	-	0.09	0.09	0.10	0.11	0.12	0.13
Design Engineer	-	-	0.36	0.39	0.63	0.68	0.98	1.06
Sub- Total Non-Faculty Cadres	0.40	0.53	1.50	1.82	2.28	2.47	2.91	3.14
TOTAL	8.64	13.43	20.59	27.85	37.10	44.89	51.47	56.46

POSTS	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8
Category-I								
Registrar	0.17	0.18	0.19	0.21	0.23	0.24	0.26	0.28
Finance Officer	0.17	0.18	0.19	0.21	0.23	0.24	0.26	0.28
Controller of Exams	0.17	0.18	0.19	0.21	0.23	0.24	0.26	0.28
Category-II								
II-A	0.59	0.91	1.37	1.58	2.51	2.96	3.19	3.45
II-B	0.46	0.91	1.16	1.45	2.29	2.70	2.91	3.15
Category-III								
III-A	0.35	1.25	2.29	3.20	4.64	6.20	6.69	7.23
III-B	0.33	1.20	2.15	3.02	4.40	5.90	6.37	6.88
Category-IV								
IV-A	0.29	0.87	1.63	2.73	3.49	4.63	5.00	5.40

IVB	0.24	0.80	1.49	2.50	3.16	4.25	4.59	4.96
Grand Total	2.75	6.47	10.66	15.10	21.16	27.37	29.56	31.92

Sl. No.	Head of expenditure	A.Y.1	A.Y.2	A.Y.3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8
1	Salary								
	Faculty Staff	8.23	12.90	19.09	26.03	34.82	42.43	48.56	53.32
	Non - Faculty Academic Staff	0.40	0.53	1.50	1.82	2.28	2.47	2.91	3.14
	Support Staff (other)	2.75	6.47	10.66	15.10	21.16	27.37	29.56	31.92
	Total	11.39	19.90	31.25	42.96	58.27	72.26	81.02	88.38
2	Others-Components	2.28	3.98	6.56	9.02	12.82	15.90	18.64	20.33
	(Leave Encash ,T.A./L.T.C., Children Edu. Allowances, Prof. Dev. Allowances,Retirement Benefits, other allowances)								
	Total (1+2)	13.67	23.88	37.81	51.98	71.09	88.16	99.66	108.70

B IKGPTU-AMRITSAR CAMPUS

POSTS	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8
FACULTY								
Principal/Director	0.20	0.21	0.23	0.25	0.27	0.29	0.31	0.34
Professors	0.18	0.20	0.21	0.46	0.50	0.54	0.58	0.63
Associate Professors	-	0.18	0.40	0.64	0.93	1.25	1.35	1.46
Assistant Professors	-	0.17	0.36	0.58	0.73	1.13	1.22	1.32
Sub- Total Faculty Cadres	0.38	0.76	1.20	1.94	2.43	3.21	3.47	3.75
ACADEMIC NON-FACULTY								
Asst. Librarian	0.08	0.08	0.09	0.10	0.10	0.11	0.12	0.13
Asst. Workshop Superintendent	-	-	-	-	-	-	-	-
Sub- Total Non-Faculty Cadres	0.08	0.08	0.09	0.10	0.10	0.11	0.12	0.13
TOTAL	0.46	0.84	1.29	2.03	2.53	3.33	3.59	3.88

POSTS	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8
Category-II								
II-A	0.08	0.09	0.20	0.21	0.23	0.25	0.27	0.29
II-B	0.08	0.08	0.18	0.19	0.31	0.34	0.36	0.39
Category-III								
III-A	0.06	0.19	0.34	0.58	0.79	1.02	1.10	1.19
III-B	-	0.18	0.33	0.56	0.76	0.90	0.97	1.05
Category-IV								
IV-A	0.04	0.08	0.13	0.18	0.25	0.38	0.41	0.44
IVB	0.03	0.07	0.12	0.13	0.18	0.30	0.32	0.35
Grand Total	0.29	0.69	1.28	1.86	2.52	3.18	3.43	3.71

Sl. No.	Head of expenditure	A.Y.1	A.Y.2	A.Y.3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8
1	Salary								
	Faculty Staff	0.38	0.76	1.20	1.94	2.43	3.21	3.47	3.75
	Non - Faculty Academic Staff	0.08	0.08	0.09	0.10	0.10	0.11	0.12	0.13
	Support Staff (other)	0.29	0.69	1.28	1.86	2.52	3.18	3.43	3.71
	Total	0.75	1.54	2.57	3.89	5.05	6.50	7.02	7.59
2	Others-Components	0.15	0.31	0.54	0.82	1.11	1.43	1.62	1.74
	(Leave Encash ,T.A./L.T.C., Children Edu. Allowances, Prof. Dev. Allowances,Retirement Benefits, other allowances)								
	Total (1+2)	0.89	1.84	3.11	4.71	6.16	7.94	8.64	9.33

C

IKGPTU-BATALA CAMPUS

POSTS	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8
FACULTY								
Principal/Director	0.20	0.21	0.23	0.25	0.27	0.29	0.31	0.34
Professors	-	0.40	0.64	0.93	1.00	1.08	1.17	1.26
Associate Professors	0.17	0.55	1.19	1.93	2.09	2.26	2.44	2.63
Assistant Professors	0.15	0.58	0.99	1.65	1.78	1.93	2.08	2.25
Sub- Total Faculty Cadres	0.52	1.74	3.05	4.76	5.14	5.55	5.99	6.47
ACADEMIC NON-FACULTY								
Asst. Librarian	0.08	0.08	0.09	0.10	0.10	0.11	0.12	0.13
Asst. Workshop Superintendent	-	-	-	-	-	-	-	-
Sub- Total Non-Faculty Cadres	0.08	0.08	0.09	0.10	0.10	0.11	0.12	0.13
TOTAL	0.60	1.83	3.14	4.85	5.24	5.66	6.11	6.60

POSTS	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8
Category-II								
II-A	0.08	0.09	0.20	0.21	0.23	0.25	0.27	0.29
II-B	0.08	0.08	0.18	0.19	0.31	0.34	0.36	0.39
Category-III								
III-A	0.06	0.25	0.40	0.66	0.94	1.19	1.28	1.39
III-B	-	0.18	0.33	0.63	0.83	1.07	1.15	1.24
Category-IV								
IV-A	0.04	0.08	0.13	0.18	0.25	0.38	0.41	0.44
IVB	0.03	0.07	0.12	0.13	0.18	0.30	0.32	0.35
Grand Total	0.29	0.76	1.35	2.00	2.75	3.51	3.79	4.10

Sl. No.	Head of expenditure	A.Y.1	A.Y.2	A.Y.3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8
1	Salary								
	Faculty Staff	0.52	1.74	3.05	4.76	5.14	5.55	5.99	6.47
	Non - Faculty Academic Staff	0.08	0.08	0.09	0.10	0.10	0.11	0.12	0.13
	Support Staff (other)	0.29	0.76	1.35	2.00	2.75	3.51	3.79	4.10
	Total	0.89	2.58	4.49	6.86	7.99	9.17	9.91	10.70
2	Others-Components	0.18	0.52	0.94	1.44	1.76	2.02	2.28	2.46
	(Leave Encash ,T.A./L.T.C., Children Edu. Allowances, Prof. Dev. Allowances,Retirement Benefits, other allowances)								
	Total (1+2)	1.06	3.10	5.44	8.30	9.75	11.19	12.19	13.16

D IKGPTU-BHIKI WIND CAMPUS

POSTS	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8
FACULTY								
Principal/Director	0.20	0.21	0.23	0.25	0.27	0.29	0.31	0.34
Professors	-	0.20	0.43	0.69	0.75	0.81	0.87	0.94
Associate Professors	0.17	0.37	0.80	1.29	1.39	1.50	1.62	1.75
Assistant Professors	0.08	0.42	0.72	1.07	1.15	1.25	1.35	1.45
Sub- Total Faculty Cadres	0.44	1.19	2.17	3.30	3.56	3.85	4.16	4.49
ACADEMIC NON-FACULTY								
Asst. Librarian	0.08	0.08	0.09	0.10	0.10	0.11	0.12	0.13
Asst. Workshop Superintendent	-	-	-	-	-	-	-	-
Sub- Total Non-Faculty Cadres	0.08	0.08	0.09	0.10	0.10	0.11	0.12	0.13
TOTAL	0.52	1.28	2.26	3.40	3.67	3.96	4.28	4.62

POSTS	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8
Category-II								
II-A	0.08	0.09	0.20	0.21	0.23	0.25	0.27	0.29
II-B	0.08	0.08	0.18	0.19	0.31	0.34	0.36	0.39
Category-III								
III-A	0.06	0.25	0.34	0.58	0.79	1.02	1.10	1.19
III-B	-	0.18	0.33	0.56	0.76	0.90	0.97	1.05
Category-IV								
IV-A	0.04	0.08	0.13	0.18	0.25	0.38	0.41	0.44
IVB	0.03	0.07	0.12	0.13	0.18	0.30	0.32	0.35

Grand Total	0.29	0.76	1.28	1.86	2.52	3.18	3.43	3.71
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Sl. No.	Head of expenditure	A.Y.1	A.Y.2	A.Y.3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8
1	Salary								
	Faculty Staff	0.44	1.19	2.17	3.30	3.56	3.85	4.16	4.49
	Non - Faculty Academic Staff	0.08	0.08	0.09	0.10	0.10	0.11	0.12	0.13
	Support Staff (other)	0.29	0.76	1.28	1.86	2.52	3.18	3.43	3.71
	Total	0.81	2.03	3.54	5.26	6.18	7.14	7.71	8.33
2	Others-Components	0.16	0.41	0.74	1.10	1.36	1.57	1.77	1.91
	(Leave Encash ,T.A./L.T.C., Children Edu. Allowances, Prof. Dev. Allowances,Retirement Benefits, other allowances)								
	Total (1+2)	0.97	2.44	4.29	6.36	7.55	8.71	9.48	10.24

E IKGPTU-DINANAGAR CAMPUS

POSTS	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8
FACULTY								
Principal/Director	0.20	0.21	0.23	0.25	0.27	0.29	0.31	0.34
Professors	0.18	0.40	0.64	0.93	1.00	1.08	1.17	1.26
Associate Professors	0.17	0.55	1.19	1.50	1.86	2.26	2.44	2.63
Assistant Professors	0.23	0.58	0.99	1.46	1.78	2.15	2.32	2.51
Sub- Total Faculty Cadres	0.78	1.74	3.05	4.13	4.91	5.78	6.24	6.74
ACADEMIC NON-FACULTY								
Asst. Librarian	0.08	0.09	0.10	0.11	0.11	0.12	0.13	0.14
Asst. Workshop Superintendent	-	-	-	-	-	-	-	-
Sub- Total Non-Faculty Cadres	0.08	0.09	0.10	0.11	0.11	0.12	0.13	0.14
TOTAL	0.86	1.84	3.15	4.24	5.02	5.90	6.37	6.88

POSTS	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8
Category-II								
II-A	0.08	0.09	0.20	0.21	0.23	0.25	0.27	0.29
II-B	0.08	0.08	0.18	0.19	0.31	0.34	0.36	0.39
Category-III								
III-A	0.06	0.25	0.34	0.58	0.79	1.02	1.10	1.19
III-B	-	0.18	0.33	0.56	0.76	0.90	0.97	1.05
Category-IV								
IV-A	0.04	0.08	0.13	0.18	0.25	0.38	0.41	0.44
IVB	0.03	0.07	0.12	0.13	0.18	0.30	0.32	0.35
Grand Total	0.29	0.76	1.28	1.86	2.52	3.18	3.43	3.71

Sl. No.	Head of expenditure	A.Y.1	A.Y.2	A.Y.3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8
1	Salary								
	Faculty Staff	0.78	1.74	3.05	4.13	4.91	5.78	6.24	6.74
	Non - Faculty Academic Staff	0.08	0.09	0.10	0.11	0.11	0.12	0.13	0.14
	Support Staff (other)	0.29	0.76	1.28	1.86	2.52	3.18	3.43	3.71
	Total	1.15	2.59	4.43	6.10	7.54	9.08	9.80	10.59
2	Others-Components	0.23	0.52	0.93	1.28	1.66	2.00	2.25	2.44
	(Leave Encash ,T.A./L.T.C., Children Edu. Allowances, Prof. Dev. Allowances,Retirement Benefits, other allowances)								
	Total (1+2)	1.38	3.11	5.37	7.38	9.20	11.07	12.06	13.02

F

IKGPTU-HOSHIARPUR CAMPUS

POSTS	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8
FACULTY								
Principal/Director	0.20	0.21	0.23	0.25	0.27	0.29	0.31	0.34
Professors	0.18	0.40	0.86	1.39	1.50	1.62	1.75	1.89
Associate Professors	0.17	0.92	1.59	2.36	2.55	2.76	2.98	3.22
Assistant Professors	0.15	0.75	1.44	2.23	2.41	2.60	2.81	3.04
Sub- Total Faculty Cadres	0.70	2.28	4.12	6.23	6.73	7.27	7.85	8.48
ACADEMIC NON-FACULTY								
Asst. Librarian	0.08	0.08	0.09	0.10	0.10	0.11	0.12	0.13
Asst. Workshop Superintendent								
Sub- Total Non-Faculty Cadres	0.08	0.08	0.09	0.10	0.10	0.11	0.12	0.13
TOTAL	0.78	2.36	4.21	6.33	6.84	7.38	7.97	8.61

POSTS	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8
Category-II								
II-A	0.08	0.09	0.20	0.21	0.23	0.25	0.27	0.29
II-B	0.08	0.08	0.18	0.19	0.31	0.34	0.36	0.39
Category-III								
III-A	0.06	0.25	0.40	0.66	0.94	1.19	1.28	1.39
III-B	-	0.18	0.33	0.63	0.91	1.15	1.24	1.34
Category-IV								
IV-A	0.04	0.08	0.13	0.18	0.25	0.38	0.41	0.44
IVB	0.03	0.07	0.12	0.13	0.18	0.30	0.32	0.35
Grand Total	0.29	0.76	1.35	2.00	2.83	3.59	3.88	4.19

Sl. No.	Head of expenditure	A.Y.1	A.Y.2	A.Y.3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8
1	Salary								
	Faculty Staff	0.70	2.28	4.12	6.23	6.73	7.27	7.85	8.48
	Non - Faculty Academic Staff	0.08	0.08	0.09	0.10	0.10	0.11	0.12	0.13
	Support Staff (other)	0.29	0.76	1.35	2.00	2.83	3.59	3.88	4.19
	Total	1.07	3.12	5.56	8.33	9.66	10.98	11.85	12.80
2	Others-Components	0.21	0.62	1.17	1.75	2.13	2.41	2.73	2.94
	(Leave Encash ,T.A./L.T.C., Children Edu. Allowances, Prof. Dev. Allowances,Retirement Benefits, other allowances)								
	Total (1+2)	1.28	3.74	6.72	10.08	11.79	13.39	14.58	15.75

G IKGPTU-SULTANPUR LODHI CAMPUS

POSTS	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8
FACULTY								
Principal/Director	0.20	0.21	0.23	0.25	0.27	0.29	0.31	0.34
Professors	-	0.20	0.64	0.93	1.25	1.35	1.46	1.57
Associate Professors	-	0.37	0.99	1.50	2.09	2.26	2.44	2.63
Assistant Professors	-	0.42	0.90	1.36	1.89	2.04	2.20	2.38
Sub- Total Faculty Cadres	0.20	1.19	2.77	4.04	5.49	5.93	6.41	6.92
ACADEMIC NON-FACULTY								
Asst. Librarian	0.08	0.08	0.09	0.10	0.10	0.11	0.12	0.13
Asst. Workshop Superintendent	-	###	-	-	###	-	-	-
Sub- Total Non-Faculty Cadres	0.08	0.08	0.09	0.10	0.10	0.11	0.12	0.13
TOTAL	0.27	1.28	2.86	4.13	5.60	6.04	6.53	7.05

POSTS	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8
Category-II								
II-A	0.08	0.09	0.20	0.21	0.23	0.25	0.27	0.29
II-B	0.08	0.08	0.18	0.19	0.31	0.34	0.36	0.39
Category-III								
III-A	0.06	0.25	0.40	0.73	0.94	1.27	1.38	1.49
III-B	0.06	0.18	0.33	0.63	0.91	1.15	1.24	1.34
Category-IV								
IV-A	0.04	0.08	0.13	0.18	0.25	0.38	0.41	0.44
IVB	0.03	0.07	0.12	0.13	0.18	0.30	0.32	0.35
Grand Total	0.34	0.76	1.35	2.08	2.83	3.68	3.97	4.29

Sl. No.	Head of expenditure	A.Y.1	A.Y.2	A.Y.3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8
1	Salary								
	Faculty Staff	0.20	1.19	2.77	4.04	5.49	5.93	6.41	6.92
	Non - Faculty Academic Staff	0.08	0.08	0.09	0.10	0.10	0.11	0.12	0.13
	Support Staff (other)	0.34	0.76	1.35	2.08	2.83	3.68	3.97	4.29
	Total	0.62	2.03	4.20	6.21	8.42	9.72	10.50	11.34
2	Others-Components	0.12	0.41	0.88	1.30	1.85	2.14	2.42	2.61
	(Leave Encash ,T.A./L.T.C., Children Edu. Allowances, Prof. Dev. Allowances,Retirement Benefits, other allowances)								
	Total (1+2)	0.74	2.44	5.09	7.51	10.28	11.86	12.92	13.95

Annexure 9.6

A.Y. 9	A.Y. 10
0.44	0.48
5.81	6.27
2.18	2.35
27.20	29.37
33.15	35.80
29.25	31.59
98.03	105.87
0.31	0.33
0.47	0.51
1.58	1.71
0.16	0.17
0.32	0.35
0.15	0.16
0.14	0.15
1.14	1.23
4.26	4.60
102.29	110.47

A.Y. 9	A.Y. 10
0.31	0.33
0.31	0.33
0.31	0.33
5.59	6.03
5.95	6.42
16.26	17.56
15.07	16.28
8.69	9.38
7.60	8.20
60.06	64.87

A.Y. 9	A.Y. 10
98.03	105.87
4.26	4.60
60.06	64.87
162.35	175.34
38.96	43.83
201.31	219.17

A.Y. 9	A.Y. 10
0.44	0.48
5.81	6.27
19.04	20.56
17.68	19.09
15.27	16.49
58.24	62.90
0.31	0.33
0.47	0.51
0.71	0.77
0.16	0.17
0.32	0.35
0.15	0.16
0.14	0.15
1.14	1.23
3.39	3.66
61.63	66.56

A.Y. 9	A.Y. 10
0.31	0.33
0.31	0.33
0.31	0.33
3.72	4.02
3.40	3.67
7.81	8.43
7.43	8.03
5.84	6.30

5.35	5.78
34.47	37.23

A.Y. 9	A.Y. 10
58.24	62.90
3.39	3.66
34.47	37.23
96.10	103.79
23.06	25.95
119.17	129.74



A.Y. 9	A.Y. 10
0.36	0.39
0.68	0.73
1.58	1.70
1.43	1.54
4.05	4.37
0.14	0.15
-	-
0.14	0.15
4.19	4.53

A.Y. 9	A.Y. 10
0.31	0.34
0.42	0.46
1.28	1.39
1.14	1.23
0.48	0.51
0.37	0.40
4.00	4.32

A.Y. 9	A.Y. 10
4.05	4.37
0.14	0.15
4.00	4.32
8.19	8.85
1.97	2.21
10.16	11.06

A.Y. 9	A.Y. 10
0.36	0.39
1.36	1.47
2.84	3.07
2.43	2.62
6.99	7.55
0.14	0.15
-	-
0.14	0.15
7.13	7.70

A.Y. 9	A.Y. 10
0.31	0.34
0.42	0.46
1.50	1.62
1.34	1.45
0.48	0.51
0.37	0.40
4.42	4.78

A.Y. 9	A.Y. 10
6.99	7.55
0.14	0.15
4.42	4.78
11.56	12.48
2.77	3.12
14.33	15.60

A.Y. 9	A.Y. 10
0.36	0.39
1.02	1.10
1.89	2.05
1.57	1.69
4.85	5.23
0.14	0.15
-	-
0.14	0.15
4.99	5.39

A.Y. 9	A.Y. 10
0.31	0.34
0.42	0.46
1.28	1.39
1.14	1.23
0.48	0.51
0.37	0.40

4.00	4.32
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A.Y. 9	A.Y. 10
4.85	5.23
0.14	0.15
4.00	4.32
8.99	9.71
2.16	2.43
11.15	12.14

A.Y. 9	A.Y. 10
0.36	0.39
1.36	1.47
2.84	3.07
2.71	2.93
7.27	7.86
0.16	0.17
-	-
0.16	0.17
7.43	8.03

A.Y. 9	A.Y. 10
0.31	0.34
0.42	0.46
1.28	1.39
1.14	1.23
0.48	0.51
0.37	0.40
4.00	4.32

A.Y. 9	A.Y. 10
7.27	7.86
0.16	0.17
4.00	4.32
11.43	12.35
2.74	3.09
14.18	15.44

A.Y. 9	A.Y. 10
0.36	0.39
2.04	2.20
3.47	3.75
3.28	3.54
9.16	9.89
0.14	0.15
0.14	0.15
9.30	10.04

A.Y. 9	A.Y. 10
0.31	0.34
0.42	0.46
1.50	1.62
1.45	1.56
0.48	0.51
0.37	0.40
4.53	4.89

A.Y. 9	A.Y. 10
9.16	9.89
0.14	0.15
4.53	4.89
13.83	14.93
3.32	3.73
17.14	18.66

A.Y. 9	A.Y. 10
0.36	0.39
1.70	1.84
2.84	3.07
2.57	2.77
7.47	8.07
0.14	0.15
-	-
0.14	0.15
7.61	8.22

A.Y. 9	A.Y. 10
0.31	0.34
0.42	0.46
1.60	1.73
1.45	1.56
0.48	0.51
0.37	0.40
4.63	5.00

A.Y. 9	A.Y. 10
7.47	8.07
0.14	0.15
4.63	5.00
12.25	13.23
2.94	3.31
15.19	16.53

IKGPTU

Administation Expenses Per Students

Cost Per Students

No. of Students	Yearly	810	2245	3700	5245	6260
Increment	Expenditure	810	1435	1455	1545	1015
% INCREMENT	Per Student	100	177.16	64.81	41.76	19.35
Particulars		A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5
Printing & Stationery & Examination Exps	2,500.00	0.203	0.577	0.998	1.494	1.903
Telephone /Fax/ Lease Line Rent	2,000.00	0.162	0.462	0.798	1.196	1.523
Postage & Courier Charges	500.00	0.041	0.115	0.200	0.299	0.381
Entertainment Expenses	650.00	0.053	0.150	0.259	0.389	0.495
Advertisement & Publicity	2,218.00	0.180	0.512	0.885	1.326	1.688
Canteen & Service exp.	850.00	0.069	0.196	0.339	0.508	0.647
Travelling & Conveyance	2,100.00	0.170	0.485	0.838	1.255	1.599
Other Expenses	1,200.00	0.097	0.277	0.479	0.717	0.914
GRAND TOTAL		0.973	2.776	4.797	7.184	9.149

Administation Expenses Per Faculty

Cost Per Faculty

No. of Academic Staff	Yearly	110	210	322	433	514
Increment	Expenditure	134	100	112	111	81
% INCREMENT	Per Faculty	100.00	90.91	53.33	34.47	18.71
Particulars		A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5
Printing & Stationery & Examination Exps	3,500.00	0.047	0.093	0.151	0.214	0.272
Telephone /Fax/ Lease Line Rent	3,500.00	0.047	0.093	0.151	0.214	0.272
Postage & Courier Charges	650.00	0.009	0.017	0.028	0.040	0.050
Entertainment Expenses	800.00	0.011	0.021	0.034	0.049	0.062
Advertisement & Publicity	6,500.00	0.087	0.173	0.280	0.398	0.505
Canteen & Service exp.	3,500.00	0.047	0.093	0.151	0.214	0.272
Travelling & Conveyance	6,500.00	0.087	0.173	0.280	0.398	0.505
Other Expenses	1,650.00	0.022	0.044	0.071	0.101	0.128
GRAND TOTAL		0.356	0.709	1.144	1.630	2.065

Annexure 9.11

(in Crores)

6970	7240	7320	7350	7350
710	270	80	30	0
11.34	3.87	1.10	0.41	-
A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
2.271	2.541	2.772	3.005	3.246
1.817	2.033	2.218	2.404	2.597
0.454	0.508	0.554	0.601	0.649
0.591	0.661	0.721	0.781	0.844
2.015	2.254	2.460	2.666	2.880
0.772	0.864	0.943	1.022	1.104
1.908	2.134	2.329	2.525	2.727
1.090	1.220	1.331	1.443	1.558
10.918	12.215	13.327	14.448	15.604

(in Crores)

577	592	598	600	600
63	15	6	2	0
12.26	2.60	1.01	0.33	-
A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
0.327	0.361	0.394	0.427	0.461
0.327	0.361	0.394	0.427	0.461
0.061	0.067	0.073	0.079	0.086
0.075	0.083	0.090	0.098	0.105
0.607	0.671	0.732	0.793	0.856
0.327	0.361	0.394	0.427	0.461
0.607	0.671	0.732	0.793	0.856
0.154	0.170	0.186	0.201	0.217
2.483	2.746	2.994	3.243	3.503

SCHOOL WISE

CALCULATION SHEET OF GENERAL ADMINISTRATIVE EXPENSES

IKGPTU-MAIN CAMPUS KAPURTHALA

Total No. of Students	585	1350	2080	2950	3785	4420	4690
Total No. of Faculty & Staff	126	246	376	507	641	762	777

Particulars	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7
Printing & Stationery & Examination Exps	0.20	0.46	0.74	1.09	1.49	1.87	2.12
Telephone /Fax/ Lease Line Rent	0.15	0.35	0.58	0.88	1.22	1.57	1.79
Postage & Courier Charges	0.04	0.09	0.14	0.21	0.29	0.37	0.42
Entertainment Expenses	0.05	0.12	0.19	0.28	0.38	0.47	0.54
Advertisement & Publicity	0.23	0.51	0.82	1.21	1.65	2.08	2.34
Canteen & Service exp.	0.10	0.23	0.37	0.54	0.73	0.92	1.03
Travelling & Conveyance	0.22	0.49	0.80	1.17	1.60	2.01	2.26
Other Expenses	0.10	0.22	0.35	0.52	0.71	0.89	1.01
Fellowship & Scholarship Exps	1.72	4.07	5.01	6.65	9.48	11.16	11.16
Subscription to e journals	1.00	1.25	1.50	1.70	1.75	1.80	2.00
Repair & Maint., Insurance	0.09	0.24	0.42	0.58	0.94	1.00	1.50

TOTAL	3.89	8.02	10.92	14.85	20.23	24.15	26.18
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IKGPTU-AMRITSAR CAMPUS

Total No. of Students	15	60	115	190	220	250	250
Total No. of Faculty & Staff	8	18	29	40	49	60	60

Particulars	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7
Printing & Stationery & Examination Exps	0.01	0.02	0.04	0.07	0.09	0.12	0.12
Telephone /Fax/ Lease Line Rent	0.01	0.02	0.03	0.06	0.08	0.10	0.11
Postage & Courier Charges	0.01	0.00	0.01	0.01	0.02	0.02	0.02
Entertainment Expenses	0.01	0.01	0.01	0.02	0.02	0.03	0.03
Advertisement & Publicity	0.01	0.03	0.05	0.08	0.11	0.14	0.15
Canteen & Service exp.	0.01	0.01	0.02	0.04	0.05	0.06	0.07
Travelling & Conveyance	0.01	0.03	0.05	0.08	0.10	0.13	0.14
Other Expenses	0.01	0.01	0.02	0.04	0.04	0.06	0.06
Repair & Maint., Insurance	0.02	0.04	0.05	0.06	0.07	0.08	0.11
TOTAL	0.08	0.17	0.30	0.47	0.59	0.72	0.81

IKGPTU-BATALA CAMPUS

Total No. of Students	45	180	315	450	450	450	450
Total No. of Faculty & Staff	10	27	43	61	69	77	77

Particulars	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7
Printing & Stationery & Examination Exps	0.02	0.06	0.11	0.16	0.17	0.19	0.20
Telephone /Fax/ Lease Line Rent	0.01	0.04	0.08	0.13	0.14	0.16	0.17
Postage & Courier Charges	0.01	0.01	0.02	0.03	0.03	0.04	0.04
Entertainment Expenses	0.01	0.01	0.03	0.04	0.04	0.05	0.05
Advertisement & Publicity	0.02	0.06	0.11	0.17	0.19	0.21	0.23
Canteen & Service exp.	0.01	0.03	0.05	0.07	0.08	0.09	0.10
Travelling & Conveyance	0.02	0.06	0.11	0.16	0.18	0.20	0.22
Other Expenses	0.01	0.03	0.05	0.08	0.08	0.09	0.10
Repair & Maint., Insurance	0.03	0.05	0.07	0.09	0.11	0.11	0.17
TOTAL	0.12	0.36	0.63	0.93	1.04	1.15	1.29

IKGPTU-BHIKIWIND CAMPUS

Total No. of Students	30	120	210	300	300	300	300
Total No. of Faculty & Staff	9	23	36	49	56	63	63

Particulars	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7
Printing & Stationery & Examination Exps	0.01	0.04	0.07	0.11	0.12	0.13	0.14
Telephone /Fax/ Lease Line Rent	0.01	0.03	0.06	0.09	0.10	0.11	0.12
Postage & Courier Charges	0.01	0.01	0.01	0.02	0.02	0.03	0.03
Entertainment Expenses	0.01	0.01	0.02	0.03	0.03	0.03	0.04
Advertisement & Publicity	0.01	0.05	0.08	0.12	0.14	0.15	0.16
Canteen & Service exp.	0.01	0.02	0.04	0.05	0.06	0.07	0.07
Travelling & Conveyance	0.01	0.04	0.08	0.12	0.13	0.15	0.16
Other Expenses	0.01	0.02	0.04	0.05	0.06	0.06	0.07
Repair & Maint., Insurance	0.02	0.04	0.06	0.08	0.09	0.09	0.14
TOTAL	0.09	0.27	0.45	0.67	0.75	0.83	0.94

IKGPTU-DINANAGAR CAMPUS

Total No. of Students	75	180	300	390	435	480	480
Total No. of Faculty & Staff	12	27	42	55	65	75	75

Particulars	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7
Printing & Stationery & Examination Exps	0.02	0.06	0.10	0.14	0.17	0.20	0.21
Telephone /Fax/ Lease Line Rent	0.02	0.04	0.08	0.11	0.14	0.17	0.18
Postage & Courier Charges	0.01	0.01	0.02	0.03	0.03	0.04	0.04
Entertainment Expenses	0.01	0.01	0.03	0.04	0.04	0.05	0.05
Advertisement & Publicity	0.03	0.06	0.11	0.15	0.18	0.22	0.23
Canteen & Service exp.	0.01	0.03	0.05	0.07	0.08	0.10	0.10
Travelling & Conveyance	0.03	0.06	0.10	0.14	0.17	0.21	0.23
Other Expenses	0.01	0.03	0.05	0.07	0.08	0.10	0.10
Repair & Maint., Insurance	0.03	0.06	0.07	0.09	0.11	0.12	0.17
TOTAL	0.16	0.37	0.61	0.83	1.00	1.19	1.33

IKGPTU-HOSHIARPUR CAMPUS

Total No. of Students	60	240	420	600	600	600	600
Total No. of Faculty & Staff	11	31	51	71	80	88	88

Particulars	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7
Printing & Stationery & Examination Exps	0.02	0.08	0.14	0.21	0.22	0.25	0.26
Telephone /Fax/ Lease Line Rent	0.01	0.06	0.11	0.17	0.18	0.20	0.22
Postage & Courier Charges	0.01	0.01	0.03	0.04	0.04	0.05	0.05
Entertainment Expenses	0.01	0.02	0.03	0.05	0.06	0.06	0.07
Advertisement & Publicity	0.02	0.08	0.14	0.22	0.24	0.27	0.29
Canteen & Service exp.	0.01	0.03	0.06	0.09	0.10	0.12	0.13
Travelling & Conveyance	0.02	0.08	0.14	0.21	0.23	0.26	0.28
Other Expenses	0.01	0.04	0.07	0.10	0.11	0.12	0.13
Repair & Maint., Insurance	0.02	0.05	0.07	0.09	0.10	0.11	0.16
TOTAL	0.14	0.45	0.79	1.17	1.30	1.43	1.58

IKGPTU-SULTANPUR LODHI CAMPUS

Total No. of Students	0	115	260	365	470	470	470
Total No. of Faculty & Staff	8	23	41	57	72	81	81

Particulars	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7
Printing & Stationery & Examination Exps	0.01	0.04	0.09	0.13	0.18	0.20	0.21
Telephone /Fax/ Lease Line Rent	0.01	0.03	0.07	0.11	0.15	0.17	0.18
Postage & Courier Charges	0.00	0.01	0.02	0.03	0.04	0.04	0.04
Entertainment Expenses	0.00	0.01	0.02	0.03	0.05	0.05	0.05
Advertisement & Publicity	0.01	0.05	0.10	0.14	0.20	0.22	0.24
Canteen & Service exp.	0.01	0.02	0.04	0.06	0.09	0.10	0.11
Travelling & Conveyance	0.01	0.04	0.09	0.14	0.19	0.21	0.23
Other Expenses	0.01	0.02	0.04	0.06	0.09	0.10	0.10
Repair & Maint., Insurance	0.02	0.05	0.07	0.09	0.10	0.11	0.16
TOTAL	0.07	0.27	0.55	0.80	1.07	1.19	1.33

Calulation of Repair and Mtc. Exps							
Total Capital Cost	AY 1	AY 2	AY 3	AY 4	AY 5	AY 6	AY 7
Campus Wise							
% age of Exps	0.0015	0.0016	0.0017	0.0018	0.0019	0.002	0.003
Main	60.02	149.47	248.23	323.98	494.50	497.82	499.23
Amritsar	11.19	22.53	28.19	33.92	37.60	37.68	37.68
Batala	17.04	34.32	42.93	51.66	57.26	57.38	57.38
Bhikiwind	13.81	27.80	34.77	41.82	46.38	46.46	46.46
Dina Nagar	17.28	34.80	43.54	52.39	58.07	58.19	58.19
Hoshiarpur	16.00	32.24	40.34	48.55	53.81	53.93	53.93
Sultan Pur Lodhi	15.80	31.85	39.85	47.96	53.15	53.27	53.27
G.Total	151.15	333.01	477.85	600.29	800.78	804.73	806.14

Annexure 9.7



(IN CRORE)

4770	4800	4800
783	785	785

A.Y. 8	A.Y. 9	A.Y. 10
2.32	2.52	2.72
1.96	2.13	2.30
0.46	0.50	0.54
0.59	0.64	0.69
2.56	2.78	3.00
1.13	1.23	1.32
2.48	2.69	2.90
1.11	1.21	1.30
11.16	12.57	12.57
2.50	2.75	3.00
2.00	2.50	3.00

28.27	31.50	33.35
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(IN CRORE)

250	250	250
60	60	60

A.Y. 8	A.Y. 9	A.Y. 10
0.13	0.14	0.16
0.12	0.12	0.13
0.03	0.03	0.03
0.03	0.04	0.04
0.16	0.17	0.18
0.07	0.08	0.08
0.15	0.17	0.18
0.06	0.07	0.07
0.15	0.19	0.23
0.91	1.00	1.11

(IN CRORE)

450	450	450
77	77	77

A.Y. 8	A.Y. 9	A.Y. 10
0.22	0.24	0.26
0.19	0.20	0.22
0.04	0.05	0.05
0.06	0.06	0.07
0.25	0.26	0.29
0.11	0.12	0.13
0.24	0.26	0.28
0.11	0.11	0.12
0.23	0.29	0.34
1.43	1.59	1.75

(IN CRORE)

300	300	300
63	63	63

A.Y. 8	A.Y. 9	A.Y. 10
0.16	0.17	0.18
0.13	0.14	0.15
0.03	0.03	0.04
0.04	0.04	0.05
0.18	0.19	0.21
0.08	0.09	0.09
0.17	0.19	0.20
0.07	0.08	0.09
0.19	0.23	0.28
1.05	1.16	1.28

(IN CRORE)

480	480	480
75	75	75

A.Y. 8	A.Y. 9	A.Y. 10
0.23	0.25	0.27
0.19	0.21	0.23
0.05	0.05	0.05
0.06	0.06	0.07
0.25	0.27	0.30
0.11	0.12	0.13
0.24	0.26	0.29
0.11	0.12	0.13
0.23	0.29	0.35
1.48	1.64	1.81

(IN CRORE)

600	600	600
88	88	88

A.Y. 8	A.Y. 9	A.Y. 10
0.29	0.31	0.33
0.24	0.26	0.28
0.06	0.06	0.07
0.07	0.08	0.08
0.31	0.33	0.36
0.14	0.15	0.16
0.30	0.32	0.35
0.14	0.15	0.16
0.22	0.27	0.32
1.75	1.92	2.11

(IN CRORE)

470	470	470
81	81	81

A.Y. 8	A.Y. 9	A.Y. 10
0.23	0.25	0.27
0.20	0.21	0.23
0.05	0.05	0.05
0.06	0.06	0.07
0.26	0.28	0.30
0.11	0.12	0.13
0.25	0.27	0.29
0.11	0.12	0.13
0.21	0.27	0.32
1.47	1.63	1.79

AY 8	AY 9	AY 10
0.004	0.005	0.006
499.65	499.80	499.80
37.68	37.68	37.68
57.38	57.38	57.38
46.46	46.46	46.46
58.19	58.19	58.19
53.93	53.93	53.93
53.27	53.27	53.27
806.56	806.72	806.72

I K GUJRAL PUNJAB TECHNICAL UNIVERSITY

Particulars	Basic Range	Grade Pay/Spl. Allowance	Starting Basic Pay	DA (125% of Avg Basic + Grade Pay)	HRA (20% of Avg Basic + Grade Pay)	PF (12% of Avg Basic + Grade Pay + DA)
Vice Chancellor	75000		75000	93750	0	20250
Deans & Functional Deans/ Directors	37400-67000	10000	53000	78750	0	15810
Teaching						
PB-4						
Professor(HRA)	37400-67000	10000	46000	70000	11200	15120
Professor	37400-67000	10000	46000	70000	0	15120
Associate Professor(HRA)	37400-67000	9000	43000	65000	10400	14040
Associate Professor	37400-67000	9000	43000	65000	0	14040
PB-3						
Assistant Professor(HRA)	15600-39100	6000	17500	29375	4700	6345
Assistant Professor	15600-39100	6000	17500	29375	0	6345
Non-Teaching						
PB-4	37400-67000	10000	43000	66250	0	14310
PB- 3						
with HRA	15600-39100	7600	17500	31375	5020	6777
	15600-39100	7600	17500	31375	0	6777
with HRA	15600-39100	5400	17500	28625	4580	6183
	15600-39100	5400	17500	28625	0	6183
PB- 2						
with HRA	9300-34800	4800	12500	21625	3460	4671
	9300-34800	4800	12500	21625	0	4671
with HRA	9300-34800	4200	12500	20875	3340	4509
	9300-34800	4200	12500	20875	0	4509
PB- 1						
(No Accomodation Provided)	5200-20200	2800	8100	13625	2180	2943

5200-20200

1900

8100

12500

2000

2700

* Medical: Taken as equivalent to One month Basic Pay

** The Overall Impact of Seventh Pay Commission on the basis of present Recommendation will lead to additional financial implication of 30% (23.55+ allowance impact) over the salary worked out as per Sixth Pay commission as presently Government has set up Two review Committee its actual impact can not be evaluated.



*Medical (8.33% of Avg Basic + Grade Pay)	Spl. Allowance	Total Pay
6248	5000	200248
4415	1500	163475
4665	0	156985
4665	0	145785
4332	0	145772
4332	0	135372
1958	0	65878
1958	0	61178
4415	0	137975
2091	0	70363
2091	0	65343
1908	0	64196
1908	0	59616
1441	0	48497
1441	0	45037
1391	0	46815
1391	0	43475
908	0	30556

833

0

28033

CALCULATION SHEET FOR CONTRACTUAL STAFF - I K GUJRAL PUNJAB TI

Particulars	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5
Annual Salary (A)	120,000.00	129,600.00	139,968.00	151,165.00	163,258.00
(8% Incremental per year)					
Total Academic Staff (B)	110	210	322	433	514
Non-Teaching Staff on Roll (C)	74	185	296	407	518
Total Staff on Roll (B + C)	184	395	618	840	1032
Staff Outsourced (D)*	37	79	124	168	206
Total Contractual Staff Cost (F=A*D)	4,440,000.00	10,238,400.00	17,356,032.00	25,395,720.00	33,631,148.00
Total Contractual Staff Cost (in crore)	0.44	1.02	1.72	2.52	3.36

**** Note:-**

Calculation For Outsourced Staff

20% of Total Staff on Roll

SCHOOL WISE- REQUIREMENT OF CONTRACTUAL STAFF AND COST

IKGPTU-MAIN CAMPUS KAPURTHALA

Particulars	A.Y 1	A.Y 2	A.Y 3	A.Y. 4	A.Y. 5
Annual Salary (A)	120,000.00	129,600.00	139,968.00	151,165.00	163,258.00
(8% Incremental per year)					
Total Academic Staff (B)	83	138	203	269	338
Non-Teaching Staff on Roll (C)	43	108	173	238	303
Total Staff on Roll (B + C)	126	246	376	507	641
Staff Outsourced (D)*	25	49	75	101	128
Total Contractual Staff Cost (F=A*D)	3,000,000.00	6,350,400.00	10,497,600.00	15,267,665.00	20,897,024.00
Total Contractual Staff Cost (in crore)	0.30	0.64	1.05	1.53	2.09

IKGPTU-AMRITSAR CAMPUS

Particulars	A.Y 1	A.Y 2	A.Y 3	A.Y. 4	A.Y. 5
Annual Salary (A)	120,000.00	129,600.00	139,968.00	151,165.00	163,258.00
(8% Incremental per year)					
Total Academic Staff (B)	3	6	9	13	15
Non-Teaching Staff on Roll (C)	5	12	20	27	34
Total Staff on Roll (B + C)	8	18	29	40	49

Staff Outsourced (D)*	2	4	6	8	10
Total Contractual Staff Cost (F=A*D)	240,000.00	518,400.00	839,808.00	1,209,320.00	1,632,580.00
Total Contractual Staff Cost (in crore)	0.02	0.05	0.08	0.12	0.16

IKGPTU-BATALA CAMPUS

Particulars	A.Y 1	A.Y 2	A.Y 3	A.Y. 4	A.Y. 5
Annual Salary (A)	120,000.00	129,600.00	139,968.00	151,165.00	163,258.00
(8% Incremental per year)					
Total Academic Staff (B)	5	14	22	32	32
Non-Teaching Staff on Roll (C)	5	13	21	29	37
Total Staff on Roll (B + C)	10	27	43	61	69
Staff Outsourced (D)*	2	5	9	12	14
Total Contractual Staff Cost (F=A*D)	240,000.00	648,000.00	1,259,712.00	1,813,980.00	2,285,612.00
Total Contractual Staff Cost (in crore)	0.02	0.06	0.13	0.18	0.23

IKGPTU-BHIKIWIND CAMPUS

Particulars	A.Y 1	A.Y 2	A.Y 3	A.Y. 4	A.Y. 5
Annual Salary (A)	120,000.00	129,600.00	139,968.00	151,165.00	163,258.00
(8% Incremental per year)					
Total Academic Staff (B)	4	10	16	22	22
Non-Teaching Staff on Roll (C)	5	13	20	27	34
Total Staff on Roll (B + C)	9	23	36	49	56
Staff Outsourced (D)*	2	5	7	10	11
Total Contractual Staff Cost (F=A*D)	240,000.00	648,000.00	979,776.00	1,511,650.00	1,795,838.00
Total Contractual Staff Cost (in crore)	0.02	0.06	0.10	0.15	0.18

IKGPTU-DINANAGAR CAMPUS

Particulars	A.Y 1	A.Y 2	A.Y 3	A.Y. 4	A.Y. 5
Annual Salary (A)	120,000.00	129,600.00	139,968.00	151,165.00	163,258.00
(8% Incremental per year)					
Total Academic Staff (B)	7	14	22	28	31
Non-Teaching Staff on Roll (C)	5	13	20	27	34
Total Staff on Roll (B + C)	12	27	42	55	65
Staff Outsourced (D)*	2	5	8	11	13
Total Contractual Staff Cost (F=A*D)	240,000.00	648,000.00	1,119,744.00	1,662,815.00	2,122,354.00
Total Contractual Staff Cost (in crore)	0.02	0.06	0.11	0.17	0.21

IKGPTU-HOSHIARPUR CAMPUS

Particulars	A.Y 1	A.Y 2	A.Y 3	A.Y. 4	A.Y. 5
Annual Salary (A)	120,000.00	129,600.00	139,968.00	151,165.00	163,258.00
(8% Incremental per year)					

Total Academic Staff (B)	6	18	30	42	42
Non-Teaching Staff on Roll (C)	5	13	21	29	38
Total Staff on Roll (B + C)	11	31	51	71	80
Staff Outsourced (D)*	2	6	10	14	16
Total Contractual Staff Cost (F=A*D)	240,000.00	777,600.00	1,399,680.00	2,116,310.00	2,612,128.00
Total Contractual Staff Cost (in crore)	0.02	0.08	0.14	0.21	0.26

IKGPTU-SULTANPUR LODHI CAMPUS

Particulars	A.Y 1	A.Y 2	A.Y 3	A.Y. 4	A.Y. 5
Annual Salary (A)	120,000.00	129,600.00	139,968.00	151,165.00	163,258.00
(8% Incremental per year)					
Total Academic Staff (B)	2	10	20	27	34
Non-Teaching Staff on Roll (C)	6	13	21	30	38
Total Staff on Roll (B + C)	8	23	41	57	72
Staff Outsourced (D)*	2	5	8	11	14
Total Contractual Staff Cost (F=A*D)	240,000.00	648,000.00	1,119,744.00	1,662,815.00	2,285,612.00
Total Contractual Staff Cost (in crore)	0.02	0.06	0.11	0.17	0.23

Annexure 9.8

TECHNICAL UNIVERSITY

A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
176,319.00	190,425.00	205,659.00	222,112.00	239,881.00
577	592	598	600	600
629	629	629	629	629
1206	1221	1227	1229	1229
241	244	245	246	246
42,492,879.00	46,463,700.00	50,386,455.00	54,639,552.00	59,010,726.00
4.25	4.65	5.06	5.46	5.90



A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
176,319.00	190,425.00	205,659.00	222,112.00	239,881.00
394	409	415	417	417
368	368	368	368	368
762	777	783	785	785
152	155	157	157	157
26,800,488.00	29,515,875.00	32,288,463.00	34,871,584.00	37,661,317.00
2.68	2.95	3.23	3.49	3.77

A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
176,319.00	190,425.00	205,659.00	222,112.00	239,881.00
19	19	19	19	19
41	41	41	41	41
60	60	60	60	60

12	12	12	12	12
2,115,828.00	2,285,100.00	2,467,908.00	2,665,344.00	2,878,572.00
0.21	0.23	0.25	0.27	0.29

A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
176,319.00	190,425.00	205,659.00	222,112.00	239,881.00
32	32	32	32	32
45	45	45	45	45
77	77	77	77	77
15	15	15	15	15
2,644,785.00	2,856,375.00	3,084,885.00	3,331,680.00	3,598,215.00
0.26	0.29	0.31	0.33	0.36



A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
176,319.00	190,425.00	205,659.00	222,112.00	239,881.00
22	22	22	22	22
41	41	41	41	41
63	63	63	63	63
13	13	13	13	13
2,292,147.00	2,475,525.00	2,673,567.00	2,887,456.00	3,118,453.00
0.23	0.25	0.27	0.29	0.31

A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
176,319.00	190,425.00	205,659.00	222,112.00	239,881.00
34	34	34	34	34
41	41	41	41	41
75	75	75	75	75
15	15	15	15	15
2,644,785.00	2,856,375.00	3,084,885.00	3,331,680.00	3,598,215.00
0.26	0.29	0.31	0.33	0.36

A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
176,319.00	190,425.00	205,659.00	222,112.00	239,881.00

42	42	42	42	42
46	46	46	46	46
88	88	88	88	88
18	18	18	18	18
3,173,742.00	3,427,650.00	3,701,862.00	3,998,016.00	4,317,858.00
0.32	0.34	0.37	0.40	0.43

A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
176,319.00	190,425.00	205,659.00	222,112.00	239,881.00
34	34	34	34	34
47	47	47	47	47
81	81	81	81	81
16	16	16	16	16
2,821,104.00	3,046,800.00	3,290,544.00	3,553,792.00	3,838,096.00
0.28	0.30	0.33	0.36	0.38

CALCULATION SHEET FOR CONTRACTUAL SECURITY STAFF - I K GUJRAL PUNJ

Particulars	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5
Total Students (A)	810	2245	3700	5245	6260
Total No. of Security Guard (B)**	41	90	110	159	158
Annual Salary (C) (8% Incremental per year)	120000	129600	139968	151165	163258
No. of Shift (D)	3	3	3	3	3
(One Shift 8 hrs. Then total no. shift is 3 in day)					
Total Security charges (E=B*C*D)	14,760,000.00	34,992,000.00	46,189,440.00	72,105,705.00	77,384,292.00
Total Security charges (in crore)	1.48	3.50	4.62	7.21	7.74

**Note	41	90	110	159	158
Calculation of Security Guards	1.48	3.50	4.62	7.21	7.74
5% of Total Student Strength - Ist YR	-	-	-	-	-
4% of Total Student Strength- Next Year					
3% of Total Student Strength- Next two subsequent Years					
2.5% of Total Student Strength- Next Six Years					

SCHOOL WISE-CALCULATION SHEET FOR CONTRACTUAL SECURITY STAFF

IKGPTU-MAIN CAMPUS KAPURTHALA

Particulars	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5
Total Students (A)	585	1350	2080	2950	3785
Total No. of Security Guard (B)**	29	54	62	89	95
Annual Salary (C) (8% Incremental per year)	120000	129600	139968	151165	163258
No. of Shift (D)	3	3	3	3	3
(One Shift 8 hrs. Then total no. shift is 3 in day)					
Total Security charges (E=B*C*D)	10,440,000.00	20,995,200.00	26,034,048.00	40,361,055.00	46,528,530.00
Total Security charges (in crore)	1.04	2.10	2.60	4.04	4.65

IKGPTU-AMRITSAR CAMPUS

Particulars	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5
Total Students (A)	15	60	115	190	220
Total No. of Security Guard (B)**	1	2	3	6	6
Annual Salary (C)	120000	129600	139968	151165	163258
(8% Incremental per year)					
No. of Shift (D)	3	3	3	3	3
(One Shift 8 hrs. Then total no. shift is 3 in day)					
Total Security charges (E=B*C*D)	360,000.00	777,600.00	1,259,712.00	2,720,970.00	2,938,644.00
Total Security charges (in crore)	0.04	0.08	0.13	0.27	0.29

IKGPTU-BATALA CAMPUS

Particulars	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5
Total Students (A)	45	180	315	450	450
Total No. of Security Guard (B)**	2	7	9	14	11
Annual Salary (C)	120000	129600	139968	151165	163258
(8% Incremental per year)					
No. of Shift (D)	3	3	3	3	3
(One Shift 8 hrs. Then total no. shift is 3 in day)					
Total Security charges (E=B*C*D)	720,000.00	2,721,600.00	3,779,136.00	6,348,930.00	5,387,514.00
Total Security charges (in crore)	0.07	0.27	0.38	0.63	0.54

IKGPTU-BHIKIWIND CAMPUS

Particulars	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5
Total Students (A)	30	120	210	300	300
Total No. of Security Guard (B)**	2	5	6	9	8
Annual Salary (C)	120000	129600	139968	151165	163258
(8% Incremental per year)					
No. of Shift (D)	3	3	3	3	3

(One Shift 8 hrs. Then total no. shift is 3 in day)					
Total Security charges (E=B*C*D)	720,000.00	1,944,000.00	2,519,424.00	4,081,455.00	3,918,192.00
Total Security charges (in crore)	0.07	0.19	0.25	0.41	0.39

IKGPTU-DINANAGAR CAMPUS

Particulars	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5
Total Students (A)	75	180	300	390	435
Total No. of Security Guard (B)**	4	7	9	12	11
Annual Salary (C)	120000	129600	139968	151165	163258
(8% Incremental per year)					
No. of Shift (D)	3	3	3	3	3
(One Shift 8 hrs. Then total no. shift is 3 in day)					
Total Security charges (E=B*C*D)	1,440,000.00	2,721,600.00	3,779,136.00	5,441,940.00	5,387,514.00
Total Security charges (in crore)	0.14	0.27	0.38	0.54	0.54

IKGPTU-HOSHIARPUR CAMPUS

Particulars	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5
Total Students (A)	60	240	420	600	600
Total No. of Security Guard (B)**	3	10	13	18	15
Annual Salary (C)	120000	129600	139968	151165	163258
(8% Incremental per year)					
No. of Shift (D)	3	3	3	3	3
(One Shift 8 hrs. Then total no. shift is 3 in day)					
Total Security charges (E=B*C*D)	1,080,000.00	3,888,000.00	5,458,752.00	8,162,910.00	7,346,610.00
Total Security charges (in crore)	0.11	0.39	0.55	0.82	0.73

IKGPTU-SULTANPUR LODHI CAMPUS

Particulars	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5
Total Students (A)	0	115	260	365	470
Total No. of Security Guard (B)**	0	5	8	11	12
Annual Salary (C)	120000	129600	139968	151165	163258
(8% Incremental per year)					
No. of Shift (D)	3	3	3	3	3
(One Shift 8 hrs. Then total no. shift is 3 in day)					
Total Security charges (E=B*C*D)	-	1,944,000.00	3,359,232.00	4,988,445.00	5,877,288.00
Total Security charges (in crore)	-	0.19	0.34	0.50	0.59

Annexure 9.9

IAAB TECHNICAL UNIVERSITY

A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
6970	7240	7320	7350	7350
175	181	183	184	184
176319	190425	205659	222112	239881
3	3	3	3	3
92,567,475.00	103,400,775.00	112,906,791.00	122,605,824.00	132,414,312.00
9.26	10.34	11.29	12.26	13.24

175	181	183	184	184
9.26	10.34	11.29	12.26	13.24
-	-	-	-	-

A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
4420	4690	4770	4800	4800
111	117	119	120	120
176319	190425	205659	222112	239881
3	3	3	3	3
58,714,227.00	66,839,175.00	73,420,263.00	79,960,320.00	86,357,160.00
5.87	6.68	7.34	8.00	8.64

A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
250	250	250	250	250
6	6	6	6	6
176319	190425	205659	222112	239881
3	3	3	3	3
3,173,742.00	3,427,650.00	3,701,862.00	3,998,016.00	4,317,858.00
0.32	0.34	0.37	0.40	0.43

A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
450	450	450	450	450
11	11	11	11	11
176319	190425	205659	222112	239881
3	3	3	3	3
5,818,527.00	6,284,025.00	6,786,747.00	7,329,696.00	7,916,073.00
0.58	0.63	0.68	0.73	0.79

A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
300	300	300	300	300
8	8	8	8	8
176319	190425	205659	222112	239881
3	3	3	3	3

4,231,656.00	4,570,200.00	4,935,816.00	5,330,688.00	5,757,144.00
0.42	0.46	0.49	0.53	0.58

A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
480	480	480	480	480
12	12	12	12	12
176319	190425	205659	222112	239881
3	3	3	3	3
6,347,484.00	6,855,300.00	7,403,724.00	7,996,032.00	8,635,716.00
0.63	0.69	0.74	0.80	0.86

A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
600	600	600	600	600
15	15	15	15	15
176319	190425	205659	222112	239881
3	3	3	3	3
7,934,355.00	8,569,125.00	9,254,655.00	9,995,040.00	10,794,645.00
0.79	0.86	0.93	1.00	1.08

A.Y. 6	A.Y. 7	A.Y. 8	A.Y. 9	A.Y. 10
470	470	470	470	470
12	12	12	12	12
176319	190425	205659	222112	239881
3	3	3	3	3
6,347,484.00	6,855,300.00	7,403,724.00	7,996,032.00	8,635,716.00
0.63	0.69	0.74	0.80	0.86

CALCULATION SHEET FOR HOSTEL EXPENSES - I K GUJRAL PUNJAB TECHNICAL UNIVERSITY

No. of Students	405	1123	1850	2622.5	3130	3485	3620	3660
Expenditure Per Day(in Rs)	100.00	108.00	116.64	125.97	136.05	146.93	158.69	171.38
No. of Days	305	305	305	305	305	305	305	305
Particular	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8
Hostel Charges	1.24	3.70	6.58	10.08	12.99	15.62	17.52	19.13
10% of Hostel Charges (in Crores) ***	0.12	0.37	0.66	1.01	1.30	1.56	1.75	1.91

0.12 0.37 0.66 1.01 1.30 1.56 1.75 1.91

*****Note**

Assumed that 90% Charges on A/c Mess and Other Chgs will be recovered from Students as assumed to be separate Wing
No. of Students Taken as 50% of the total Student strength as hostel facilities is provisioned only for 50% Students

SCHOOL WISE-CALCULATION SHEET FOR HOSTEL EXPENSES

IKGPTU-MAIN CAMPUS KAPURTHALA

No. of Students	293	675	1040	1475	1892.5	2210	2345	2385
Expenditure Per Day(in Rs)	100.00	108.00	116.64	125.97	136.05	146.93	158.69	171.38
No. of Days	305	305	305	305	305	305	305	305
Particular	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8
Hostel Charges	0.89	2.22	3.70	5.67	7.85	9.90	11.35	12.47
10% of Hostel Charges (in Crores) ***	0.09	0.22	0.37	0.57	0.79	0.99	1.13	1.25

IKGPTU-AMRITSAR CAMPUS

No. of Students	8	30	58	95	110	125	125	125
Expenditure Per Day(in Rs)	100.00	108.00	116.64	125.97	136.05	146.93	158.69	171.38
No. of Days	305	305	305	305	305	305	305	305
Particular	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8
Hostel Charges	0.02	0.10	0.20	0.37	0.46	0.56	0.60	0.65
10% of Hostel Charges (in Crores) ***	0.00	0.01	0.02	0.04	0.05	0.06	0.06	0.07

IKGPTU-BATALA CAMPUS

No. of Students	23	90	157.5	225	225	225	225	225
Expenditure Per Day(in Rs)	100.00	108.00	116.64	125.97	136.05	146.93	158.69	171.38
No. of Days	305	305	305	305	305	305	305	305
Particular	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8
Hostel Charges	0.07	0.30	0.56	0.86	0.93	1.01	1.09	1.18
10% of Hostel Charges (in Crores) ***	0.01	0.03	0.06	0.09	0.09	0.10	0.11	0.12

IKGPTU-BHIKIWIND CAMPUS

No. of Students	15	60	105	150	150	150	150	150
Expenditure Per Day(in Rs)	100.00	108.00	116.64	125.97	136.05	146.93	158.69	171.38
No. of Days	305	305	305	305	305	305	305	305
Particular	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8
Hostel Charges	0.05	0.20	0.37	0.58	0.62	0.67	0.73	0.78
10% of Hostel Charges (in Crores) ***	0.00	0.02	0.04	0.06	0.06	0.07	0.07	0.08

IKGPTU-DINANAGAR CAMPUS

No. of Students	38	90	150	195	217.5	240	240	240
Expenditure Per Day(in Rs)	100.00	108.00	116.64	125.97	136.05	146.93	158.69	171.38
No. of Days	305	305	305	305	305	305	305	305
Particular	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8
Hostel Charges	0.11	0.30	0.53	0.75	0.90	1.08	1.16	1.25
10% of Hostel Charges (in Crores) ***	0.01	0.03	0.05	0.07	0.09	0.11	0.12	0.13

IKGPTU-HOSHIARPUR CAMPUS

No. of Students	30	120	210	300	300	300	300	300
Expenditure Per Day(in Rs)	100.00	108.00	116.64	125.97	136.05	146.93	158.69	171.38
No. of Days	305	305	305	305	305	305	305	305
Particular	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8
Hostel Charges	0.09	0.40	0.75	1.15	1.24	1.34	1.45	1.57
10% of Hostel Charges (in Crores) ***	0.01	0.04	0.07	0.12	0.12	0.13	0.15	0.16

IKGPTU-SULTANPUR LODHI CAMPUS

No. of Students	0	58	130	183	235	235	235	235
Expenditure Per Day(in Rs)	100.00	108.00	116.64	125.97	136.05	146.93	158.69	171.38
No. of Days	305	305	305	305	305	305	305	305
Particular	A.Y. 1	A.Y. 2	A.Y. 3	A.Y. 4	A.Y. 5	A.Y. 6	A.Y. 7	A.Y. 8
Hostel Charges	-	0.19	0.46	0.70	0.98	1.05	1.14	1.23
10% of Hostel Charges (in Crores) ***	-	0.02	0.05	0.07	0.10	0.11	0.11	0.12

nnexure 9.10

3675	3675
185.09	199.90
305	305
A.Y. 9	A.Y. 10
20.75	22.41
2.07	2.24

2.07 2.24

2400	2400
185.09	199.90
305	305
A.Y. 9	A.Y. 10
13.55	14.63
1.35	1.46

125	125
185.09	199.90
305	305
A.Y. 9	A.Y. 10
0.71	0.76
0.07	0.08

225	225
185.09	199.90
305	305
A.Y. 9	A.Y. 10
1.27	1.37
0.13	0.14

150	150
185.09	199.90
305	305
A.Y. 9	A.Y. 10
0.85	0.91
0.08	0.09

240	240
185.09	199.90
305	305
A.Y. 9	A.Y. 10
1.35	1.46
0.14	0.15

300	300
185.09	199.90
305	305
A.Y. 9	A.Y. 10
1.69	1.83
0.17	0.18

235	235
185.09	199.90
305	305
A.Y. 9	A.Y. 10
1.33	1.43
0.13	0.14

I K GUJRAL PUNJAB TECHNICAL UNIVERSITY
Year-wise Student Strength for Individual Categories of Academic Programs

S.No	Category of Programs	I	II	III	IV
1	UG Diploma	0	30	30	30
2	B.A	0	0	45	90
3	B.Ted	0	30	30	30
4	B. Tech.	390	1125	1915	2815
5	B.Des.	0	30	60	90
6	B.Tech./B.Des.	0	90	180	270
7	B.Sc.-M.Sc Dual Degree	0	0	60	120
8	B. Arch.	40	80	120	160
9	B.Planning	0	0	20	40
10	BBA	0	0	45	90
11	BHM & CT	0	0	45	90
12	B Pharma	0	30	60	90
13	BCA	60	120	180	180
14	M.A	40	80	80	80
15	M.Com	0	0	0	0
16	M.Pharma	0	0	0	0
17	M. Tech. Programs	110	220	240	300
18	M.Arch.	20	40	40	40
19	M.Des.	0	0	20	40
20	MCA	0	60	120	140
21	M.Sc	80	160	160	160
22	M.Fa	0	0	0	0
23	MBA Programs	60	120	120	120
24	PGPM	0	0	80	80
25	Executive MBA	0	0	0	0
26	PG-Diploma	10	10	10	130
27	Integrated Teacher Training Mod.	0	0	0	0
28	Ph. D. Programs	0	20	40	60
	TOTAL	810	2245	3700	5245

SCHOOL-WISE/INDIVIDUAL CATEGORIES WISE ACADEMIC PROGRAMS

A. IKGPTU-MAIN CAMPUS KAPURTHALA

S.No	Category of Programs	I	II	III	IV
1	UG Diploma	0	30	30	30
2	B.A	0	0	45	90
3	B.Ted	0	30	30	30
4	B. Tech.	225	450	675	960
5	B.Des.	0	0	0	0
6	B.Tech./B.Des.	0	90	180	270
7	B.Sc.-M.Sc Dual Degree	0	0	60	120

8	B. Arch.	40	80	120	160
9	B.Planning	0	0	20	40
10	BBA	0	0	45	90
11	BHM & CT	0	0	45	90
12	B Pharma	0	0	0	0
13	BCA	0	0	0	0
14	M.A	40	80	80	80
15	M.Com	0	0	0	0
16	M.Pharma	0	0	0	0
17	M. Tech. Programs	110	220	240	300
18	M.Arch.	20	40	40	40
19	M.Des.	0	0	20	40
20	MCA	0	20	40	60
21	M.Sc	80	160	160	160
22	M.Fa	0	0	0	0
23	MBA Programs	60	120	120	120
24	PGPM	0	0	80	80
25	Executive MBA	0	0	0	0
26	PG-Diploma	10	10	10	130
27	Integrated Teacher Training Mod.	0	0	0	0
28	Ph. D. Programs	0	20	40	60
TOTAL		585	1350	2080	2950

B IKGPTU-AMRITSAR CAMPUS

S.No	Category of Programs	I	II	III	IV
1	UG Diploma	0	0	0	0
2	B.A	0	0	0	0
3	B.Ted	0	0	0	0
4	B. Tech.	15	60	115	190
5	B.Des.	0	0	0	0
6	B.Tech./B.Des.	0	0	0	0
7	B.Sc.-M.Sc Dual Degree	0	0	0	0
8	B. Arch.	0	0	0	0
9	B.Planning	0	0	0	0
10	BBA	0	0	0	0
11	BHM & CT	0	0	0	0
12	B Pharma	0	0	0	0
13	BCA	0	0	0	0
14	M.A	0	0	0	0
15	M.Com	0	0	0	0
16	M.Pharma	0	0	0	0
17	M. Tech. Programs	0	0	0	0
18	M.Arch.	0	0	0	0
19	M.Des.	0	0	0	0
20	MCA	0	0	0	0
21	M.Sc	0	0	0	0
22	M.Fa	0	0	0	0

23	MBA Programs	0	0	0	0
24	PGPM	0	0	0	0
25	Executive MBA	0	0	0	0
26	PG-Diploma	0	0	0	0
27	Integrated Teacher Training Mod.	0	0	0	0
28	Ph. D. Programs	0	0	0	0
TOTAL		15	60	115	190

C IKGPTU-BATALA CAMPUS

S.No	Category of Programs	I	II	III	IV
1	UG Diploma	0	0	0	0
2	B.A	0	0	0	0
3	B.Ted	0	0	0	0
4	B. Tech.	45	180	315	450
5	B.Des.	0	0	0	0
6	B.Tech./B.Des.	0	0	0	0
7	B.Sc.-M.Sc Dual Degree	0	0	0	0
8	B. Arch.	0	0	0	0
9	B.Planning	0	0	0	0
10	BBA	0	0	0	0
11	BHM & CT	0	0	0	0
12	B Pharma	0	0	0	0
13	BCA	0	0	0	0
14	M.A	0	0	0	0
15	M.Com	0	0	0	0
16	M.Pharma	0	0	0	0
17	M. Tech. Programs	0	0	0	0
18	M.Arch.	0	0	0	0
19	M.Des.	0	0	0	0
20	MCA	0	0	0	0
21	M.Sc	0	0	0	0
22	M.Fa	0	0	0	0
23	MBA Programs	0	0	0	0
24	PGPM	0	0	0	0
25	Executive MBA	0	0	0	0
26	PG-Diploma	0	0	0	0
27	Integrated Teacher Training Mod.	0	0	0	0
28	Ph. D. Programs	0	0	0	0
TOTAL		45	180	315	450

D IKGPTU-BHIKIWIND CAMPUS

S.No	Category of Programs	I	II	III	IV
1	UG Diploma	0	0	0	0
2	B.A	0	0	0	0
3	B.Ted	0	0	0	0

4	B. Tech.	30	120	210	300
5	B.Des.	0	0	0	0
6	B.Tech./B.Des.	0	0	0	0
7	B.Sc.-M.Sc Dual Degree	0	0	0	0
8	B. Arch.	0	0	0	0
9	B.Planning	0	0	0	0
10	BBA	0	0	0	0
11	BHM & CT	0	0	0	0
12	B Pharma	0	0	0	0
13	BCA	0	0	0	0
14	M.A	0	0	0	0
15	M.Com	0	0	0	0
16	M.Pharma	0	0	0	0
17	M. Tech. Programs	0	0	0	0
18	M.Arch.	0	0	0	0
19	M.Des.	0	0	0	0
20	MCA	0	0	0	0
21	M.Sc	0	0	0	0
22	M.Fa	0	0	0	0
23	MBA Programs	0	0	0	0
24	PGPM	0	0	0	0
25	Executive MBA	0	0	0	0
26	PG-Diploma	0	0	0	0
27	Integrated Teacher Training Mod.	0	0	0	0
28	Ph. D. Programs	0	0	0	0
TOTAL		30	120	210	300

E IKGPTU-DINANAGAR CAMPUS

S.No	Category of Programs	I	II	III	IV
1	UG Diploma	0	0	0	0
2	B.A	0	0	0	0
3	B.Ted	0	0	0	0
4	B. Tech.	15	60	120	210
5	B.Des.	0	0	0	0
6	B.Tech./B.Des.	0	0	0	0
7	B.Sc.-M.Sc Dual Degree	0	0	0	0
8	B. Arch.	0	0	0	0
9	B.Planning	0	0	0	0
10	BBA	0	0	0	0
11	BHM & CT	0	0	0	0
12	B Pharma	0	0	0	0
13	BCA	60	120	180	180
14	M.A	0	0	0	0
15	M.Com	0	0	0	0
16	M.Pharma	0	0	0	0
17	M. Tech. Programs	0	0	0	0

18	M.Arch.	0	0	0	0
19	M.Des.	0	0	0	0
20	MCA	0	0	0	0
21	M.Sc	0	0	0	0
22	M.Fa	0	0	0	0
23	MBA Programs	0	0	0	0
24	PGPM	0	0	0	0
25	Executive MBA	0	0	0	0
26	PG-Diploma	0	0	0	0
27	Integrated Teacher Training Mod.	0	0	0	0
28	Ph. D. Programs	0	0	0	0
TOTAL		75	180	300	390

F IKGPTU-HOSHIARPUR CAMPUS

S.No	Category of Programs	I	II	III	IV
1	UG Diploma	0	0	0	0
2	B.A	0	0	0	0
3	B.Ted	0	0	0	0
4	B. Tech.	60	240	420	600
5	B.Des.	0	0	0	0
6	B.Tech./B.Des.	0	0	0	0
7	B.Sc.-M.Sc Dual Degree	0	0	0	0
8	B. Arch.	0	0	0	0
9	B.Planning	0	0	0	0
10	BBA	0	0	0	0
11	BHM & CT	0	0	0	0
12	B Pharma	0	0	0	0
13	BCA	0	0	0	0
14	M.A	0	0	0	0
15	M.Com	0	0	0	0
16	M.Pharma	0	0	0	0
17	M. Tech. Programs	0	0	0	0
18	M.Arch.	0	0	0	0
19	M.Des.	0	0	0	0
20	MCA	0	0	0	0
21	M.Sc	0	0	0	0
22	M.Fa	0	0	0	0
23	MBA Programs	0	0	0	0
24	PGPM	0	0	0	0
25	Executive MBA	0	0	0	0
26	PG-Diploma	0	0	0	0
27	Integrated Teacher Training Mod.	0	0	0	0
28	Ph. D. Programs	0	0	0	0
TOTAL		60	240	420	600

G IKGPTU-SULTANPUR LODHI CAMPUS

S.No	Category of Programs	I	II	III	IV
1	UG Diploma	0	0	0	0
2	B.A	0	0	0	0
3	B.Ted	0	0	0	0
4	B. Tech.	0	15	60	105
5	B.Des.	0	30	60	90
6	B.Tech./B.Des.	0	0	0	0
7	B.Sc.-M.Sc Dual Degree	0	0	0	0
8	B. Arch.	0	0	0	0
9	B.Planning	0	0	0	0
10	BBA	0	0	0	0
11	BHM & CT	0	0	0	0
12	B Pharma	0	30	60	90
13	BCA	0	0	0	0
14	M.A	0	0	0	0
15	M.Com	0	0	0	0
16	M.Pharma	0	0	0	0
17	M. Tech. Programs	0	0	0	0
18	M.Arch.	0	0	0	0
19	M.Des.	0	0	0	0
20	MCA	0	40	80	80
21	M.Sc	0	0	0	0
22	M.Fa	0	0	0	0
23	MBA Programs	0	0	0	0
24	PGPM	0	0	0	0
25	Executive MBA	0	0	0	0
26	PG-Diploma	0	0	0	0
27	Integrated Teacher Training Mod.	0	0	0	0
28	Ph. D. Programs	0	0	0	0
TOTAL		0	115	260	365

	225	895	1620	2295
As per Academic Working	225	900	1620	2275
	0	-5	0	20
G.Total	810	2245	3700	5245
	0	0	0	0

SITY

mic Programs- IKGPTU

V	VI	VII	VIII	IX	X
30	30	30	30	30	30
135	135	135	135	135	135
30	30	30	30	30	30
2995	3130	3190	3190	3190	3190
120	150	180	210	240	240
360	360	360	360	360	360
180	240	300	300	300	300
200	200	200	200	200	200
60	80	80	80	80	80
135	135	135	135	135	135
135	180	180	180	180	180
150	180	210	240	240	240
180	180	180	180	180	180
200	350	380	380	380	380
40	80	80	80	80	80
0	0	20	40	40	40
400	460	460	460	460	460
40	40	40	40	40	40
40	40	40	40	40	40
140	140	140	140	140	140
220	280	280	280	280	280
20	40	40	40	40	40
120	120	120	120	120	120
80	80	80	80	80	80
0	0	0	0	0	0
170	210	250	250	250	250
0	0	0	0	0	0
80	100	100	100	100	100
6260	6970	7240	7320	7350	7350

50.00

MIC PROGRAMS

V	VI	VII	VIII	IX	X
30	30	30	30	30	30
135	135	135	135	135	135
30	30	30	30	30	30
1020	1080	1140	1140	1140	1140
0	30	60	90	120	120
360	360	360	360	360	360
180	240	300	300	300	300

CALCULATION SHEET FOR ELECTRICITY COST - IKGPTU -MAIN CAMPUS KAPURTHALA

		Type of Building	Load in W per sq m	Diversity
		Commercial	150	0.75
Assumption	Light Load	Residential	50	0.5

Built up Area in sq mtr	Light load in sq m	kW load	Load(kvA) Say
196,838	13045510	13046	13,046
	Percentage of Load(Assumed)	Units consumed per hour	
year 1	6.37	830.38	
year 2	14.29	1,863.98	
year 3	21.99	2,868.38	
year 4	30.95	4,037.45	
year 5	39.62	5,169.15	
year 6	46.39	6,052.09	
year 7	48.94	6,384.94	
year 8	49.71	6,485.38	
year 9	50.00	6,522.76	
year 10	50.00	6,522.76	

Electricity

			year 1	year 2
	Days	Hours		
Peak hrs in day (100%)		3	830.38	1,863.98
Non Peak hrs in day (Excluding Holidays)-(50%)		21	415.19	931.99
Consumption Hours during weekly off days-(20%)		24	166.08	372.80
Consumption Hours during Holidays -(5%)		24	41.52	93.20

Total days in Year	365
Holidays in Year	60
Weekly Off Days	52
Working days in Year	253

Total Working Hours in Year-Peak Hours	759
(No. of Working Days in year*total peak hrs in a day, i.e. 253days*3hrs.)	
Total Working Hours in Year- other than Peak Hours (excluding Holidays)	5313
(No. of Working Days in year*Non peak hrs in a day, i.e. 253days*21hrs.)	
Total Working Hours in Year- Weekly off	1248
(No. of Weekly off Days * hrs in a day, i.e. 52days*24hrs.)	
Total Working Hours in Year- During Holidays	1440
(No. of Holidays Days * hrs in a day, i.e. 60days*24hrs.)	

Particulars	Year 1	Year 2	Year 3	Year 4
During Working Days- Peak hrs (i.e. hrs. * unit consumed per hrs.)	630,259.30	1,414,759.28	2,177,098.24	3,064,425.34
During Working Days- other than Peak hrs (i.e. hrs. * unit consumed per hrs.)	2,205,907.56	4,951,657.49	7,619,843.85	10,725,488.68
During Weekly off Days (i.e. hrs. * unit consumed per hrs.)	207,263.14	465,248.90	715,946.93	1,007,747.78
During Holidays (i.e. hrs. * unit consumed per hrs.)	59,787.44	134,206.41	206,523.15	290,696.47
Total	3,103,217.45	6,965,872.08	10,719,412.18	15,088,358.27
Electricity Expenses				
Rate per unit (in Rupees)	5.00	5.25	5.50	5.75
Total cost per year (in Rupees)	15,516,087.25	36,570,828.44	58,956,766.98	86,758,060.03
Total cost per year (in Crores)	1.55	3.66	5.90	8.68

Generator Expenses	Year 1	Year 2	Year 3	Year 4
% of Utilization	6	14.29	21.99	30.95
Rate per hrs	18.00	19.44	21.00	22.67
1.5 Mega Watts				
1500 KVA				
1500 units per hrs.				
unit cons. 1500 *1 hrs per day				
No. of Hrs Consumed Per Day	0.3	0.3	0.3	0.3
Total Days	365	365	365	365
Per Year Unit Consumed (i.e. 1500*hrs. cons. Per day*working hrs)	164250	164250	164250	164250
Total Cost (in Rupees)	188,189.03	456,227.39	758,229.34	1,152,644.43
Total Cost (in Crore)	0.02	0.05	0.08	0.12

Annexure 9.12

Area Percentage	W/sq m
0.47	53.07
0.53	13.21
Total	66.28

Power Factor Taken as
1

	I	II	III	IV	V
No. of Students	585	1350	2080	2950	3785
No. of Staff	126	246	376	507	641
Total	711	1596	2456	3457	4426

Max Power to be assumed in Xth Year Taken as :

year 3	year 4	Year 5	Year 6	Year 7	Year 8	Year 9
Units consumed per hour						
2,868.38	4,037.45	5,169.15	6,052.09	6,384.94	6,485.38	6,522.76
1,434.19	2,018.73	2,584.58	3,026.04	3,192.47	3,242.69	3,261.38
573.68	807.49	1,033.83	1,210.42	1,276.99	1,297.08	1,304.55
143.42	201.87	258.46	302.60	319.25	324.27	326.14

Units Consumed in year

Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
3,923,386.33	4,593,535.46	4,846,171.05	4,922,404.94	4,950,771.05	4,950,771.05
13,731,852.15	16,077,374.12	16,961,598.67	17,228,417.30	17,327,698.66	17,327,698.66
1,290,220.33	1,510,601.39	1,593,681.55	1,618,751.35	1,628,079.65	1,628,079.65
372,178.94	435,750.40	459,715.83	466,947.50	469,638.36	469,638.36
19,317,637.75	22,617,261.36	23,861,167.09	24,236,521.10	24,376,187.71	24,376,187.71
6.00	6.25	6.50	6.75	7.00	7.10
115,905,826.47	141,357,883.52	155,097,586.10	163,596,517.44	170,633,313.97	173,070,932.74
11.59	14.14	15.51	16.36	17.06	17.31

Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
39.62	46.39	48.94	50	50	50
24.49	26.45	28.56	30.85	33.32	35.98
0.3	0.30	0.3	0.3	0.3	0.3
365	365.00	365	365	365	365
164250	164,250.00	164250	164250	164250	164250
1,593,790.16	2,015,305.53	2,296,234.92	2,518,944.93	2,736,137.58	2,955,028.59
0.16	0.20	0.23	0.25	0.27	0.30

VI	VII	VIII	IX	X
4420	4690	4770	4800	4800
762	777	783	785	785
5182	5467	5553	5585	5585

50% base

Year 10

6,522.76
3,261.38
1,304.55
326.14

CALCULATION SHEET FOR ELECTRICITY COST - IKGPTU-AMRTISAR CAMPUS

		Type of Building	Load in W per sq m	Diversity
		Commercial	150	0.75
Assumption	Light Load	Residential	50	0.5

Built up Area in sq mtr	Light load in sq m	kW load	Load(kvA) Say
12,148	1064292.5	1064	1,064
	Percentage of Load	Units consumed per hour	
year 1	3.71	39.48	
year 2	12.58	133.89	
year 3	23.23	247.19	
year 4	37.10	394.82	
year 5	43.39	461.77	
year 6	50.00	532.15	
year 7	50.00	532.15	
year 8	50.00	532.15	
year 9	50.00	532.15	
year 10	50.00	532.15	

Electricity

			year 1	year 2
	Days	Hours		
Peak hrs in day (100%)		3	39.48	133.89
Non Peak hrs in day (Excluding Holidays)-(50%)		21	19.74	66.95
Consumption Hours during weekly off days-(20%)		24	11.84	40.17

Consumption Hours during Holidays -(5%)		24	3.95	13.39
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Total days in Year	365
Holidays in Year	60
Weekly Off Days	52
Working days in Year	253

Total Working Hours in Year-Peak Hours	759
(No. of Working Days in year*total peak hrs in a day, i.e. 253days*3hrs.)	
Total Working Hours in Year- other than Peak Hours (excluding Holidays)	5313
(No. of Working Days in year*Non peak hrs in a day, i.e. 253days*21hrs.)	
Total Working Hours in Year- Weekly off	1248
(No. of Weekly off Days * hrs in a day, i.e. 52days*24hrs.)	
Total Working Hours in Year- During Holidays	1440
(No. of Holidays Days * hrs in a day, i.e. 60days*24hrs.)	

Particulars	Year 1	Year 2	Year 3	Year 4
During Working Days- Peak hrs (i.e. hrs. * unit consumed per hrs.)	29,966.70	101,626.20	187,617.60	299,667.00
During Working Days- other than Peak hrs (i.e. hrs. * unit consumed per hrs.)	104,883.45	355,691.70	656,661.61	1,048,834.51
During Weekly off Days (i.e. hrs. * unit consumed per hrs.)	14,781.99	50,130.24	92,548.13	147,819.93
During Holidays (i.e. hrs. * unit consumed per hrs.)	5,685.38	19,280.86	35,595.43	56,853.82

Total	155,317.53	526,729.00	972,422.77	1,553,175.26
Electricity Expenses				
Rate per unit (in Rupees)	5.00	5.25	5.50	5.75
Total cost per year (in Rupees)	776,587.63	2,765,327.26	5,348,325.24	8,930,757.74
Total cost per year (in Crores)	0.08	0.28	0.53	0.89

Generator Expenses	Year 1	Year 2	Year 3	Year 4
% of Utilization	3.71	12.58	23.23	37.10
Rate per hrs	18.00	19.44	21.00	22.67
0.5 Mega Watts				
500 KVA				
500 units per hrs.				
unit cons. 500 *1 hrs per day				
No. of Hrs Consumed Per Day	0.4	0.45	0.5	0.5
Total Days	365	365	365	365
Per Year Unit Consumed (i.e. 500*hrs. cons. Per day*working hrs)	73000	82125	91250	91250
Total Cost (in Rupees)	48,745.16	200,851.26	444,962.79	767,560.81
Total Cost (in Crore)	0.00	0.02	0.04	0.08

Annexure 9.13

Area Percentage	W/sq m
0.72	80.50
0.28	7.11
Total	87.61

Power Factor Taken as
1

	I	II	III	IV
No. of Students	15	60	115	190
No. of Staff	8	18	29	40
Total	23	78	144	230

Max Power to be assumed in Xth Year Take

year 3	year 4	Year 5	Year 6	Year 7	Year 8
Units consumed per hour					
247.19	394.82	461.77	532.15	532.15	532.15
123.60	197.41	230.88	266.07	266.07	266.07
74.16	118.45	138.53	159.64	159.64	159.64

24.72	39.48	46.18	53.21	53.21	53.21
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Units Consumed in year

Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
350,480.10	403,899.00	403,899.00	403,899.00	403,899.00	403,899.00
1,226,680.36	1,413,646.51	1,413,646.51	1,413,646.51	1,413,646.51	1,413,646.51
172,885.05	199,235.56	199,235.56	199,235.56	199,235.56	199,235.56
66,494.25	76,629.06	76,629.06	76,629.06	76,629.06	76,629.06

1,816,539.76	2,093,410.13	2,093,410.13	2,093,410.13	2,093,410.13	2,093,410.13
6.00	6.25	6.50	6.75	7.00	7.10
10,899,238.56	13,083,813.33	13,607,165.86	14,130,518.40	14,653,870.93	14,863,211.94
1.09	1.31	1.36	1.41	1.47	1.49

Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
43.39	50.00	50.00	50.00	50.00	50.00
24.49	26.45	28.56	30.85	33.32	35.98
0.5	0.50	0.5	0.5	0.5	0.5
365	365.00	365	365	365	365
91250	91,250.00	91250	91250	91250	91250
969,529.42	1,206,685.68	1,303,220.54	1,407,478.18	1,520,076.44	1,641,682.55
0.10	0.12	0.13	0.14	0.15	0.16

V	VI	VII	VIII	IX	X
220	250	250	250	250	250
49	60	60	60	60	60
269	310	310	310	310	310

on as 50% base

Year 9	Year 10
532.15	532.15
266.07	266.07
159.64	159.64

53.21	53.21
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CALCULATION SHEET FOR ELECTRICITY COST - IKGPTU-BATALA CAMPUS

		Type of Building	Load in W per sq m	Diversity
		Commercial	150	0.75
Assumption	Light Load	Residential	50	0.5

Built up Area in sq mtr	Light load in sq m	kW load	Load(kvA) Say
14,789	1230900	1231	1,231

	Percentage of Load	Units consumed per hour
year 1	5.22	64.23
year 2	19.64	241.74
year 3	33.97	418.09
year 4	48.48	596.76
year 5	49.24	606.11
year 6	50.00	615.45
year 7	50.00	615.45
year 8	50.00	615.45
year 9	50.00	615.45
year 10	50.00	615.45

Electricity

			year 1	year 2
	Days	Hours	Units consumed per hour	
Peak hrs in day (100%)		3	64.23	241.74
Non Peak hrs in day (Excluding Holidays)-(50%)		21	32.12	120.87
Consumption Hours during weekly off days-(20%)		24	19.27	72.52

Consumption Hours during Holidays -(5%)		24	6.42	24.17
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Total days in Year	365
Holidays in Year	60
Weekly Off Days	52
Working days in Year	253

Total Working Hours in Year-Peak Hours	759
(No. of Working Days in year*total peak hrs in a day, i.e. 253days*3hrs.)	
Total Working Hours in Year- other than Peak Hours (excluding Holidays)	5313
(No. of Working Days in year*Non peak hrs in a day, i.e. 253days*21hrs.)	
Total Working Hours in Year- Weekly off	1248
(No. of Weekly off Days * hrs in a day, i.e. 52days*24hrs.)	
Total Working Hours in Year- During Holidays	1440
(No. of Holidays Days * hrs in a day, i.e. 60days*24hrs.)	

Particulars	Year 1	Year 2	Year 3	Year 4
During Working Days- Peak hrs (i.e. hrs. * unit consumed per hrs.)	48,751.35	183,482.35	317,326.95	452,944.34
During Working Days- other than Peak hrs (i.e. hrs. * unit consumed per hrs.)	170,629.72	642,188.21	1,110,644.34	1,585,305.19
During Weekly off Days (i.e. hrs. * unit consumed per hrs.)	24,048.10	90,508.29	156,531.24	223,428.67
During Holidays (i.e. hrs. * unit consumed per hrs.)	9,249.27	34,810.88	60,204.32	85,934.10

Total	252678.427941176	950989.719705882	1644706.85823529	2347612.30323529
Electricity Expenses				
Rate per unit (in Rupees)	5.00	5.25	5.50	5.75
Total cost per year (in Rupees)	1,263,392.14	4,992,696.03	9,045,887.72	13,498,770.74
Total cost per year (in Crores)	0.13	0.50	0.90	1.35

Generator Expenses	Year 1	Year 2	Year 3	Year 4
% of Utilization	5.22	19.64	33.97	48.48
Rate per hrs	18.00	19.44	21.00	22.67
0.5 Mega Watts				
500 KVA				
500 units per hrs.				
unit cons. 500 *1 hrs per day				
No. of Hrs Consumed Per Day	0.4	0.45	0.5	0.5
Total Days	365	365	365	365
Per Year Unit Consumed (i.e. 500*hrs. cons. Per day*working hrs)	73000	82125	91250	91250
Total Cost (in Rupees)	68,567.36	313,546.08	650,721.72	1,003,129.34
Total Cost (in Crore)	0.01	0.03	0.07	0.10

Annexure 9.14

Area Percentage	W/sq m
0.67	74.87
0.33	8.36
Total	83.23

Power Factor Taken as
1

	I	II	III	IV
No. of Students	45	180	315	450
No. of Staff	10	27	43	61
Total	55	207	358	511

Max Power to be assumed in Xth Year Taken as 50% bas

year 3	year 4	Year 5	Year 6	Year 7	Year 8
418.09	596.76	606.11	615.45	615.45	615.45
209.04	298.38	303.05	307.73	307.73	307.73
125.43	179.03	181.83	184.64	184.64	184.64

41.81	59.68	60.61	61.55	61.55	61.55
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Units Consumed in year

Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
460,035.44	467,126.55	467,126.55	467,126.55	467,126.55	467,126.55
1,610,124.06	1,634,942.93	1,634,942.93	1,634,942.93	1,634,942.93	1,634,942.93
226,926.58	230,424.48	230,424.48	230,424.48	230,424.48	230,424.48
87,279.45	88,624.80	88,624.80	88,624.80	88,624.80	88,624.80

2384365.52911765	2,421,118.76	2421118.755	2421118.755	2421118.755	2421118.755
6.00	6.25	6.50	6.75	7.00	7.10
14,306,193.17	15,131,992.22	15,737,271.91	16,342,551.60	16,947,831.29	17,189,943.16
1.43	1.51	1.57	1.63	1.69	1.72

Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
49.24	50.00	50.00	50.00	50.00	50.00
24.49	26.45	28.56	30.85	33.32	35.98
0.5	0.50	0.5	0.5	0.5	0.5
365	365.00	365	365	365	365
91250	91,250.00	91250	91250	91250	91250
1,100,340.62	1,206,685.68	1,303,220.54	1,407,478.18	1,520,076.44	1,641,682.55
0.11	0.12	0.13	0.14	0.15	0.16

V	VI	VII	VIII	IX	X
450	450	450	450	450	450
69	77	77	77	77	77
519	527	527	527	527	527

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Year 9	Year 10
615.45	615.45
307.73	307.73
184.64	184.64

61.55	61.55
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CALCULATION SHEET FOR ELECTRICITY COST - IKGPTU- BHIKIWIND CAMPUS

		Type of Building	Load in W per sq m	Diversity
		Commercial	150	0.75
Assumption	Light Load	Residential	50	0.5

Built up Area in sq mtr	Light load in sq m	kW load	Load(kvA) Say
10,884	900392.5	900	900
	Percentage of Load	Units consumed per hour	
year 1	5.37	48.37	
year 2	19.70	177.35	
year 3	33.88	305.09	
year 4	48.07	432.83	
year 5	49.04	441.51	
year 6	50.00	450.20	
year 7	50.00	450.20	
year 8	50.00	450.20	
year 9	50.00	450.20	
year 10	50.00	450.20	

Electricity

			Year 1	year 2
	Days	Hours		
Peak hrs in day (100%)		3	48.37	177.35
Non Peak hrs in day (Excluding Holidays)-(50%)		21	24.18	88.68
Consumption Hours during weekly off days-(20%)		24	14.51	53.21
Consumption Hours during Holidays -(5%)		24	4.84	17.74

Total days in Year	365
Holidays in Year	60
Weekly Off Days	52
Working days in Year	253

Total Working Hours in Year-Peak Hours	759
(No. of Working Days in year*total peak hrs in a day, i.e. 253days*3hrs.)	
Total Working Hours in Year- other than Peak Hours (excluding Holidays)	5313
(No. of Working Days in year*Non peak hrs in a day, i.e. 253days*21hrs.)	
Total Working Hours in Year- Weekly off	1248
(No. of Weekly off Days * hrs in a day, i.e. 52days*24hrs.)	
Total Working Hours in Year- During Holidays	1440
(No. of Holidays Days * hrs in a day, i.e. 60days*24hrs.)	

Particulars	Year 1	Year 2	Year 3	Year 4
During Working Days- Peak hrs (i.e. hrs. * unit consumed per hrs.)	36711.4578409091	134608.67875	231564.580227273	328520.481704546
During Working Days- other than Peak hrs (i.e. hrs. * unit consumed per hrs.)	128490.102443182	471130.375625	810476.030795455	1149821.68596591
During Weekly off Days (i.e. hrs. * unit consumed per hrs.)	18109.0511404959	66399.8541818182	114226.322578512	162052.790975207
During Holidays (i.e. hrs. * unit consumed per hrs.)	6965.0196694215	25538.4054545455	43933.2009917355	62327.9965289256
Total	190275.631094008	697677.314011364	1200200.13459298	1702722.95517459

Electricity Expenses				
Rate per unit (in Rupees)	5.00	5.25	5.50	5.75
Total cost per year (in Rupees)	951,378.16	3,662,805.90	6,601,100.74	9,790,656.99
Total cost per year (in Crores)	0.10	0.37	0.66	0.98

Generator Expenses	Year 1	Year 2	Year 3	Year 4
% of Utilization	5.37	19.70	33.88	48.07
Rate per hrs	18.00	19.44	21.00	22.67
0.5 Mega Watts				
500 KVA				
500 units per hrs.				
unit cons. 500 *1 hrs per day				
No. of Hrs Consumed Per Day	0.4	0.45	0.5	0.5
Total Days	365	365	365	365
Per Year Unit Consumed (i.e. 500*hrs. cons. Per day*working hrs)	73000	82125	91250	91250
Total Cost (in Rupees)	70,586.78	314,464.09	649,159.44	994,638.92
Total Cost (in Crore)	0.01	0.03	0.06	0.10

Annexure 9.15

Area Percentage	W/sq m
0.66	74.22
0.34	8.51
Total	82.73

Power Factor Taken as
1

	I	II	III	IV
No. of Students	30	120	210	300
No. of Staff	9	23	36	49
Total	39	143	246	349

Max Power to be assumed in Xth Year Taken as 50% ba

year 3	year 4	Year 5	Year 6	Year 7	Year 8
Units consumed per hour					
305.09	432.83	441.51	450.20	450.20	450.20
152.55	216.42	220.76	225.10	225.10	225.10
91.53	129.85	132.45	135.06	135.06	135.06
30.51	43.28	44.15	45.02	45.02	45.02

Units Consumed in year

Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
335109.717727273	341,698.95	341698.95375	341698.95375	341698.95375	341698.95375
1172884.01204546	1,195,946.34	1195946.338125	1195946.338125	1195946.338125	1195946.338125
165303.133487603	168,553.48	168553.476	168553.476	168553.476	168553.476
63578.1282644628	64,828.26	64828.26	64828.26	64828.26	64828.26
1736874.99152479	1,771,027.03	1771027.027875	1771027.027875	1771027.027875	1771027.027875

6.00	6.25	6.50	6.75	7.00	7.10
10,421,249.95	11,068,918.92	11,511,675.68	11,954,432.44	12,397,189.20	12,574,291.90
1.04	1.11	1.15	1.20	1.24	1.26

Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
49.04	50.00	50.00	50.00	50.00	50.00
24.49	26.45	28.56	30.85	33.32	35.98
0.5	0.50	0.5	0.5	0.5	0.5
365	365.00	365	365	365	365
91250	91,250.00	91250	91250	91250	91250
1,095,755.80	1,206,685.68	1,303,220.54	1,407,478.18	1,520,076.44	1,641,682.55
0.11	0.12	0.13	0.14	0.15	0.16

V	VI	VII	VIII	IX	X
300	300	300	300	300	300
56	63	63	63	63	63
356	363	363	363	363	363

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Year 9	Year 10
450.20	450.20
225.10	225.10
135.06	135.06
45.02	45.02

CALCULATION SHEET FOR ELECTRICITY COST - IKGPTU-DINANAGAR CAMPUS

		Type of Building	Load in W per sq m	Diversity
		Commercial	150	0.75
Assumption	Light Load	Residential	50	0.5

Built up Area in sq mtr	Light load in sq m	kW load	Load(kvA) Say
13,665	1065840	1066	1,066
	Percentage of Load	Units consumed per hour	
year 1	7.84	83.54	
year 2	18.65	198.76	
year 3	30.81	328.39	
year 4	40.09	427.30	
year 5	45.05	480.11	
year 6	50.00	532.92	
year 7	50.00	532.92	
year 8	50.00	532.92	
year 9	50.00	532.92	
year 10	50.00	532.92	

Electricity

			year 1	year 2
	Days	Hours		
Peak hrs in day (100%)		3	83.54	198.76
Non Peak hrs in day (Excluding Holidays)-(50%)		21	41.77	99.38
Consumption Hours during weekly off days-(20%)		24	25.06	59.63
Consumption Hours during Holidays -(5%)		24	8.35	19.88

Total days in Year	365
Holidays in Year	60
Weekly Off Days	52
Working days in Year	253

Total Working Hours in Year-Peak Hours	759
(No. of Working Days in year*total peak hrs in a day, i.e. 253days*3hrs.)	
Total Working Hours in Year- other than Peak Hours (excluding Holidays)	5313
(No. of Working Days in year*Non peak hrs in a day, i.e. 253days*21hrs.)	
Total Working Hours in Year- Weekly off	1248
(No. of Weekly off Days * hrs in a day, i.e. 52days*24hrs.)	
Total Working Hours in Year- During Holidays	1440
(No. of Holidays Days * hrs in a day, i.e. 60days*24hrs.)	

Particulars	Year 1	Year 2	Year 3	Year 4
During Working Days- Peak hrs (i.e. hrs. * unit consumed per hrs.)	63,405.96	150,862.45	249,251.00	324,317.83
During Working Days- other than Peak hrs (i.e. hrs. * unit consumed per hrs.)	221,920.85	528,018.58	872,378.52	1,135,112.40
During Weekly off Days (i.e. hrs. * unit consumed per hrs.)	31,276.93	74,417.52	122,950.69	159,979.70
During Holidays (i.e. hrs. * unit consumed per hrs.)	12,029.59	28,622.12	47,288.73	61,530.66
Total	328633.327848649	781920.676605406	1291868.94395676	1680940.58497297

Electricity Expenses				
Rate per unit (in Rupees)	5.00	5.25	5.50	5.75
Total cost per year (in Rupees)	1,643,166.64	4,105,083.55	7,105,279.19	9,665,408.36
Total cost per year (in Crores)	0.16	0.41	0.71	0.97

Generator Expenses				
	Year 1	Year 2	Year 3	Year 4
% of Utilization	7.84	18.65	30.81	40.09
Rate per hrs	18.00	19.44	21.00	22.67
0.5 Mega Watts				
500 KVA				
500 units per hrs.				
unit cons. 500 *1 hrs per day				
No. of Hrs Consumed Per Day	0.4	0.45	0.5	0.5
Total Days	365	365	365	365
Per Year Unit Consumed (i.e. 500*hrs. cons. Per day*working hrs)	73000	82125	91250	91250
Total Cost (in Rupees)	102,989.19	297,727.54	590,277.21	829,494.82
Total Cost (in Crore)	0.01	0.03	0.06	0.08

Annexure 9.16

Area Percentage	W/sq m
0.61	68.14
0.39	9.86
Total	78.00

Power Factor Taken as
1

	I	II	III	IV
No. of Students	75	180	300	390
No. of Staff	12	27	42	55
Total	87	207	342	445

Max Power to be assumed in Xth Year Taken as 50% base

year 3	year 4	Year 5	Year 6	Year 7	Year 8
Units consumed per hour					
328.39	427.30	480.11	532.92	532.92	532.92
164.20	213.65	240.05	266.46	266.46	266.46
98.52	128.19	144.03	159.88	159.88	159.88
32.84	42.73	48.01	53.29	53.29	53.29

Units Consumed in year

Year 5	Year 6	Year 7	Year 7	Year 7	Year 7
364,402.05	404,486.28	404,486.28	404,486.28	404,486.28	404,486.28
1,275,407.19	1,415,701.98	1,415,701.98	1,415,701.98	1,415,701.98	1,415,701.98
179,752.48	199,525.25	199,525.25	199,525.25	199,525.25	199,525.25
69,135.57	76,740.48	76,740.48	76,740.48	76,740.48	76,740.48
1888697.28648649	2,096,453.99	2096453.988	2096453.988	2096453.988	2096453.988

6.00	6.25	6.50	6.75	7.00	7.10
11,332,183.72	13,102,837.43	13,626,950.92	14,151,064.42	14,675,177.92	14,884,823.31
1.13	1.31	1.36	1.42	1.47	1.49

Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
45.05	50.00	50.00	50.00	50.00	50.00
24.49	26.45	28.56	30.85	33.32	35.98
0.5	0.50	0.5	0.5	0.5	0.5
365	365.00	365	365	365	365
91250	91,250.00	91250	91250	91250	91250
1,006,577.98	1,206,685.68	1,303,220.54	1,407,478.18	1,520,076.44	1,641,682.55
0.10	0.12	0.13	0.14	0.15	0.16

V	VI	VII	VIII	IX	X
435	480	480	480	480	480
65	75	75	75	75	75
500	555	555	555	555	555

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Year 9	Year 10
532.92	532.92
266.46	266.46
159.88	159.88
53.29	53.29

CALCULATION SHEET FOR ELECTRICITY COST - IKGPTU-HOSHIRAPUR CAMPUS

		Type of Building	Load in W per sq m	Diversity
		Commercial	150	0.75
Assumption	Light Load	Residential	50	0.5

Built up Area in sq mtr	Light load in sq m	kW load	Load(kvA) Say
15,013	1,186,755.00	1187	1,187
	Percentage of Load	Units consumed per hour	
year 1	5.16	61.24	
year 2	19.69	233.73	
year 3	34.23	406.22	
year 4	48.76	578.72	
year 5	49.42	586.48	
year 6	50.00	593.38	
year 7	50.00	593.38	
year 8	50.00	593.38	
year 9	50.00	593.38	
year 10	50.00	593.38	

Electricity

			year 1	year 2
	Days	Hours		
Peak hrs in day (100%)		3	61.24	233.73
Non Peak hrs in day (Excluding Holidays)-(50%)		21	30.62	116.86
Consumption Hours during weekly off days-(20%)		24	18.37	70.12

Consumption Hours during Holidays -(5%)		24	6.12	23.37
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Total days in Year	365
Holidays in Year	60
Weekly Off Days	52
Working days in Year	253

Total Working Hours in Year-Peak Hours	759
(No. of Working Days in year*total peak hrs in a day, i.e. 253days*3hrs.)	
Total Working Hours in Year- other than Peak Hours (excluding Holidays)	5313
(No. of Working Days in year*Non peak hrs in a day, i.e. 253days*21hrs.)	
Total Working Hours in Year- Weekly off	1248
(No. of Weekly off Days * hrs in a day, i.e. 52days*24hrs.)	
Total Working Hours in Year- During Holidays	1440
(No. of Holidays Days * hrs in a day, i.e. 60days*24hrs.)	

Particulars	Year 1	Year 2	Year 3	Year 4
During Working Days- Peak hrs (i.e. hrs. * unit consumed per hrs.)	46,477.50	177,400.04	308,322.57	439,245.11
During Working Days- other than Peak hrs (i.e. hrs. * unit consumed per hrs.)	162,671.25	620,900.13	1,079,129.00	1,537,357.87
During Weekly off Days (i.e. hrs. * unit consumed per hrs.)	22,926.45	87,508.00	152,089.55	216,671.10
During Holidays (i.e. hrs. * unit consumed per hrs.)	8,817.87	33,656.92	58,495.98	83,335.04

Total	240893.066940044	919465.086489462	1598037.10603888	2276609.1255883
Electricity Expenses				
Rate per unit (in Rupees)	5.00	5.25	5.50	5.75
Total cost per year (in Rupees)	1,204,465.3	4,827,191.7	8,789,204.1	13,090,502.5
Total cost per year (in Crores)	0.12	0.48	0.88	1.31

Generator Expenses	Year 1	Year 2	Year 3	Year 4
% of Utilization	5	19.69	34.23	48.76
Rate per hrs	18.00	19.44	21.00	22.67
0.75 Mega Watts				
750 KVA				
750 units per hrs.				
unit cons. 750 *1 hrs per day				
No. of Hrs Consumed Per Day	0.4	0.45	0.5	0.5
Total Days	365	365	365	365
Per Year Unit Consumed (i.e. 750*hrs. cons. Per day*working hrs)	109500	123187.5	136875	136875
Total Cost (in Rupees)	101,701.31	471,643.40	983,663.65	1,513,463.63
Total Cost (in Crore)	0.01	0.05	0.10	0.15

Annexure 9.17

Area Percentage	W/sq m
0.62	69.49
0.38	9.56
Total	79.05

Power Factor Taken as
1

	I	II	III	IV
No. of Students	60	240	420	600
No. of Staff	11	31	51	71
Total	71	271	471	671
Taken as 50% base				

year 3	year 4	Year 5	Year 6	Year 7	Year 8
Units consumed per hour					
406.22	578.72	586.48	593.38	593.38	593.38
203.11	289.36	293.24	296.69	296.69	296.69
121.87	173.61	175.94	178.01	178.01	178.01

40.62	57.87	58.65	59.34	59.34	59.34
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Units Consumed in year

Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
445,136.62	450,373.52	450,373.52	450,373.52	450,373.52	450,373.52
1,557,978.17	1,576,307.33	1,576,307.33	1,576,307.33	1,576,307.33	1,576,307.33
219,577.27	222,160.54	222,160.54	222,160.54	222,160.54	222,160.54
84,452.80	85,446.36	85,446.36	85,446.36	85,446.36	85,446.36

2307144.86646802	2,334,287.75	2334287.74725	2334287.74725	2334287.74725	2334287.74725
6.00	6.25	6.50	6.75	7.00	7.10
13,842,869.2	14,589,298.42	15,172,870.4	15,756,442.3	16,340,014.2	16,573,443.0
1.38	1.46	1.52	1.58	1.63	1.66

Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
49.42	50.00	50.00	50.00	50.00	50.00
24.49	26.45	28.56	30.85	33.32	35.98
0.5	0.50	0.5	0.5	0.5	0.5
365	365.00	365	365	365	365
136875	136,875.00	136875	136875	136875	136875
1,656,464.52	1,810,028.52	1,954,830.81	2,111,217.27	2,280,114.65	2,462,523.83
0.17	0.18	0.20	0.21	0.23	0.25

V	VI	VII	VIII	IX	X
600	600	600	600	600	600
80	88	88	88	88	88
680	688	688	688	688	688

Year 9	Year 10
593.38	593.38
296.69	296.69
178.01	178.01

59.34	59.34
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CALCULATION SHEET FOR ELECTRICITY COST -IKGPT-SULTANPUR LODHI CAMPUS

		Type of Building	Load in W per sq m	Diversity
		Commercial	150	0.75
Assumption	Light Load	Residential	50	0.5

Built up Area in sq mtr	Light load in sq m	kW load	Load(kvA) Say
19,497	1646515	1647	1,647

	Percentage of Load	Units consumed per hour
year 1	0.73	11.95
year 2	12.52	206.19
year 3	27.31	449.73
year 4	38.29	630.52
year 5	49.18	809.81
year 6	50.00	823.26
year 7	50.00	823.26
year 8	50.00	823.26
year 9	50.00	823.26
year 10	50.00	823.26

Electricity

			year 1	year 2
	Days	Hours		
Peak hrs in day (100%)		3	11.95	206.19
Non Peak hrs in day (Excluding Holidays)-(50%)		21	5.98	103.09
Consumption Hours during weekly off days-(20%)		24	3.59	61.86
Consumption Hours during Holidays -(5%)		24	1.20	20.62

Total days in Year	365
Holidays in Year	60
Weekly Off Days	52
Working days in Year	253

Total Working Hours in Year-Peak Hours	759
(No. of Working Days in year*total peak hrs in a day, i.e. 253days*3hrs.)	
Total Working Hours in Year- other than Peak Hours (excluding Holidays)	5313
(No. of Working Days in year*Non peak hrs in a day, i.e. 253days*21hrs.)	
Total Working Hours in Year- Weekly off	1248
(No. of Weekly off Days * hrs in a day, i.e. 52days*24hrs.)	
Total Working Hours in Year- During Holidays	1440
(No. of Holidays Days * hrs in a day, i.e. 60days*24hrs.)	

Particulars	Year 1	Year 2	Year 3	Year 4
During Working Days- Peak hrs (i.e. hrs. * unit consumed per hrs.)	9,072.27	156,496.62	341,344.07	478,562.12
During Working Days- other than Peak hrs (i.e. hrs. * unit consumed per hrs.)	31,752.94	547,738.17	1,194,704.26	1,674,967.44
During Weekly off Days (i.e. hrs. * unit consumed per hrs.)	4,475.17	77,196.75	168,378.42	236,065.43
During Holidays (i.e. hrs. * unit consumed per hrs.)	1,721.22	29,691.06	64,760.93	90,794.40
Total	47021.5996987296	811122.594803085	1769187.6886647	2480389.38410799

Electricity Expenses				
Rate per unit (in Rupees)	5.00	5.25	5.50	5.75
Total cost per year (in Rupees)	235,108.00	4,258,393.62	9,730,532.29	14,262,238.96
Total cost per year (in Crores)	0.02	0.43	0.97	1.43

Generator Expenses	Year 1	Year 2	Year 3	Year 4
% of Utilization	0.73	12.52	27.31	38.29
Rate per hrs	18.00	19.44	21.00	22.67
0.5 Mega Watts				
500 KVA				
500 units per hrs.				
unit cons. 500 *1 hrs per day				
No. of Hrs Consumed Per Day	0.4	0.45	0.5	0.5
Total Days	365	365	365	365
Per Year Unit Consumed (i.e. 500*hrs. cons. Per day*working hrs)	73000	82125	91250	91250
Total Cost (in Rupees)	9,539.02	199,925.93	523,284.40	792,332.56
Total Cost (in Crore)	0.01	0.02	0.05	0.08

Annexure 9.18

Area Percentage	W/sq m
0.68	76.44
0.32	8.01
Total	84.45

Power Factor Taken as

1

	I	II	III	IV
No. of Students	0	115	260	365
No. of Staff	8	23	41	57
Total	8	138	301	422
Taken as 50% base				

year 3	year 4	Year 5	Year 6	Year 7	Year 8
Units consumed per hour					
449.73	630.52	809.81	823.26	823.26	823.26
224.86	315.26	404.91	411.63	411.63	411.63
134.92	189.15	242.94	246.98	246.98	246.98
44.97	63.05	80.98	82.33	82.33	82.33

Units Consumed in year

Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
614,646.14	624,852.44	624,852.44	624,852.44	624,852.44	624,852.44
2,151,261.49	2,186,983.55	2,186,983.55	2,186,983.55	2,186,983.55	2,186,983.55
303,193.04	308,227.61	308,227.61	308,227.61	308,227.61	308,227.61
116,612.71	118,549.08	118,549.08	118,549.08	118,549.08	118,549.08
3185713.37958893	3,238,612.68	3238612.67925	3,238,612.68	3,238,612.68	3,238,612.68

6.00	6.25	6.50	6.75	7.00	7.10
19,114,280.28	20,241,329.25	21,050,982.42	21,860,635.58	22,670,288.75	22,994,150.02
1.91	2.02	2.11	2.19	2.27	2.30

Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
49.18	50.00	50.00	50.00	50.00	50.00
24.49	26.45	28.56	30.85	33.32	35.98
0.5	0.50	0.5	0.5	0.5	0.5
365	365.00	365	365	365	365
91250	91,250.00	91250	91250	91250	91250
1,099,051.62	1,206,685.68	1,303,220.54	1,407,478.18	1,520,076.44	1,641,682.55
0.11	0.12	0.13	0.14	0.15	0.16

V	VI	VII	VIII	IX	X
470	470	470	470	470	470
72	81	81	81	81	81
542	551	551	551	551	551

Year 9	Year 10
823.26	823.26
411.63	411.63
246.98	246.98
82.33	82.33

Total C

S.no	Name	Renovation Cost	Cost of New Construction	Cost Index	Indexed Cost of Renovation	Indexed Cost of Construction
		A	B	D	E=A*D/100	F=B*D/100
1	IKGPTU, Main Campus, Kapurthala	14.35	341.68	102.00	14.63	348.51
2	IKGPTU Amritsar Campus	5.25	19.49	107.00	5.62	20.85
3	IKGPTU Batala Campus	9.74	30.77	102.00	9.94	31.39
4	IKGPTU Bhikiwind Campus	6.40	25.15	107.00	6.85	26.91
5	IKGPTU Dinanagar Campus	10.60	31.66	102.00	10.81	32.29
6	IKGPTU Hoshiarpur Campus	5.66	31.89	102.00	5.78	32.53
7	IKGPTU Sultanpur Lodhi Campus	4.03	34.07	102.00	4.11	34.75
Grand Total		56.03	514.71		57.73	527.23

Phasing of Total Capital Cost o

	0	585	1350	2080	2950
	0%	12%	30%	50%	65%
Main Campus, Kapurthala					
	Total	A.Y.1	A.Y.2	A.Y.3	A.Y.4
Cost of New Construction	411.92	49.43	74.15	82.38	61.79
Renovation Cost	17.29	2.08	3.11	3.46	2.59
Equipment Cost	45.53	5.46	8.19	9.11	6.83
Furniture Cost	25.06	3.05	3.99	3.81	4.54
Total	499.80	60.02	89.45	98.76	75.75
	0	654	1458	1846	2305
	0%	30%	60%	75%	90%
PIT, Amritsar					
	Total	A.Y.1	A.Y.2	A.Y.3	A.Y.4
Cost of New Construction	24.43	7.33	7.33	3.66	3.66
Renovation Cost	6.58	1.97	1.97	0.99	0.99
Equipment Cost	4.07	1.22	1.22	0.61	0.61
Furniture Cost	2.60	0.67	0.82	0.40	0.47

Total	37.68	11.19	11.34	5.66	5.73
PIT, Batala					
	Total	A.Y.1	A.Y.2	A.Y.3	A.Y.4
Cost of New Construction	36.78	11.03	11.03	5.52	5.52
Renovation Cost	11.64	3.49	3.49	1.75	1.75
Equipment Cost	4.94	1.48	1.48	0.74	0.74
Furniture Cost	4.02	1.03	1.27	0.61	0.72
Total	57.38	17.04	17.28	8.62	8.73
PIT, Bhikiwind					
	Total	A.Y.1	A.Y.2	A.Y.3	A.Y.4
Cost of New Construction	31.53	9.46	9.46	4.73	4.73
Renovation Cost	8.03	2.41	2.41	1.20	1.20
Equipment Cost	4.07	1.22	1.22	0.61	0.61
Furniture Cost	2.84	0.73	0.89	0.43	0.51
Total	46.46	13.81	13.98	6.98	7.05
PIT, Dinanagar					
	Total	A.Y.1	A.Y.2	A.Y.3	A.Y.4
Cost of New Construction	37.83	11.35	11.35	5.67	5.67
Renovation Cost	12.66	3.80	3.80	1.90	1.90
Equipment Cost	3.61	1.08	1.08	0.54	0.54
Furniture Cost	4.09	1.05	1.29	0.62	0.74
Total	58.19	17.28	17.52	8.74	8.85
PIT, Hoshiarpur					
	Total	A.Y.1	A.Y.2	A.Y.3	A.Y.4
Cost of New Construction	38.11	11.43	11.43	5.72	5.72
Renovation Cost	6.77	2.03	2.03	1.02	1.02
Equipment Cost	5.00	1.50	1.50	0.75	0.75
Furniture Cost	4.05	1.04	1.28	0.62	0.73
Total	53.93	16.00	16.24	8.10	8.21
PIT, Sultanpur Lodhi					
	Total	A.Y.1	A.Y.2	A.Y.3	A.Y.4
Cost of New Construction	40.72	12.21	12.21	6.11	6.11
Renovation Cost	4.82	1.45	1.45	0.72	0.72
Equipment Cost	3.66	1.10	1.10	0.55	0.55
Furniture Cost	4.08	1.05	1.29	0.62	0.74
Total	53.27	15.80	16.04	8.00	8.11

G.Total	806.72	151.15	181.85	144.84	122.44
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Cost of New Construction	621.31	112.25	136.96	113.79	93.20
Renovation Cost	67.79	17.22	18.26	11.03	10.17
Equipment & Furnishing Cost	117.62	21.68	26.63	20.02	19.08
Total	806.72	151.15	181.85	144.84	122.44

Capital Cost of IKGPTU

Taxes		Renovation Cost	Cost of New Construction	Equipment Cost	Furniture Cost	Capital Cost	Contingency
G=(%age* E)	H=(%age* F)	I=E+G	J=F+H	K	L	M=I+J+K+L	N=M*3%
2.16	51.41	16.79	399.92	44.20	24.33	485.24	14.56
0.77	2.87	6.39	23.72	3.95	2.53	36.58	1.10
1.37	4.32	11.30	35.70	4.80	3.90	55.71	1.67
0.94	3.70	7.79	30.61	3.95	2.75	45.11	1.35
1.49	4.44	12.29	36.73	3.50	3.98	56.50	1.69
0.79	4.47	6.57	37.00	4.85	3.94	52.36	1.57
0.57	4.78	4.68	39.53	3.55	3.97	51.72	1.55
8.08	75.98	65.82	603.21	68.80	45.39	783.22	23.50

Cost of IKGPTU

3785	4420	4690	4770	4800	4800
100%					
a					
A.Y.5	A.Y.6	A.Y.7	A.Y.8	A.Y.9	A.Y.10
144.17	-	###	-	###	-
6.05	-	###	-	###	-
15.93	-	-	-	-	-
4.36	3.32	1.41	0.42	0.16	-
170.52	3.32	1.41	0.42	0.16	-
2475	2550	2550	2550	2550	2550
100%					
A.Y.5	A.Y.6	A.Y.7	A.Y.8	A.Y.9	A.Y.10
2.44	-	-	-	-	-
0.66	-	###	-	###	-
0.41	-	-	-	-	-
0.17	0.08	-	-	-	-

3.68		0.08		-	-	-	-
A.Y.5	A.Y.6	A.Y.7	A.Y.8	A.Y.9	A.Y.10		
3.68	-	-	-	-	-		
1.16	-	###	-	###	-		
0.49	-	-	-	-	-		
0.27	0.12	-	-	-	-		
5.60		0.12		-	-	-	-
A.Y.5	A.Y.6	A.Y.7	A.Y.8	A.Y.9	A.Y.10		
3.15	-	-	-	-	-		
0.80	-	###	-	###	-		
0.41	-	-	-	-	-		
0.19	0.08	-	-	-	-		
4.55		0.08		-	-	-	-
A.Y.5	A.Y.6	A.Y.7	A.Y.8	A.Y.9	A.Y.10		
3.78	-	-	-	-	-		
1.27	-	###	-	###	-		
0.36	-	-	-	-	-		
0.27	0.12	-	-	-	-		
5.68		0.12		-	-	-	-
A.Y.5	A.Y.6	A.Y.7	A.Y.8	A.Y.9	A.Y.10		
3.81	-	-	-	-	-		
0.68	-	###	-	###	-		
0.50	-	-	-	-	-		
0.27	0.12	-	-	-	-		
5.26		0.12		-	-	-	-
A.Y.5	A.Y.6	A.Y.7	A.Y.8	A.Y.9	A.Y.10		
4.07	-	-	-	-	-		
0.48	-	-	-	-	-		
0.37	-	-	-	-	-		
0.27	0.12	-	-	-	-		
5.19		0.12		-	-	-	-

200.49	3.95	1.41	0.42	0.16	-
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165.11	-	-	-	-	-
11.10	-	-	-	-	-
24.27	3.95	1.41	0.42	0.16	-
200.49	3.95	1.41	0.42	0.16	-

Total Capital Cost

O=M+N

499.80
37.68
57.38
46.46
58.19
53.93
53.27
806.72

Area Summary					
S.NO	NAME	TOTAL AREA	Existing Area (Renovation Cost)		
			Academic Building	Administrative Building	Central Academic Services Facilities
1	IKGPTU, Main Campus, Kapurthala	196,838	32607.39	18890.20	5826.80

S.NO	NAME	TOTAL AREA	Existing Area (Renovation Cost)		
			Administrative & Faculty Building	Classroom & Laboratory Complex	Central Academic Services Facilities
2	IKGPTU Amritsar Campus	12,148		5,752.60	1,260.00
3	IKGPTU Batala Campus	14,789		3,922.80	1,402.80
4	IKGPTU Bhikiwind Campus	10,884		3,403.40	-
5	IKGPTU Dinanagar Campus	13,665		3,553.20	-
6	IKGPTU Hoshiarpur Campus	15,013		2,732.80	1,379.00
7	IKGPTU Sultanpur Lodhi Campus	19,497	1,735.30	6,150.20	3,401.30

	Proposed Area (New Construction)				EXISTING (No Cost)	
Residential And Hostel Complex	Academic Building	Administrative Building	Central Academic Services Facilities	Residential And Hostel Complex	Academic Building	Administrative Building
258.00	16254.01	-	8624.80	75597.50	-	-

	Proposed Area (New Construction)			
Residential And Hostel Complex	Administrative & Faculty Building	Classroom & Laboratory Complex	Central Academic Services Facilities	Residential And Hostel Complex
675.00	-		1,680.00	2,780.00
2,810.00		1,856.40	2,660.00	2,137.00
1,825.00		837.20	2,940.00	1,878.00
3,020.00		1,783.60	2,940.00	2,368.00
2,750.00		3,138.80	2,023.00	2,989.00
-	-	-	1,960.00	6,250.00

g Area plication)	
Central Academic Services Facilities	Residential And Hostel Complex
10649.00	28130.00

Residential	Commercial	Total
103985.50	92852.20	196837.70
0.53	0.47	1.00

3,455.00	8,692.60	12,147.60	0.28	0.72
4,947.00	9,842.00	14,789.00	0.33	0.67
3,703.00	7,180.60	10,883.60	0.34	0.66
5,388.00	8,276.80	13,664.80	0.39	0.61
5,739.00	9,273.60	15,012.60	0.38	0.62
6,250.00	13,246.80	19,496.80	0.32	0.68