FIRST SEMESTER B.ARCHITECTURE

TEACHING SCHEDULE & SCHEME OF EXAMINATION

Code No.	Subject	Lecture	Seminar Tutorial	Studio/ Workshop / Field work	Total	MAX. MKS.		Total	Duration (Hrs) Univ. Exam Viva-Voce/ Practical
						INT. MKS	EXT. MKS.		
AR-121	ARCHITECTURAL DESIGN & THEORY-I	2	-	5	7	85	85	170	06
AR-123	BUILDING CONSTRUCTION & MATERIALS-I	2	-	3	5	70	70	140	04
AR-125	ARCHITECTURAL DRAWING-I	2	-	3	5	70	70	140	04
AR-127	ARCHITECTURAL GRAPHICS-I	1	-	2	3	50	50	100	04
AR-129	COMMUNICATION SKILL-I	2	-	2	4	50	50	100	03
AR-131	STRUCTURE SYSTEM-I	2	-		2	50	-	50	NO EXAM
AR-133	WORKSHOP-I	0	-	2	2	50	-	50	NO EXAM
AR-135	THEORY OF STRUCTURE-I	2	2	-	4	50	50	100	03
TOTAL		13	2	17	32	475	375	850	

SECOND SEMESTER B.ARCHITECTURE

TEACHING SCHEDULE & SCHEME OF EXAMINATION

CODE NO	Subject	Lecture	Seminar Tutorial	Studio/ Workshop /Field work	Total	MAX. MKS.		Total	Duration(Hrs) Univ.Exam Viva-Voce/ Practical
						INT. MKS	EXT. MKS.		
AR-122	ARCHITECTURAL DESIGN –II	2	-	6	8	85	85	170	06
AR-124	BUILDING CONSTRUCTION & MATERIAL-II	2	-	4	6	70	70	140	04
AR-126	ARCHITECTURAL DRAWING-II	1	-	3	4	70	70	140	04
AR-128	ARCHITECTURAL GRAPHICS-II	1	-	3	4	50	50	100	04
AR-130	THEORY OF DESIGN-I	2	-	0	2	50	50	100	03
AR-132	STRUCTURAL SYSTEM-II	1	-	-	1	50	-	50	NO EXAM
AR-134	HISTORY OF ARCHITECTURE-I	2	-	1	3	50	50	100	03
AR-136	WORKSHOP-II	-	-	2	2	50	-	50	NO EXAM
AR-138	STRUCTURE DESIGN-II	2	2	-	4	50	50	100	03
	GENERAL FITNESS					100		100	
	TOTAL	12	2	21	34	625	425	1050	
• **Educational Tour**		**One week duration during First Year**							

THIRD SEMESTER B.ARCHITECTURE

TEACHING SCHEDULE & SCHEME OF EXAMINATION

CODE NO	Subject	Lecture	Seminar Tutorial	Studio/ Workshop / Field work	Total	MAX. MKS.		Total	Duration(Hrs) Univ.Exam Viva-Voce/ Practical
						INT. MKS	EXT. MKS.		
AR-221	ARCHITECTURAL DESIGN –III	2	-	5	7	85	85	170	06
AR-223	BUILDING CONSTRUCTION & MATERIALS-III	2	-	4	6	70	70	140	04
AR-225	ARCHITECTURE DRAWING-III	1	-	2	3	70	70	140	04
AR-227	HISTORY OF ARCHITECTURE-II	2	1	-	3	50	50	100	03
AR-229	BUILDING SERVICES-I	2	-	0	2	50	50	100	03
AR-231	STRUCTURE DESIGN-III	2	2	-	4	50	50	100	03
AR-233	SURVEYING & LEVELLING –I	2	3	-	5	50	50	100	03
	TOTAL	13	6	11	30	425	325	850	

FOURTH SEMESTER B.ARCHITECTURE
TEACHING SCHEDULE & SCHEME OF EXAMINATION

CODE NO	Subject	Lecture	Seminar Tutorial	Studio/ Workshop / Field work	Total	MAX. MKS.		Total	Duration(Hrs) Univ. Exam Viva-Voce/ Practical
						INT. MKS	EXT. MKS.		
AR-222	ARCHITECTURAL DESIGN –IV	2	-	6	8	85	85	170	06
AR-224	BUILDING CONSTRUCTION & MATERIALS-IV	2	-	4	6	70	70	140	04
AR-226	HISTORY OF ARCHITECTURE -III	2	1	-	3	50	50	100	03
AR-228	THEORY OF DESIGN-II	2	-	0	2	50	50	100	03
AR-230	CLIMATE & ARCHITECTURE-I	2	-	0	2	50	50	100	03
AR-232	COMPUTER APPLICATION-I	2		2	4	50	50	100	Practical
AR-234	BUILDING SERVICES-II	2	-	0	2	50	50	100	03
AR-236	ARCHITECTURAL PRESENTATION-I	1	-	3	4	40	-	40	NO EXAM
AR-238	STRUCTURE DESIGN-IV	2	2	-	4	50	50	100	03
	GENERAL FITNESS					100		100	
	TOTAL	17	3	15	35	595	455	1050	

- **Educational Tour** **One week duration during Second year**

(2)

(3) FIFTH SEMESTER B.ARCHITECTURE

TEACHING SCHEDULE & SCHEME OF EXAMINATION

CODE NO.	Subject	Lecture	Seminar Tutorial	Studio/ Workshop/ Field work	Total	MAX. MKS.		TOTAL	Duration(Hrs) Univ.Exam Viva-Voce/ Practical
						INT. MKS	EXT. MKS.		
AR-321	ARCHITECTURAL DESIGN –V	2	-	5	7	100	100	200	12
AR-323	BUILDING CONSTRUCTION & MATERIAL-V	2	-	4	6	75	75	150	04
AR-325	COMPUTER AIDED DESIGN & PRESENTATION TECHNIQUES -I	2	-	4	6	50	50	100	Practical
AR-327	BUILDING SPECIFICATIONS-I	2	-	-	2	50	50	100	03
AR-329	LANDSCAPE ARCHITECTURE-I	2	1	-	3	50	50	100	03
AR-331	STRUCTURE SYSTEM-III	2	-	-	2	50	50	100	Practical viva-voce
AR-333	STRUCTURE DESIGN PROJECT-V	2	-	4		50	60	100	03
	TOTAL	15	3	13	31			850	

SIXTH/SEVENTH SEMESTER B.ARCHITECTURE
TEACHING SCHEDULE & SCHEME OF EXAMINATION

CODE NO	Subject	Lecture	Seminar Tutorial	Studio/ Workshop/ Field work	Total	MAX. MKS.		Total	Duration(Hrs)Univ.Exam Viva-Voce/ Practical
						INT. MKS	EXT. MKS.		
AR-322	ARCHITECTURAL DESIGN –VI	2	-	6	8	100	100	200	12
AR-324	BUILDING CONSTRUCTION & MATERIALS–VI	2	-	4	6	75	75	150	04
AR-326	THEORY OF DESIGN-III	1	2	-	3	50	50	100	03
AR-328	INTERIOR DESIGN-I	2	1	-	3	50	50	100	03
AR-330	BUILDING SERVICES-III	3	-	-	3	50	50	100	03
AR-332	ESTIMATING COSTING & BUILDINGS ECONOMICS-I	2	1	0	3	50	50	100	03
AR-334	BUILDING BYELAWS-I	3	-	0	3	50	50	100	03
	GENERAL FITNESS					100		100	
	TOTAL	15	4	10	29	525	425	950	

SIXTH/SEVENTH SEMESTER B.ARCHITECTURE
TEACHING SCHEDULE & SCHEME OF EXAMINATION

CODE. No	Subject Name	Duration of training	Max. Marks		Exam	Uni. Viva-Voce	Total Marks
AR-421	Practical Training Programme	One full semester	Int Mks 450	Ext mk 400	No Exam.	Yes	850

EIGHTH SEMESTER B.ARCHITECTURE
TEACHING SCHEDULE & SCHEME OF EXAMINATION

Code No	Subject	Lecture	Seminar Tutorial	Studio/ Workshop/ Field work	Total	Max. Marks		Total	Duration Hrs Uni. Exam Viva –Voce/ Practical
						Int. Marks	Ext. Marks		
AR-422	ARCHITECTURAL DESIGN-VII	2	-	10	12	125	125	250	
AR-424	BUILDING CONSTRUCTION –VII	2	-	4	6	100	100	200	04
AR-426	URBAN DESIGN-I	1	1	4	6	50	50	100	03
AR-428(EL)	LOW-COST BUILDING-I	1	2	-	3	50	50	100	03
AR-430(EL)	RESTORATION & PRESERVATION OF MONUMENTS-I	1	2	-	3	50	50	100	03
AR-432(EL)	HOUSING-I	1	2	-	3	50	50	100	03
AR-434(EL)	ACOUSTICS-I	1	2	-	3	50	50	100	03
AR-436(EL)	BUILDING MATERIALS-I	1	2	-	3	50	50	100	03
AR-438(EL)	BUILDING MAINTENANCE-I	1	2	-	3	50	50	100	03
AR-440(EL)	INDIAN ARCHITECTURE-I	1	2	-	3	50	50	100	03
	GENERAL FITNESS					100		100	
	TOTAL	12	15	18	45	725	625	1350	

NINTH SEMESTER B.ARCHITECTURE

TEACHING SCHEDULE & SCHEME OF EXAMINATION

Code No	Subject	Lecture	Seminar Tutorial	Studio/ Workshop/ Field work	Total	MAX.MKS.		Total	Duration(Hrs)Univ .Exam Viva-Voce/ Practical
						Int.Marls	Ext.Marks		
AR-521	ARCHITECTURAL DESIGN-VIII	2	-	10	12	125	125	250	
AR-523	BUILDING CONSTRUCTION –VIII	2	-	4	6	100	100	200	04
AR-525	TOWN PLANNING-I	1	2	-	3	50	50	100	03
AR-527(EL)	COMPUTER IN ARCHITECTURE -I	1	-	2	3	50	50	100	03
AR-529(EL)	ARCHITECTURAL PRESENTATION-I	1	-	2	3	50	50	100	03
AR-531(EL)	LIGHTING & ILLUMINATION-I	1	2	-	3	50	50	100	03
AR-533(EL)	VERNACULAR ARCHITECTURE-I	1	2	-	3	50	50	100	03
AR-535(EL)	MULTI STOREYED BUILDINGS-I	1	2	-	3	50	50	100	03
AR-537(EL)	LANDSCAPE ARCHITECTURE-II	1	2	-	3	50	50	100	03
AR-539(EL)	TRAFFIC & TRANSPORTATION-I	1	2	-	3	50	50	100	03
	TOAL				33	625	625	1250	

TENTH SEMESTER B.ARCHITECTURE
TEACHING SCHEDULE & SCHEME OF EXAMINATION

Code No	Subject	Lecture	Seminar Tutorial	Studio/ Workshop/ Field work	Total	MAX.MKS.		Total	Duration(Hrs) Univ.Exam Viva-Voce/ Practical
						Int.Marls	Ext.Marks		
COMPULSORY SUBJECTS									
AR-522	ARCHITECTURAL DESIGN -IX (THESIS - PROJECT)	-	-	24	24	350	250	600	UNI.EXAM VIVA-VOCE
AR-524	PROFESSIONAL PRACTICE-I	03	-	-	03	50	50	100	03
AR-526	CONSTRUCTION MANAGEMENT-I	03	-	-	03	50	50	100	03
ELECTIVE SUBJECT ANY ONE									
AR-528(EL)	INTERIOR DESIGN-II	01	02	-	03	50	-	50	NO EXAM
AR-530(EL)	DISASTER MANAGEMENT FOR BUILDINGS-I	01	02	-	03	50	-	50	NO EXAM
AR-532(EL)	LIGHTING DESIGN-I	01	02	-	03	50	-	50	NO EXAM
AR-534(EL)	HILL ARCHITECTURE-I	01	02	-	03	50	-	50	NO EXAM
	TOTAL	10	08	24	42	650	350	1000	

NOTE: IN AR – 522 (THESIS PROJECT) STUDENT MUST GET PASSING MARKS SEPERATELY TO OBTAIN A DEGREE IN X TH SEMESTER B.ARCH .

B.ARCHITECTURE-IST SEMESTER

ARCHITECTURAL DESIGN AND THEORY-I

(AR-121)

Uni. Exam . Marks - 85
Sessional Marks - 85
Duration of Exam. - 06 hrs.

INTENT To learn about the elements and the principles of basic design in 2-D and 3-D compositions.

CONTENT Exercises in two-dimensional design and three-dimensional form as an appropriate base for subsequent architectural design and theory.

UNIT-I **Max. Marks.-35**

- Elements and principles of design (Theory of Design).
- The basic objective of design i.e. truthfulness, beauty, order, efficiency, usefulness, economy etc.
- The concept of Rhythm, Balance, Unity, monotony, harmony, contrast etc. in design.
- Scale and proportion in architecture.
  Anthropometrics dimensions.

UNIT-II **Max. Marks.-50**

Experience in two Dimensional design, composition with colour, texture and pattern.
Stress should be given to practically understand the principles of design learnt in theory (unit-1).
Experience in 3D with simple geometrical forms like cube, cuboids, cylinder, cone, prism etc.
Design problems like

- Door elevation
- Carpet design
- Floor tile design & floor design.
- Compositions with 3-D Objects.
  (Black & white and colours.)
- Mural with geometrical shape
- Sky line of city/village
- Layout of furniture based on anthropometrics.
- Anthropometrics for physically challenged persons

INSTRUCTIONS TO THE EXAMINER

1. A compulsory question of 50 marks is to be set from UNIT-II
2. Three questions are to be set from UNIT-I and students are required to attempt any two.

B.ARCHITECTURE-IST SEM.
BUILDING CONSTRUCTION & MATERIALS-I
(AR-123)

Uni.Exam.Marks - 70
Sessional Marks - 70
Duration of Exam. - 04 hrs.

INTENT The over all intent is to study various construction details in co-ordination with the Building Materials and science related to them. This subject consist of two units-

UNIT - I Building Materials
UNIT - II Building Construction

UNIT – I **BUILDING MATERIALS Max. Marks.- 20**

- ELEMENTARY BUILDING MATERIALS

The study of constituents, properties, types, and uses of
Bricks, Stones, Cement, Lime, Sand, Mortars
Surface finishes - plastering and pointing

NOTE

- Site visit to brick kiln.
- Market Survey for such materials with respect to their availability, trade names, and market rates etc.
- Site report should be evaluated and form a part of sessional work.

UNIT-II **BUILDING CONSTRUCTION Max.Marks.- 50**

- **BRICK MASONRY**
  (1) Terminology used in brick masonry, tools used in brick masonry.
  (2) Types of Bats and closers in brick masonry.
  (3) Bonds in brick work.
  (4) L-junctions, T-Junctions, cross junction in brick masonry (4-1/2", 9" thick brick walls)
  (5) Attached & detached piers in brick.
  (6) Arches-Flat, Segmental and Semicircular Arch in brick masonry.
  (7) Lintels, sills, coping
  (8) Design of simple brick jalli.
- **STONE MASONRY** (Construction Details)
  1. Rubble (Coursed, Uncoursed)
  2. Ashlar (Coursed, Uncoursed, Rough faced)
  3. Polygonal Walling
  4. Stone Arches

INSTRUCTIONS FOR EXAMINER:

1. Three questions are to be set from UNIT -I .
2. Four questions are to be set from UNIT-II.
3. Students are required to attempt total four questions, two from UNIT-I and two from UNIT-II.
4. Question paper is to be set covering whole of the syllabus.

B.ARCHITECTURE-IST SEM.

ARCHITECTURAL DRAWING-I
(AR-125)

Uni.Exam.Marks	**-**	**70**
Sessional Marks	**-**	**70**
Duration of Exam.	**-**	**04 hrs.**

INTENT

The intention of this subject is to familiarize the students with basic knowledge of good drafting and lettering techniques, and at this stage familiarize them with architectural drawing i.e. orthographic projections of simple geometrical forms.

UNIT-I

Drafting techniques, principles of good drafting.
Lettering (free hand, block lettering)
Scales & its use in the Architectural drawing.

UNIT-II

Projections of point, lines, Planes & Solids in various positions.
Section of solids e.g. cubes, cuboids, cone, cylinder, prism, pyramid etc.
Development of surfaces of simple geometrical solids e.g. cube, cone, Cylinder, prism etc.

UNIT-III

Isometric projections of simple forms.

INSTRUCTIONS TO THE EXAMINER

1. Two compulsory questions are to be set one each from UNIT-I and UNIT-III. Two questions is to be set from UNIT-II, out of which student will attempt one question
2. Student will attempt a total of three questions, one from each unit

B.ARCHITECTURE-IST SEM.

ARCHITECTURAL GRAPHICS-I
(AR-127)

Uni.Exam.Marks - 50
Sessional Marks - 50
Duration of Exam. - 04 hrs.

INTENT To realize the utility of pencil and Poster Colours as a convenient tool to be used by Architects.

CONTENT

UNIT-I

Pencil as an effective presentation tool

- Free hand line work, different strokes in pencil.
- Effect of light & shade on simple geometrical solids.
- Textures of different building materials in pencil through shading.
- Freehand sketching of Human figures, Trees & Vehicles on an appropriate scale.

UNIT-II Poster colour & its use.

- Colour wheel showing primary, secondary & tertiary colours.
- Chart showing Tints & tones of various colours.
- Effect of colour in relief compositions.

INSTRUCTIONS TO THE EXAMINER

A total of three questions are to be set with a minimum of One question from each unit out of which the students are required to attempt any two questions selecting one from each unit.

RECOMMENDED BOOKS:

Architectural Rendering	Philip Crowe
Architectural Rendering	Albert & Habe
How to paint & draw	Jaxtheimer

B.ARCHITECTURE-IST SEM.
COMMUNICATION-SKILL-I
(AR-129)

Uni.Exam.Marks - 50
Sessional Marks - 50
Duration of Exam. - 03 hrs.

A) Purpose The purpose of this course of study is to develop essential communication skills of speaking, listening, reading, writing and learn-to-learn skills. This will enable students to comprehend effectively various instructional activities during the course of their study, become life long learners and prove effective in their professional career.

B) Instructional Objectives

Reading Skills

1. Understand model of reading to learn
2. Understand different tactics and strategies for reading to learn
3. State specific purpose of reading indicating learning outcomes.
4. Show reading outcomes in "Structural of Meaning Form"
5. Understand 'Reading to Learn' process as a whole
6. Write summary of a given text
7. Review literature

Writing Skills

1. Understand considerations for good writing
2. Given the purpose and context, write an application\ business letter memo.
3. Write a technical report on a given subject of interest(Related to Architecture

Listening Skills

1. Understand active listening
2. Develop effective active listening skills
3. Understand behaviour related to effective active listening
4. Develop effective feedback skills
5. Develop skills of note taking.

Speaking and Discussion Skills

1. Plan and organize content for a presentation
2. Develop presentation skills
3. Develop skills of an effective participant and a leader for group discussion.
4. Make a presentation
5. Conduct a meeting

C) Content

Reading Skills

Model of reading to learn- P.S.O.R : Reading Tactics and strategies: Reading purposes- kinds of purposes and associated comprehension: reading for meaning:

Reading outcomes- Structure of meaning technique, paraphrase, summary writing.

Activities

1. Develop an awareness of 'Reading to learn Procedure'
2. State reading purposes and comprehension
3. Check on reading outcomes including paraphrasing and writing of summary.

Writing Skills

1. Guidelines for effective writing; writing styles for application, personal resume, business letter, memo; Technical report -style, arrangement, illustration, main section and appendices, conclusion, list references, table of contents, synopsis, revision;

Activities

1. Writing of an application, business letter, memo and personal resume.
2. Writing a technical report.

Listening skills

Barriers to listening
effective listening skills ;
Feedback skills, Attending telephone calls ;
Note taking

Activities

1. Listening Exercises- Listening to News/TV;
   Conversation, lecture
2. Note-taking of a speech/lecture

Speaking and Discussion Skills

Components of an effective talk/presentation : planning and organizing content for a talk/presentation, use of visual aids, effective speaking skills, discussion skills

Activities;

1. Making presentation on a given topic
2. Participating in a group discussion
3. Conducting a meeting

D) Student Evaluation

Continuous evaluation for the subject will consist of assessing students' performance on the various activities/ practice exercises mentioned under the content of reading, writing, listening and speaking and discussion skills. The weightage to the continuous assessment will be 70% End of term examination will assess competencies mentioned for the reading and writing skills only. The test will include comprehension test for reading and writing skills.

E) References

1. Sheila,H.A.Smith,M & Thomas, L,
   "Reading to Learn ",Methuen,
   London, 1982
2. MCGrath,S.J."Basic Managerial Skills for all".
   Prentice Hall of India,
   New Delhi, 1991
3. Technical Report Writing British Association for Commericial and Industrial Education,BACIE,1972

B.ARCHITECTURE-IST SEM.
STRUCTURE SYSTEM-I
(AR-131)

Uni.Exam.	**-**	**No exam**
Sessional Marks	**-**	**50**
Duration of Exam.	**-**	**No** exam

INTENT To inculcate in the student an awareness of structural principles used in various building system.

NOTE: **More Emphasis shall be laid on learning by doing, such as by making of 3-D models(to give the student different spatial experience).**

UNIT -I **CELLULAR SYSTEM**

1. Cell as a natural unit of space.
2. Cell transformation.
3. Polygonal cellular systems leading to Geodesic Domes
4. Applications of Cellular system in Building

UNIT - II **BULK ACTIVE STRUCTURE SYSTEM**

Structure acting mainly through material bulk and continuity i.e.. Bulk active structure system or structure systems in bending.

a) Slabs (One way & two way)
b) Beams (Simply supported, Cantilever, Continuous, Vier-endale Girders)
c) Grid (Skew & square Grid)
d) Columns

GUIDELINES FOR THE TEACHERS:

(a) This course is to be taught as an introduction with special reference to structure in nature viz. Trees, Human body and other examples in which unusual rock formations are created by the forces of nature like wind and water.
(b) The teaching in this subject must bring out:

i)The predominantly pictorial nature of the architects language.
ii)The physical - mechanical essence of the subject matter.
iii)The orientation of all architectural efforts to form and space.

REFERENCES :

1. Order in space By Keith Critchlow
2. Three Dimensional design By Richard K.Thomas
3. A cellular Approach

B.ARCHITECTURE-IST SEM.
WORKSHOP-I
(AR-133)

Uni.Exam.	**-**	**No exam**
Sessional Marks	**-**	**50**
Duration of Exam.	**-**	**No exam**

INTENT: To acquaint the students with carpentry & joinery.

TOPICS: Sketches of carpentry tools & joints used in carpentry.

Making various joints of carpentry like half lap joint, mortise tenon joint, dovetail joint, mitre joint.

Making of models of bricks in wood

Making brick jalli with wooden bricks.

NOTE:-

Only internal viva-voce.

B.ARCHITECTURE-IST SEM.
THEORY OF STRUCTURES -I
(AR-135)

Sessional Marks- 50
Uni.Exam.Marks - 50
Duration of Exam. - 03 hrs.

Unit- 1

Centre of gravity, definition, centroid, centre of gravity of plane figures CG by method of moments, numerical problems. Moment of Inertia; MI of plane area, MI by method of integration, MI of rectangular section, theorem of parallel and perpendicular areas, ' numerical problems.

Unit- 11

Bending moment/ shear force, type of Supports, loads and beams, relation between SF and BM, BM and SF diagram for cantilever and simply supported beams with pointed load uniformly distributed load, design examples.

Unit-111

Moment of resistance, theory of bending, bending stresses, equation of theory of bending, sectional modulus of rectangular and circular sections, numercia1 problems,

Unit- IV

Analysis of perfect frame c1assification of frames, stress, Stair, Assumption, method of section, method of joints, design example.

Unit-V

Link polygon, method of construction, resultant of
concurrent forces, coplanar forces system,

B.ARCHITECTURE-II SEM.
ARCHITECTURAL DESIGN-II
(AR-122)

Uni.Exam.Marks	**-**	**85**
Sessional Marks	**-**	**85**
Duration of Exam.	**-**	**06 hrs.**

INTENT

To appreciate the constraints in the Architectural design of a small building with reference to function and form.

CONTENT: Importance of physical factors in Architectural design e.g. orientation, ventilation, adequate protection from rain, dust, insects etc. and human dimensions in various postures (in applied form),their relation to everyday utilities like the table, chair, bed, sink etc. Understanding measured drawing of an existing small unit.

TOPICS: Design of small buildings involving functional and services aspect, structure system & constructional methods e.g. Milk booths, kiosks, bus stop, cycle stand, security check post etc.

NOTE:- **All buildings should have accessibility to the physically challenged persons.**

INSTRUCTION TO THE EXAMINER:

1. One compulsory question is to be set from the entire syllabus

2. The topic of the project is to displayed on the college notice board at least fifteen days in advance.

B.ARCHITECTURE-IIND SEM.
BUILDING CONSTRUCTION & MATERIALS-II
(AR-124)

Uni.Exam.Marks	**-**	**70**
Sessional Marks	**-**	**70**
Duration of Exam.	**-**	**04 hrs.**

INTENT

The over all intent of this subject is to study various construction methods in coordination with the building materials and science related to them. This subject consists of two units-

UNIT - I Building Materials
UNIT - II Building Construction

UNIT-I **BUILDING MATERIALS** **Max. Mks.-20**

(a) Timber: Type of timber, seasoning of timber, Defects and decay of timber, market rate and uses of timber

(b) Water proofing:- Water proofing materials, such as Bitumen and water proofing felts.

(c) Surface finishes:-white wash, Distemper, paints and varnishes, (type, application, advantages disadvantages).

UNIT-II **BUILDING CONSTRUCTION** **Max. Mks.-50**

(a) Foundation and Damp proof course

- Types of foundations, its important details.
- Types of Damp proof course its material and laying, detailing of horizontal and vertical D.P.C.
- Timbering of excavations.

(b) Doors

- Introduction to joints in carpentry.
- Types of Doors & its construction details
- Framed ,ledged, Braced & Battened door
- Flush door, Wiremesh door, Panelled door

(c) Windows

- Types of windows in timber, Design and their construction details

(d)Construction of flat roof

Tile, Batten and I channel roof, R.B.C. roof & Jack Arch roof)
Concepts of water proofing & thermal insulation

INSTRUCTIONS FOR EXAMINER:

(1) Three questions are to be set from UNIT-I and students are required to attempt two questions.

(4) Four questions are to be set from UNIT-II and students are required to attempt two questions.

(3) Questions paper is to be set covering whole of the syllabus.

B.ARCHITECTURE-IIND SEM.
ARCHITECTURAL DRAWING-II
(AR-126)

Uni.Exam.Marks - 70
Sessional Marks - 70
Duration of Exam. - 04 hrs.

UNIT-I **Perspective:-**Normal Eye view & Birds eye view.

- One point & Two point perspective of building forms.(Exterior only)
- Perspectives having more then 2 vanishing points.

UNIT-II **Sciography**

- Shadows cast by simple forms on plain surfaces. (eg., points, lines planes and simple solids)
- Study of shadows & shade on building or part of building.

INSTRUCTION TO THE EXAMINERS

1. Two compulsory questions are to be set from UNIT-I and one from UNIT-II
2. Proper-dimensioned drawing is to be supplied to the student for the examination (i.e. plan, elevations and position of picture plane, station point and Horizon line.
3. Specimen question bank is to supplied to the examiner.

REFERENCES

Rendering with pen and ink	Robert W.Gill
Engineering drawing	N.D.Bhatt
Architectural Graphics	Franc D.Ching

B.ARCHITECTURE-IIND SEM.
ARCHITECTURAL GRAPHICS-II
(AR-128)

Uni.Exam.Marks - 50
Sessional Marks - 50
Duration of Exam. - 04 hrs.

UNIT-I

Pencil crayons and Oil pastels as presentation medium

- Rendering of various surfaces such as brick, stone, grass, etc.
- Trees, Human figures, Automobiles, Lampposts, Street furniture in Plan, Elevation and perspective.
- Rendering of view / perspective in Crayons and Oil pastels.

UNIT-II

Water colour rendering.

- Outdoor free hand sketching and Colour rendering of Trees, Shrubs, Vegetation, Buildings, Vehicles etc.
- Colour rendering of various scenes such as Garden scene, Street scene, Lake scene, Village scene, etc.

INSTRUCTIONS TO THE EXAMINER

- A total of three questions are to be set, with a minimum of One question from each unit
- The students are required to attempt Two questions selecting one from each unit.

RECOMMENDED BOOKS:

Architectural Rendering	Philip Crowe
Architectural Rendering	Albert & Habe
How to paint & draw	Jaxtheimer

B.ARCHITECTURE-II SEM.
THEORY OF DESIGN-I
(AR-130)

Uni.Exam.Marks - 50
Sessional Marks - 50
Duration of Exam. - 03 hrs.

INTENT The concept is to establish a need for a theory of design being considered as a broad, comprehensive activity, with a view to help the students to appreciate the difference between a responsible opinion and a well reasoned judgement by looking at design in a deep, critical way .

UNIT-I

- Primary elements of design such as point, line, planes and volume.
- Study of forms

UNIT-II

- Visual properties of forms.
- Regular and irregular forms.
- Transformation of forms.
- Formal collision of geometry.
- Articulation of forms

UNIT-III

- Form defining space with horizontal elements and vertical elements.
- Quality of architectural space.
- Organization of form and space, spatial organization.
- Circulation elements approach, entrance, configuration of the path, path space relation, form of the circulation space.
- Proportion and space.
- Ordering principles of Architectural design.

RECOMMENDED BOOKS:

1. Form, Space and order — D.K.Ching.
2. Design strategies in Architecture (An approach to the analysis of Form) — Geoffery H. Baker
3. Design fundamentals in Architecture — K.S.Parmar.

INSTRUCTIONS TO THE EXAMINER:

- The examiner is required to set eight questions with minimum two from each UNIT
- Students are required to attempt five questions with minimum one from each UNIT

B.ARCHITECTURE-II SEM.
STRUCTURAL SYSTEM-II
(AR-132)

Uni. Exam. Marks - No exam
Sessional Marks - 50
Duration of Exam. - No exam

INTENT To inculcate in the students an awareness of structural principles extent in various systems.

NOTE **More emphasis shall be laid on learning by doing, such as by making of 3-D models to give the student different spatial experience.**

UNIT - I Structures acting mainly through composition of compression and tension members such as **vector-active structure system** in coactive tension and compression.

- Space frames.
- Trusses (Timber & steel).
- Domes (Ribbed & Geodesic)

UNIT -II Structure acting mainly through material such as **form active structure system** or st. system in simple stress condition.

- Pneumatic structures.
- Tent structure

GUIDELINES FOR THE TEACHER

The teaching in this subject must bring out:

a) The predominantly pictorial nature of the Architect's language.
b) The physical-mechanical essence of the subject matter.
c) The orientation of all architectural efforts to form and space.

B.ARCHITECTURE-II SEM.
HISTORY OF ARCHITECTURE-I
(AR-134)

Uni. Exam. Marks - 50
Sessional Marks - 50
Duration of Exam. - 03 hrs.

INTENT History of Architecture is to be taught with a view towards understanding how different architecture solutions were evolved (in successive historical periods) within the restraints imposed by prevalent social and religious costumes, available building materials, and climate of particular region/topography. Complex structural problems and the limited technology available at the time**.**

For each of the period given in syllabus, stress is to be laid on Architectural characters, and only one or two representative examples to highlight those features.

UNIT-I

- Introduction and importance of History of Architecture
- A brief introduction to primitive Architecture.
- Egyptian civilization and its Architecture
- West Asian civilization and its Architecture.
- Greek civilization & its Architecture.
- Roman Empire & its Architecture.

UNIT-II

- Introduction to ancient Indian Arch.
- Introduction valley civilization & its Arch.
- Vedic architecture with reference of planning principles as per Vedas.
- Buddhist Architecture
- Architecture of Gupta Period.
- Chalukyan Architecture

INSTRUCTION TO THE EXAMINER

1. Total Eight question are to be set. Three questions from unit-I and Five questions from Unit-II
2. Students should attempt total five questions. Two questions from Unit-I and three questions from Unit-II.

B.ARCHITECTURE-II SEM.
WORKSHOP-II
(AR-136)

Uni. Exam. Marks	**-**	**No exam**
Sessional Marks	**-**	**50**
Duration of Exam.	**-**	**No** exam

INTENT

To make the students aware of various model making techniques and to familiarize them with the art of sculpture making in different materials.

UNIT-I

Product design

- Design & model making of Furniture, Lamp shades and other interior & exterior elements

UNIT-II

Sculpture Making

- Sculptures in Plaster of Paris, Wires, Scrap, Wood, Soap etc.

B.ARCHITECTURE-IIND SEM.
STRUCTURE DESIGN -II
(AR-138)

Sessional Marks - 50
Uni.Exam.Marks - 50
Duration of Exam. - 03 hrs.

Unit-I

Design of foundations in masonry work, load on foundation, safe bearing capacity, depth of foundation rankine's formula, section of footing design examples.

Unit-II

Design of retaining walls in masonry, loads, resultant pressure, stability of structure, middle third rule, design examples.

Unit-III

Design of columns and walls in masonry, allowable stress, cross sectional area factor, shape factor, slenderness ratio, effective height/length, effective thickness, load factor, design examples

Unit-IV

Design of simple timber beam, bending stress check shear check, deflection check, bearing check, design examples with UDL and concentrated load.

Unit-V

Design of modern truss members for given loading, compressive stress, tensile stress are reversal of stress.

B. ARCHITECTURE-III SEM.
ARCHITECTURAL DESIGN-III
(AR-221)

Uni.Exam.Marks	**-**	**85**
Sessional Marks	**-**	**85**
Duration of Exam.	**-**	**06 hrs**

INTENT

Architectural design is the basis of

Logical evaluation of form in relation to physical, climatic and site considerations design of a simple building with reference to functional, spatial relationship, services and basic elements of structural design.

TOPICS

Design of house, primary school, cafeteria, post office etc. **of a small scale in a situation without urban regulatory controls.**
All buildings should have accessibility to the physically challenged persons.

NOTE:- Minimum two projects assignment to be handled by students.

Library study and prototype study should be done for other projects in groups. Model and perspective is compulsory in each assignment

INSTRUCTIONS TO THE EXAMINER

1. One question is to be set from the entire syllabus, which is to be attempted.
2. The topic of the project is to display on the college notice board at least fifteen days in advance.

B.ARCHITECTURE-III SEM.
BUILDING CONSTRUCTION AND MATERIALS-III
(AR-223)

Uni.Exam.Marks - 70
Sessional Marks - 70
Duration of Exam. - 04 hrs.

INTENT

The over all intent of this subject is to study various construction methods in coordination with the building materials and science related to them. This subject consists of two units-

UNIT-1 Building materials
UNIT-II Building Construction

UNIT-I BUILDING MATERIALS Max. Marks-20

(a) **Study of geology in terms of**
- Land slides & earthquakes, their causes and effects.
- Weathering and erosion.
- Artesian well and water table.
- Geological criteria that govern the selection of the site.

(b) Glass
- Classification of glass.
- Composition of glass, its properties and uses.
- Various types of glass e.g. plate glass, wired glass, foam glass, laminated glass, tinted glass, glass wool, glass block, fiberglass, crinkle glass, obscured glass etc.

(c) Timber products
- Manufacture and qualities of decorative and commercial veneers, plywood, particleboard, fiberboard, gypsum board, batten board, rice husk board, and bamboo board.

UNIT-II BUILDING CONSTRUCTION Max. Marks-50

1. Section of a double storeyed building through toilet and stair case showing the details of foundation, floor, window, lintel, chajja, R.C.C roof, terracing and parapet.

(A) Types of staircase design and detailing of RCC and timber staircase.

(B) R.C.C. Form work and its details for-
- Column (square and round)
- Slab and beam

- Wall
- Staircase

2. Flooring

- Construction of PCC, Terrazzo, (Cast-in-situ and tiles) and various types of stones flooring.

3. **Cladding**

- Cladding of interior and exterior facades in various materials such as brick, tiles, stone and in panelling

NOTE:

Visit to study the complete product available in the market under different trade names with their manufacture detail specification and performance.
Visit to study the complete process of lying of reinforcement and concreting.
Construction plates on above topics

INSTRUCTION FOR EXAMINER

1. Two questions is to set from unit-I
2. Three questions is to be set from unit-II
3. Students are required to attempt one question from unit-I and two questions from unit-II

B.ARCHITECTURE-III SEM.
ARCHITECTURE DRAWING –III
(AR-225)

Uni. Exam. Marks - 70
Sessional Marks - 70
Duration of Exam. - 04 hrs.

SYLLABUS

UNIT-I One point perspective.(Interior and exterior) with measuring line method & grid method for perspectives.

UNIT-II

Sciography in perspectives (both one point & two point perspectives)

UNIT-III

Inter-penetration of solids. Axonometric view.

INSTTRUCTIONS TO THE EXAMINER

Three questions are to be set from the entire syllabus, one from each unit out of which students are required to attempt two questions. One compulsory question is to be set from unit-I

REFERENCE BOOKS

1. Engineering drawing By N.D. Bhatt
2. Interior perspectives
3. Rendering with pen and ink By Robert Gill.

B.ARCHITECTURE-III SEM.
HISTORY OF ARCHITECTURE –II
(AR-227)

Uni. Exam. Marks - 50
Sessional Marks - 50
Duration of Exam. - 03hrs.

INTENT

History of Architecture is to be taught with a view towards understanding how different architecture solutions were evolved (in successive historical periods) within the restraints imposed by prevalent social and religious costumes, available building materials, climate of particular region/topography.Complex structural problems and the limited technology available at the time**.**
For each of the period given in syllabus,stress is to be laid on Architectural characters, and only one or two representative examples to highlight those features.

UNIT-I

- Introduction to Christian Architecture
- Byzantine Architecture
- Gothic Architecture

UNIT-II

- Dravidian Architecture
- Jain Architecture
- Indo Aryan Architecture
  Orissa
  Gujrat
  Khajuraho

INSTRUCTION TO THE EXAMINER

3. Total Eight question are to be set. Three questions from unit-I and Five questions from Unit-II
4. Students should attempt total five questions. Two questions from Unit-I and three questions from Unit-II.

B.ARCHITECTURE-IIIRD SEM.

BUILDING SERVICES-I

(AR-229)

Uni.Exam.Marks - 50
Sessional Marks - 50
Duration of Exam. - 03 hrs.

INTENT

To make the students understand the requirement of Bldg. services & there application to single storeyed building.

UNIT-I **WATER SUPPLY**

- Introduction to water supply system.
- Domestic plumbing Water supply fittings.
- Types of pipes joints, water meter, Supply within a buildings, storage of water/O.H.T.
- Domestic Hot water distribution system with special reference to national bldg. code, geysers/storage.
- Hot & Cold Water supply layouts plan for small bldg showing various fitting and installation.

UNIT-II **DRAINAGE**

- General principles of drainage.
- Sanitary fittings (Types of pipes joints in C.I/ Stone sore, Asbestos cement. Water closets, flushing valves, flutings tanks
- Types of pipes and joints in G.I/C.I. stoneware, asbestos cement cisterns, washbasin of its accessories.
- Inspection and intercepting chambers, Traps man holes grease chambers, ventilation of drains of sewers.
- Drainage in non municipal areas soak pit, septic tank etc.
- Rain water disposal drainage pipes spouts, sizes of rainwater pipes acc to areas disposal system of rain water at grind level.
- Design of sewerage of rainwater disposal system for small houses should be prepared.

INSTRUCTIONS TO THE EXAMINER

The examiner is to set eight questions spread over the entire syllabus, four from UNIT-I & four from UNIT-II out of which five questions are to be attempted by the students, with at least two questions from each unit.

BOOKS RECOMMENDED

PUBLIC HEALTH SERVICES	K.N.DUGGAL
WATER SUPPLY SANITATION	R.BIRDI
BUILDING SERVICES	R. BRAR

B.ARCHITECTURE-IIIRD SEM.
STRUCTURE DESIGN -III
(AR-231)

Sessional Marks - 50
Uni.Exam.Marks - 50
Duration of Exam. - 03 hrs.

Unit-I

Design of single reinforced beams, doubly reinforced beams, cantilevered beam depth thickness of, section area of reinforcement steel shear check, shear reinforcement design examples Introduction to T beams and L beams.

Unit-11

Design of one way slab by/*ex* ratio depth/thickness of section area of reinforcement, shear check design examples.
Design of two way slab by /ex ratio IS 456 code provision, their check, design examples.

Unit-I I I

Design of dog legged stair; calculation of thread and riser, different bonding, thickness of waist slab/bend1ng slab, area of reinforcement, design examples

Unit-IV

Design of columns, long short columns, basic equation of design IS 56 code provision, section of column, longitudinal and lateral reinforcement.

Unit-V

Design of isolated square **and** rectangular footing in depth frame consideration of bending moment one way shear, and two way shear **are**a of reinforcement, design examples.

B.ARCHITECTURE-III SEM
SURVEYING & LAVELLING -I
(AR-233)

Uni.Exam.Marks - 50
Sessional Marks - 50
Duration of Exam. - 03 hrs.

CONTENT:

1. **Introduction :-**Different types of surveys.

2. **Chain Surveying** :-Principal of chain surveying description of different eq1uipment, Methods of chaining and booking, selection of base line and stations, obstacles in chaining. Loaction of inaccessible points by chain, type & ranging rods.

3. **Prismatic Compass survey: -**Description of Prismatic & surveyors compass methods of traversing, local attractions and its elimination, adjustment of closing error by graphical method.

4. **Plane Table survey: -**Description of different equipment, different methods of plane tabling, Strength of Fix, Two point and three point problems and their solutions.

5. **Levelling: -**Description of dumpy and tilting Levels & levelling staves, methods of levelling, Sensitivity of bubble tube, setting out grade lines permanent adjustment of above mentioned levelling instruments.

6. **Contouring: -**Setting our contour gradient, different method of contouring. Simple earthwork calculations of areas and volumes.

7. **Minor Instruments: -**Box sextant, hand level, Abney level, Plan meter, ghat tracer, tangent clinometer,etc.

BOOKS RECOMMENDED

1.	Surveying and Levelling	:	T.P. Kanetkar
2.	Surveying and Levelling	:	Dr. N. Singh
3.	Surveying	:	Dr. P.B. Sahiwney

B.ARCHITECTURE - IV SEMESTER
ARCHITECTURAL DESIGN - IV
(AR-222)

Uni.Exam.Marks - 85
Sessional Marks - 85
Duration of Exam. - 06 hrs.

INTENT

To appreciate the elements of vernacular/ rural Architecture of a Malwa region in detail through site-studies.

CONTENTS

Study of the social and physical environment and methods of construction in vernacular/ rural architecture, emerging out of the traditional way of life of the people in a given place including topographic survey. This may be a village or part of a small town.

TOPICS

Design and study of rural, vernacular, historical settlement of strong Architecture characteristics detailing with physical planning and other systems.

BUILDINGS

(a) Community centre(Bank, Post office, Panchayat Ghar, Dispensary, Village house, School etc.)

(b) The study of a historical buildings and design of a small buildings in a historical set up like library, museum, art gallery or sarai.

© **All buildings should have accessibility to the physically challenged persons.**

NOTE

1. Minimum two projects/assignments should be handled during the semester
2. Library study should be done for other project.
3. Model and perspective should be encouraged in each assignment.

INSTRUCTIONS TO THE EXAMINER

1. One compulsory question is to be set from the syllabus.
2. The topic of the project is to displayed on the college notice board atleast fifteen days in advance.

B.ARCHITECTURE - IV SEMESTER
BUILDING CONSTRUCTION & MATERIALS-IV
(AR-224)

Uni.Exam.Marks - 70
Sessional Marks - 70
Duration of Exam. - 04 hrs.

INTENT The over all intent is to study various construction methods in co ordination with the building materials and science related to them.

UNIT-I **BUILDING MATERIALS** **Max. Mks. -20**

(A) Roof-Coverings - To study the constituents, properties, uses, process of laying of various roof covering materials e.g. G.I. Sheets, Asbestos Cement Sheets (Plain & Corrugated) with accessories, Clay tiles - Country, Allahabad & Mangalore Tiles etc.

(B) Flooring: Various types of timber floor &
Their construction methods
Floor finishes for timber floors.

(C) Plastic - Introduction, Advantages, disadvantages, properties, types and uses as building material. Thermoplastics, polythene, P.E.(Low density and high density) polyvinyl chloride, P.V.C. polystructure P.S. Application of plastics in buildings.

UNIT-II **BUILDING CONSTRUCTION**

Max.Mks-50

Roofs and Trusses in timber-

- Introduction to different types of roofs e.g. flat, couple, close couple, collar, Lean- to and double lean- to roofs.
- Principles of construction and details of Traditional trusses with gutters, eaves and ridge details and with / without soffit and roof covering.
- Built up trusses for 6 m - 9 m span.
- Design and details of sliding doors, sliding and folding doors in timber.
- Timber partition, glass block partition, timber panelling
- Dhajji wall construction

NOTE

- Visits to study various timber and allied products available in the market under different trade names for their properties, constituents, using manufacturer's details, specifications, laying process etc.
- Construction plates on above topics.

INSTRUCTIONS FOR EXAMINER

1. Three questions are to set from UNIT-I
2. Four questions are to be set from UNIT-II
3. Students are required to attempt two questions from UNIT-I and two questions from UNIT-II.

B.ARCHITECTURE - IV SEMESTER
HISTORY OF ARCHITECTURE-III
(AR-226)

Uni.Exam.Marks - 50
Sessional Marks - 50
Duration of Exam. - 03 hrs.

INTENT

History of Architecture is to be taught with a view towards understanding how different architecture solutions were evolved (in successive historical periods) within the restraints imposed by prevalent social and religious costumes, available building materials, climate of particular region/ topography. Complex structural problems and the limited technology available at the time**.**

For each of the period given in syllabus, stress is to be laid on Architectural characters, and only one or two representative examples to highlight those features.

UNIT-I

- Renaissance Arch. Its birth & development in Italy
- Mannarism, & its impact in the development of Arch till date.
- Baroque & Rococo style.
- Industrial revolution

UNIT-I (Islamic Period)

- Arch of Imperial or Delhi style under various rulers.
- Arch of Provincial styles
- Arch. of Mugal period

UNIT-III

- Forts & palaces of India.
- Rajput Arch.
- Sikh Architecture (Punjab).
- Colonial Arch (India) in all the metropolitans.

INSTRUCTION TO THE EXAMINER

1. Total Eight questions are to be set. Three questions from unit-I and Five questions from Unit-II
2. Students should attempt total five questions. Two questions from Unit-I and three questions from Unit-II.

B.ARCHITECTURE - IV SEMESTER
THEORY OF DESIGN-II
(AR-228)

Uni.Exam.Marks	**-**	**50**
Sessional Marks	**-**	**50**
Duration of Exam.	**-**	**03 hrs.**

INTENT The concept is to derive deeper into the Architectural problems and look for directive principles guiding the philosophy of design used by masters of modern architecture and to assist their contribution by their own criteria.

SYLLABUS LIFE,WORKS,PHILOSOPHY OF MASTER ARCHITECTS OF MODERN ERA.

1. **Louis Sullivan** , the Skyscraper and his dictum **Form Follows Function.**
2. **Frank Lloyd Wright** and Organic Architecture.
3. **Walter Gropius**, the Bauhaus and the architects collaborative(TAC)
4. **Mies van der rohe** and his Dictum "**Less is More"**
5. **Le-Corbusier**.

NOTE- **Teaching should be with the help of slides and transparencies.**

INSTRUCTIONS FOR EXAMINER

The examiner is required to set eight questions (distributed from all the topics) out of which five questions are to be attempted by the students.

B.ARCHITECTURE - IV SEMESTER
CLIMATE & ARCHITECTURE-I
(AR-230)

Uni.Exam.Marks - 50
Sessional Marks - 50
Duration of Exam. - 03 hrs.

INTENT To acquaint the students with the concept of climate as a significant determinant of built forms and to familiarize them with various climate controlling devices.

CONTENT

UNIT –I **Fundamentals**

- Introduction to climatology
- Importance of studying Building climatology
- Elements of climate
- Global climate factors
- Interrelationship of climatic elements and psychometric chart

UNIT –II **Climatic Zones**

- Tropics and Climatic zones in the tropics
- Macro and micro climate(site climate)
- Role of climate with respect to shelter
- Study of various Indigenous shelters in response to various climate zones in the tropical belt in general and of India in particular
- Principal of town planning in Hot dry and Hot humid climatic zones

UNIT –III **Thermal comfort**

- Definition and explanation of thermal comport
- Human heat balance, physiological comport
- Relationship of climatic elements with thermal comport
- Thermal stress index
- Bio-climatic chart, effective temperature and corrected effective temperature histogram and their uses

UNIT -IV **Movement of sun**

- Understanding the movement of sun across the sky
- Solar chart its importance

- Importance of understanding the optimum orientation of building its form with respect to sun
- Concept & design of shading devices

UNIT -V **Ventilation**

- Ventilation its mechanism
- Wind movement in general
- Air movement within and around buildings effect of surrounding elements an the pattern of wind flow.
- Guidelines for designing airy buildings
- Importance of understanding there optimum orientation of building its form with respect to wind

UNIT -VI **Solar radiations**

- Introduction to basic thermal units
- Theory of heat flow, heat transmission etc.
- Thermal properties of Building materials various building elements.
- Solar radiations-position of sun in the sky done and method of recoding it, radiation gains on various materials
- Study of various landscape elements and solar passive devices for climatic control within buildings

INSTRUCTIONS FOR EXAMINER

The examiner is required to set total eight questions. Two each from UNIT-I and UNIT-II and one each from UNIT-III to UNIT-VI. (One compulsory question may be set from UNIT-II). The students should be asked to attempt total five questions.

REFERENCE BOOKS

Manual of Tropical Housing & Building	Koensberger, Ingersoll, Mayhew, Szokolay
Tropical Architecture	C.P. Kukreja.
Housing, Climate & Comfort	Martin Evans.
Building in the Tropics	Callwey
Design For Arid Regions	Golany
Man Climate & Architecture	B.Givoni
Reserch notes on climate	C.B.R.I, Roorkee

B.ARCHIECTURE -IV SEMESTER
COMPUTER APPLICATION – I
(AR-232)

Uni. Exam. Marks - 50
Sessional Marks - 50
Duration of Exam. - Practical only

INTENT:

The intention lies and making the students aware of the importance of computers, especially in the field of architecture.

CONTENT:

This course is foundation course for the student. They will be introduced to basic hardware, operating systems and operative languages.

TOPICS FOR THEORY

UNIT -I

Simple Model of a computer, identify components and their functions. Different types of memories, primary and secondary storage devices, I/O devices.

UNIT -II Different operating systems commands in DOS, windows.
Simple internal and external commands.

UNIT -III Programming in BASIC. Data types, constants, variables, Arithmetic relational and logical expression. Assignment statement. I/O statement, control statement. User defined and library functions, string manipulators.

UNIT -IV Arrays- one and two dimension
Basic graphic statements.

INSTRUCTIONS FOR EXAMINER

Total of eight questions are to be set, two from each Unit and the students are required to attempt a total of five questions with a minimum of one question from each Unit.

B.ARCHITECTURE - IV SEMESTER
BUILDING SERVICES –II
(AR-234)

Uni.Exam.Marks - 50
Sessional Marks - 50
Duration of Exam. - 03 hrs.

INTENT

The concept is that the student deal with more complex problem of services in multi storeyed building and in the town scale.

UNIT-I DRAINAGE AND SAINTATION SERVICES FOR MULTISTOREYED BUILDING

(Such as residential, commercial, medical, institutional)

1. Sewage disposal system, objective and methods, storm water disposal for towns.
2. Treatment of sewage, treatment plant method and function environmental sanitation.
3. Refuse satiation, importance, collections, disposal, incinerator, chutes, etc.

UNIT-II WATER SUPPLY SYSTEMS FOR MULTISTOREYED BUILDING/TOWN

Sources of water, purification, filtration. Sedimentation, disinfection of water.

1. Distribution system:- different methods of distribution system of water with special reference to Chandigarh, water distribution system.
2. Appurtenance in the distributions systems.
3. Water supply system for multi-storeyed buildings.

UNIT-III SECTION C LIGHTING AND ILLUMINATION NATURAL AND ARTIFICIAL LIGHTING.

1. Introduction to lighting and interior lighting. Design and adoption of lighting artificial system, task light for residential & commercial spaces.
2. Illumination required for various types of buildings like residential, commercial, industrial, educational recreational, medical, cultural etc.
3. Illuminance, Intensity, Luminance flux, glare and their effect.
4. Choice of luminaries their cost, efficiency, power consumption etc. (Market survey)
4. Day light factors its calculate acc to Indian condition.

INSTRUCTIONS TO THE PAPER SETTER.

The Examiner is to set eight questions spread over the entire syllabus (Three each from UNIT-I and UNIT-II and two from UNIT-III), out of which five questions are to be attempted by the students. At least one question from each unit is compulsory.

B.ARCHITECTURE - IV SEMESTER
ARCHITECTURAL PRESENTATION –I
(AR-236)

Uni.Exam.Marks - NO EXAM
Sessional Marks - 40
Duration of Exam. - NO EXAM

UNIT-I Pen & Ink Rendering

- Use of Pen & Ink rendering to show texture of Grass, Brickwork, Stone work, Sky, Trees, Human figures etc.
- Stencilling in Ink
- Calligraphy Handwriting

UNIT-II Colour rendering

- Use of all colour mediums to render complex buildings with Trees, Automobiles, and Roads
- Rendering of design problem in any colour medium
- Cut & paste method for making compositions & for rendering perspectives

Submission- Portfolio submission

Note:- Student will submit complete work under this subject in various semester and will be examine by internal jury constituted by HOD/Coordinator at the end of semester

B.ARCHITECTURE-IVTH SEM.
STRUCTURE DESIGN -IV
(AR-238)

Sessional Marks - 50
Uni.Exam.Marks - 50
Duration of Exam. - 03 hrs.

Unit-I

Design of compression members subjects to axial load1ng effective length, ratio of generation, slenderness ratio, permissive stress, design examples.

Unit-II

Design of steel beams, section on the basis of bending stress shear check deflection, udl and concentrate load.

Unit III

Design of steel truss members for given loading; compression factor tensile forces.

Unit IV

Design of grillage foundation for isolated steel column section for bending stresses, shear check wide cruppling check, design example.

Unit -V

Riveted connections, different types of rivets, type of riveted joints, failure of riveted joints calculation of efficiency of riveted joint ,Welded connections different type of milds, advantages and disadvantage of including design of wild objector.

B.ARCHITECTURE - V SEMESTER
ARCHITECTURAL DESIGN-V
(AR-321)

Uni.Exam.Marks - 100
Sessional Marks - 100
Duration of Exam. - 12 hrs.

INTENT: Design of a multi functional public building involving circulation and interrelation of different parts and in the multi disciplinary approach towards the complexity in structure & services.

TOPICS: Design of structure of simple and normal complexity in design and detailing such as

a) Hotels, motels and restaurants.
b) Banks, post offices ,hostels, clubs and court houses.
c) Working drawing of a residential unit comprising of two or three bed rooms.

Emphasis shall be given to high creative skill along with other design considerations. The study shall be made and supported by models and perspectives.

NOTE:- All buildings should have accessibility to the physically challenged persons.

INSTRUCTIONS TO THE TEACHER:

Minimum three design problems and at least one from each part.

INSTRUCTIONS TO THE EXAMINER:

1. Only one design problem is to be set from the entire syllabus.

2. The topic of the project is to displayed on the college notice board at least fifteen days in advance.

B.ARCHITECTURE - V SEMESTER
BUILDING CONSTRUCTION & MATERIAL-V
(AR-323)

Uni.Exam.Marks - 75
Sessional Marks - 75
Duration of Exam. - 04 hrs.

INTENT

The overall intent is to learn complete construction/detailing of work associated with interior finishes and works.

TOPICS

UNIT-I

A

Introduction to methodology of preparing working drawings, system of Dimensioning, writing specification etc.
Complete working drawings of a residential building designed in previous semester

B

1. Design and Constructional details of kitchen
2. Design and Constructional details of toilets
3. Built in furniture (cup boards etc.)
4. Fire places

UNIT-II

Temporary construction work

1. Shoring
2. Underpinning
3. Scaffolding

NOTE:

1.Site visit to a construction site.
2. Construction plates on above topics.

INSTRUCTIONS TO THE EXAMINER

Four questions are to be set from Unit-I and two questions from Unit-II. The students are required to attempt two questions from Unit-I and one question from Unit-II making a total of three questions.

B.ARCHITECTURE - V SEMESTER
COMPUTER AIDED DESIGN & PRESENTATION TECHNIQUES-I
(AR-325)

Uni. Exam. Marks - 50
Sessional Marks - 50
Duration of Exam. - No Exam.(only practical)

INTENT

The intent of this compulsory foundation course is to make the students aware of the computer's power to create, examine and access design possibilities.

CONTENT

The students would be introduced to Computer-Aided Drafting and design-process to be used for actual representation purposes.

TOPICS

What is CAD, Auto CAD? Advantage of AutoCAD, Invoking AutoCAD, Screen Layout: status bar, tool bar, screen menu, Pull down menus, dialogue boxes, Graphic cursor, Graphics cursor, Graphics area, labelled buttons, radio buttons, check boxes, list boxes, drawing editor, file handling commands(utility commands)

File:- opening new file, editing an existing file, saving exiting/quitting Auto CAD(open, new, save, quit, end commands)

Editing Commands : Cut, Copy, Paste, Draw Commands : line, Trace, Ortho mode D line, M line, ml style, P line, Spline X line .Ray, Sketch, Circle, Arc, Donut, Ellipse, Solid, Polygon, Blip mode, Aperture, color Selection Procedure, Select object: Prompt snapping: end, mid, center, node, nearest, tangent, quadrant.

Transparent Commands & repeat commands, Help, Undo, Redo, Oops, Erase, Redraw, Regen, fill, Zoom-(window, all, extents, Previous, Pan) Co-ordinator systems- UCS. WCS.

absolute, Relative, Polar

Units, Limits, Grid, Snap, object snaps, ISO mode, filters(Drawing aids), function keys,

Editing commands, trim, break, extend, offset, stretch, fillet, chamfer, move, rotate, scale, explode, P line, P edit, mirror

Copy, point, array, hatch, 3D face, grips

3D Objects,

Setting variable: Pd mode, Pd size, fill

Zoom, centre, left, dynamic, scale, Rt zoom

Elevation, thickness

Line type, Lt scale

Layers, DDL modes-change, chprop,

Enquiry command: ID List, Db list, Area, Dist, v-point-1,1,1, plan

BASIC SKILLS

Equivalent of traditional design related activities of drafting points and lines: Tracing and sketching in new design environment.

REPRESENTATION

Scale, plans, sections, elevations, axonometric and oblique projections and perspective projections.

MANIPULATION

Tansformation, repetition, extension.

B.ARCHITECTURE - V SEMESTER
BUILDING SPECIFICATIONS-I
(AR-327)

Uni.Exam.Marks - 50
Sessional Marks - 50
Duration of Exam. - 03 hrs.

INTENT

To acquaint the students with the composition, preparation application and inspection of both basic and composite materials in construction and with the writing of specifications.

CONTENT

Study of detailed specifications of basic building materials like brick, stone cement, sand,lime, timber etc for the purpose of specifying the same for construction as direct materials or composites.
Techniques and terminology of writing specifications of basic and composite material.

TOPICS

UNIT-I Introduction to the importance of specifications, their functions, different types of specifications.

UNIT-II Detailed specification for various basic building materials.

UNIT-III Studio exercise related to specifications for small building project, standard P.W.D. specifications.
Writing specifications for civil works as:-

- Damp proof course.
- Brick masonry.
- Concreting.
- Flooring.
- Plastering & pointing.
- Timber doors & windows.
- Steel doors & windows.
- Painting ,varnishing.
- Services, sanitary fixtures & electric wiring .

UNIT-IV Types of contracts and contract document, Tenders.

NOTE: Site visit/visits for inspection of site. An expert may be called for a lecture on writing specification.

INSTRUCTIONS FOR EXAMINER

Total eight questions is to be set covering the entire syllabus and student are required to attempt five question

B.ARCHITECTURE - V SEMESTER

LANDSCAPE ARCHITECTURE-I(AR-329)

Uni.Exam.Marks - 50
Sessional Marks - 50
Duration of Exam. - 03Hrs.

INTENT

To study elements of landscape design, their application ,introduction to landscape architecture.

TOPICS

UNIT -I

Introduction to landscape architecture .Elements of landscape design and its relation to the built environment ,plant characteristics .Plant propagation and impact of climate ,soil and manure. Structure, Colour, form, foliage of various types of trees, shrubs, cacti bushes and creepers etc. Identification and study of a few Indian plants and trees.

UNIT -II

Study on comparative basis the development of landscape, designing through history of Indian, Persian, Moghul, Chinese, Japanese, Italian, French and English.

INSTRUCTIONS FOR EXAMINER

The examiner is to set a total of 8 questions ,five from Unit-I & three from Unit-II. The students are to attempt a total of five questions ,three from Unit-I & two from Unit-II.

B.ARCHITECTURE - V SEMESTER
STRUCTURE SYSTEM-III
(AR-331)

Uni. Exam. Marks - 50
Sessional Marks - 50
Duration of Exam. - No exam(Only practical)

CONCEPT

To inculcate in the student an awareness of structural principles extent in various building systems.

NOTE

More emphasis shall be laid on learning by doing such as by making of 3-D models to give the students an idea of different spatial experience.

TOPICS

UNIT -I

Structure acting mainly through material such as form active st. system or st. system in simple stress condition.

(a) Cable structures (roofs, Bridges etc.)
(b) Arch St. System

UNIT –II

Structure acting mainly through surface.

(a) Shells.
(b) Folded Plates.

UNIT-III

(a) Multi storeyed buildings.

GUIDELINES FOR THE TEACHERS

The teaching in this subject must bring out:

(i) The predominantly pictorial nature of the architects' language.
(ii) The physical - mechanical essence of the subject matter.
(iii) The orientation of all Architectural efforts to form and space.

REFERENCE BOOKS

STRUCTURE SYSTEM Engel

B.ARCHITECTURE - Vth SEMESTER
STRUCTURE DESIGN PROJECT-V
(AR-333)

Uni. Practical viva-voce Exam. : 50
Marks Sessional Marks :50
Duration of exam 03 **Only viva voce**

UNIT - I

Detailed structural design & drawings of a public/residential building, (i.e. in R.C.C. frame structure), emphasis should be laid on practical design consideration.

UNIT-II

Earth quake resistant design.

Introduction to codal provision, IS- 4326,IS- 1893 for earth quake resistant design of buildings. Earth quake resistant provisions for brick masonry& R.C.C. buildings.

B.ARCHITECTURE - VI SEMESTER
ARCHITECTURAL DESIGN-VI
(AR-322)

Uni. Exam. Marks - 100
Sessional Marks - 100
Duration of Exam. - 12 hrs.

INTENT Design of urban complexes and their environmental components and urban services.

CONTENT Design of public building with complex functions and technicalities. Nature of urban complexes, scale and other elements of urban design to be incorporated.

TOPICS The design programme includes.

a) Auditorium, Cinemas, Theatres.

b) Specialised laboratories and housing.

Study of an urban complex as a prototype so as to have a detailed study of various aspects in planning eg. urban activity services and construction methods and phenomena of social utilisation, growth and change shall be the focus of the study.

NOTE:- **All buildings should have accessibility to the physically challenged persons.**

INSTRUCTIONS TO THE EXAMINER:

1. One question is to be set from the entire syllabus.
2. The topic of the project is to displayed on the college notice board at least fifteen days in advance.

B.ARCHITECTURE – VI SEMESTER
BUILDING CONSTRUCTION & MATERIALS-VI
(AR-324)

Uni. Exam. Marks - 75
Sessional Marks - 75
Duration of Exam. - 04 hrs.

INTENT:- The overall intent is to study various constructional details in metals i.e., steel & aluminium in coordination with study of materials & science related to them.

UNIT-I **MATERIALS**

Max.Mks.-25

The study of manufacturing process, casting, characteristics ,form and uses of cast Iron, wrought Iron, steel, stainless steel, Aluminium as building materials. Various structural member sections and joinery in steel and aluminium.

UNIT-II **CONSTRUCTION** **Max.Mks.- 50**

1 Doors and windows in :
- Rolled steel section
- Pressed steel frames
- Aluminium sliding door

3. Aluminium partition wall
4. Steel Trusses
   (5) Constructional details of simple truss, north light truss
   (6) Constructional details of steel flooring, steel, beams, column (stanchions), grillage foundation & staircase details.

NOTE:
1. Visit to study the uses of metals in construction industry.
2. Joinery of metals in workshop.
3. Construction plates on above topics.

INSTRUCTIONS FOR EXAMINER

1. Three questions are to be set from UNIT-I student are to attempt any two.
2. Four questions are to be set from UNIT-II out of which two questions are to be attempted by the student.

B.ARCHITECTURE - VI SEMESTER

THEORY OF DESIGN-III

(AR-326)

Uni.Exam.Marks - 50
Sessional Marks - 50
Duration of Exam. - 03 hrs.

INTENT

1. The concept is to drive deeper in to the Architecture problems and look for directive principles guiding the philosophy of design used by masters of modern Architecture and to assist their contribution by their own criteria.
2. Teacher may cover the all important architects to highlight the development in the field of architecture in the recent past. Some suggestive architects are listed in the syllabus.

SYLLABUS :

A. FOREIGN ARCHITECTS 1.Louis I.Kahn 2.Aero Sarinen 3.Philip Johnson 4.Paul Rudolph 5.Jorn Utzon 6.Kanzo Tange

B. INDIAN ARCHITECTS1. A.P.Kanvinde 2. C.M. Correa 3. B.V.Doshi 4. J.A.Stein 5. Raj Rewal 6. U.C.Jain

REFERENCE BOOKS

1.MODERN ARCHITECTURE IN INDIA. (Post independence perspective)	S.S.Bahga.
2.Contemporary Indian Architecture (Housing and urban development)	M.U.Jogelekar and S.K. Das
3.Global Architecture-Vol.-1,2,3,4.	
4.Encyclopedia of Architecture	
5.Campus planning in India	A.P.Kanvinde

INSTRUCTIONS TO THE EXAMINER

The examiners are required to set eight questions (evenly distributed from all the topics), out of which five questions are to be attempted by the students.

B.ARCHIECTURE-VI SEMESTER
INTERIOR DESIGN-I
(AR-328)

Uni.Exam.Marks - 50
Sessional Marks - 50
Duration of Exam. - 03hrs.

INTENT

The intent of the subject is to introduce the students to the basic principles of Interior Design in context to modern architectural buildings.

CONTENT

UNIT-I Purpose of interior design

UNIT-II Principles and elements of interior design and their application in context with buildings.

UNIT -III Elements of Interior Design --
Furniture, furnishings, fabrics, murals, paintings, sculpture, lighting fixtures, floor coverings, wall coverings and related materials.

UNIT -IV Aesthetic order, functional value and psychological impact of various elements of Interior Design.

DESIGN PROJECT
Space organization in interiors, presentation of the complete interior scheme of given projects such as Library, Public halls, Conference room, Commercial buildings etc.

INSTRUCTIONS FOR EXAMINER

The examiner is required to set a total of eight questions, two from each Unit out of which the students are required to attempt five questions, with at least one question from each Unit.

B.ARCHITECTURE - VI SEMESTER
BUILDING SERVICES-III
(AR-330)

Uni.Exam.Marks - 50
Sessional Marks - 50
Duration of Exam. - 03 hrs.

INTENT

The intent of the subject is to make the students learn about the advanced electrical and mechanical services with special reference to Lighting and Acoustics.

TOPICS

UNIT-1 **LIGHTING & ILLUMINATION:**

Design & adoption of lighting system for residential & commercial spaces.
Artificial light for interiors.
Illuminance & glare.
Choice of luminaries their cost, efficiency, power consumption.
Effect of voltage fluctuation on lamps & lighting.
Day light factor

UNIT-II **ELECTRICAL SERVICES:**

Design of simple electrical circuits.
Type of wiring, sagging, cleat, battened and conduit.
Circuits, fuses ,main switch box, meter box.
Earthing & earth leakage protection.
Lighting protection.

UNIT-III **ACOUSTICS:**

Basic acoustical principles & concepts for design.
Acoustical materials and their co-efficiency.
General principle of transmission and passage of sound.
Design for various spaces acoustically.

UNIT-IV **MECHANICAL SERVICES:**

Elevators and escalators.(Vertical circulation).
Modern systems of Air Conditioning.
Ducting systems and materials for ducts.
Fire protection and alarm system in buildings.

INSTRUCTIONS FOR EXAMINER

1. Total of eight questions are to be set**, two** from each Unit.
2. Students are required to attempt five questions with at least one from each Unit.

B.ARCHITECTURE - VI SEMESTER
ESTIMATING COSTING & BUILDING ECONOMICS-I
(AR-332)

Uni.Exam.Marks - 50
Sessional Marks - 50
Duration of Exam. - 03 hrs.

INTENT:

To inculcate awareness, regarding factors affecting cost of buildings to familiarise the student with the commonly used methods of preparing estimates of architectural projects.

CONTENT:

Scope of the subject will be limited to preparing detailed estimate and costs of two-storeyed residential buildings in masonry and reinforced cement concrete.

SYLLABUS:

- Estimate & types of estimate.
- Approximate & detailed methods of estimate.
- Plinth area method, carpet/floor area method ,cubic content method.
- Preparing estimates of quantities of materials for various items of work e.g. earthwork, brickwork, flooring, roofing etc units of measurements and payments.
- Analysis of rates of material and labour required for various item of work.
- Methods of taking out the quantities of R.C.C. construction. Case study/practical exercise in preparing a detailed estimate of a two storeyed residential building with respect to the quantities of material and labour required as well as analysis of rates for material and labour.
- Basic principles of economics as applied to the building and factors affecting cost of buildings.
- Fundamentals of Valuation

INSTRUCTIONS TO THE EXAMINER

Five questions are to be set from entire syllabus out of which three/four questions are to be attempted by the students. One compulsory question for preparing detailed estimate of single/ double storey building should be set.

BOOKS:

Estimating and Costing -B.N.Dutta
----do---- -Chakarborty

B.ARCHITECTURE - VI SEMESTER
BUILDING BYE LAWS - I
(AR-334)

Uni.Exam.Marks - 50
Sessional Marks - 50
Duration of Exam. - 03hrs.

INTENT

The intent of the subject is to make the students familiar with the architectural controls, byelaws to control and promote the ordered growth of a city/town.

TOPICS

BUILDING BYE LAWS

This section is to be taught keeping in view the fact that when a student goes out of the college. He must know the judicial powers and the effect of byelaws on the development of an architectural environment or a human habitation.

(a) Need of legislation in the building industry
(b) Background of controls and regulations.
(c) Need for controls at various levels of town development.
(d) Study of byelaws of Urban Estate Punjab.
(e) Study of Chandigarh byelaws with emphasis on zoning architectural controls, frame control, etc.
(f) Study of National building code in relation to specific definitions, architectural controls, services, fire protection etc. (Governing for various public building).
(g) Study of requirements of submission drawings with services as required by the Estate officer - PUDA and CHANDIGARH ADMINISTRATION.

REFERENCE BOOKS

- N.B.C.
- Chandigarh bye laws.
- Punjab bye laws

INSTRUCTION FOR EXAMINER

Minimum seven questions are to be set, from the entire syllabus out of which students are required to attempt a total of five question

B.ARCHITECTURE-VII SEM.
PRACTICAL TRAINING PROGRAMM
(AR-421)

Uni. Exam. Marks - 400 (through external viva voce)
Sessional Marks - 450
External Marks - 850

INTENT

The intent of the Practical Training is to learn intricacies of architectural profession by joining and working with practising architect/ architectural firm for one complete semester.

PRACTICAL TRAINING RULES

1. The total marks shall be suitably apportioned to assess monthly reports, office work and work done outside office hours etc.
2. Trainees are required to send/submit, monthly progress reports of the work done by them in the office in which they are apprenticed according to a prescribed schedule. These reports shall be assessed/marked regularly by the practical training Co-ordinator (PTC).
3. On the conclusion of the practical training, the prescribed work done by the trainees shall be examined and evaluated through a Viva Voce to be conducted jointly by the HOD, PTC and one External Examiner who will be appointed by the Principal.

PRACTICAL TRAINING-VII
(Tenure ONE SEMESTER)

Work to be done during Practical Training: The following work will be done by each trainee during the tenure of Practical Training:

(a) WORK DURING OFFICE HOURS

(i) Drafting, Tracing, Presentation drawings, perspectives, models, etc.
(ii) Working drawings and details.

(b) WORK DURING EXTRA-OFFICE HOURS:

One is required to prepare a study report on Building design, Analysis incorporating site visits, Recording observationsetc.

DISTRUBATION OF MARKS

• **External Marks** (To be awarded by employee)	**-**	**400**
• **Internal Marks**		
Joining Report	-	20
Monthly report	-	80
Building study report	-	125
Seminar presentation	-	125
University viva-voce	-	100
Total	**-**	**450**

NOTE: **On the above guidelines a detailed programme to be drawn up each year by the PTC will be approved by the Principal/ HOD before it is implemented. The intention will be to update the program, incorporating new details, with an eye on continuous qualitative improvement in the projected results.**

B.ARCHITECTURE - VIII SEMESTER
ARCHITECTURAL DESIGN - VII
(AR-422)

Uni. Exam. Marks - 125 (No exam only viva-voce by external jury)
Sessional Marks - 125

INTENT

Design of advance and complex problems enlarged scope involving site landscaping, traffic organization, economic considerations, climatic consideration, architectural services and construction techniques and considering the zoning regulations.

TOPICS

The design programme includes

(a) Hospitals.
(b) Bus terminal, Railway station, Airport.
(c) Light industrial building involving the layout of manufacturing process, ventilation organisation of integrated spaces.
The scheme submitted shall be completed with full project drawings, perspective, models and details.
(d) **All buildings should have accessibility to the physically challenged persons.**

INSTRUCTION TO THE EXAMINER

Minimum two to three projects should be introduced from the above topics.

NOTE:- **Only external viva voce of work done during the semester shall be conducted by the external jury appointed by the university.**

B.ARCHITECTURE – VIII SEMESTER
BUILDING CONSTRUCTION – VII
(AR-424)

Uni.Exam.Marks - 100
Sessional Marks - 100
Duration of Exam. - 04 hrs.

INTENT: The concept is to make the student familiar with special constructional details of finishing and furnishing jobs in interiors, R.C.C., special topics like extension and expansion joints in buildings. Construction of basements and their details.

TOPICS

UNIT-I Study, design and details of various types of counters in Banks, Hotels, Offices, Shops, Railway station and other public places.

UNIT-II Study & design of shop fronts and interior finishes, including showcases and lighting.

UNIT-III Materials used and construction details of wall panelling, False ceiling including thermal and acoustics treatments.

UNIT-IV Construction, Extension and Expansion joints in R.C.C.

UNIT-V Construction of basements and its design, detailing, water proofing treatment etc.

INSTRUCTION TO THE EXAMINER

Minimum Five questions are to be set from the entire syllabus out of which three questions are to be attempted.

B.ARCHITECTURE - VIII SEMESTER
URBAN DESIGN-I
(AR-426)

Uni.Exam.Marks - 50
Sessional Marks - 50
Duration of Exam. - 03 hrs.

INTENT

To appreciate the nature and role of various facets of Urban design in the making of the built environment.

CONTENT

UNIT-I

- Introduction to the role and scope of Urban Design. Comparison with 'architecture' and 'town planning'
- Determinants of Urban Form such as land from, climate, symbolism, activity patterns, socio-cultural factors, materials and techniques and other contextual references. Case examples from various periods in history and different parts of the world.
- Vocabulary of urban design. Urban pattern, Grain, Texture, Density, etc.
- Concepts of Image ability. Elements of the city's image. Paths, nodes, landmarks, edges, and districts-their characteristics, role and interrelationship.
- Designing parts of the city : Systems of communication, and utilities, visual expression, accent and contrasts, urban character, landscape features and city extension areas.

UNIT-II

- Types of Urban Spaces-street, square, precinct, piazza, mall, etc.
- Various elements of urban space- their identification, characteristics and role in the shaping of the space.
- Changing role of urban spaces through history. Role of public places in the contemporary city.
- Design principles- Scale and Enclosure
- Case studies of well known urban spaces from various periods of history to illustrate their design and performance aspects.

UNIT-III

- Role of Legislation and Controls in design of the built environment.
- Types of urban controls: FAR, Incentive Zoning, Density, Planned Unit Development, Building height, Building Bulk etc. Special
- Provisions of Town Planning Acts.

INSTRUCTION TO THE EXAMINER

The examiner will set five questions spread over the whole syllabus and candidate will be required to attempt any three question

LOW-COST BUILDING-I

(AR-428/EL)

Uni.Exam.Marks - 50
Sessional Marks - 50
Duration of Exam. - 03 hrs.

SYLLABUS

(7) Need for low-cost buildings, both in the rural and the urban sectors.
(8) Use of cost-effective technologies through the use of local materials, up gradation of traditional technologies, prefabrication etc.
(9) Innovations of building techniques for low cost construction.
(10) Analysis of space norms for low cost buildings.
(11) Study of usage pattern of low cost building by the inhabitants, cost analysis of low cost buildings.
(12) Comparative analysis of building materials and cost.

INSTRUCTIONS TO THE EXAMINER

The examiner is to set five questions spread over the whole syllabus and student is required to attempt any three questions.

B.ARCHITECTURE – VIII SEMESTER
RESTORATION & PRESERVATION OF MONUMENTS-I
(AR-430/EL)

Uni. Exam. Marks - 50
Sessional Marks - 50
Duration of Exam. - 03 hrs.

SYLLABUS

1. Study of basic historical style in Indian Architecture.
2. Study of ornamentation and detailing in historical buildings in various styles.
3. Study of construction methods and structural analysis of various historical building style e.g. arches, domes, vaults and shikharas etc.
4. Study of finishes in historical buildings.
5 Effects of weathering/ pollution on historical buildings.
6. Study of landscaping style/ Plantation around historical buildings. Knowledge of plantation/ water features in mughal garden and Hindu temples.
7. Methods of studying and documenting achieves containing information about historical monuments.
8. Methods of saving monuments from vandalism.

INSTRUCTIONS TO THE EXAMINER

The examiner is to set five questions spread over the whole syllabus and student is required to attempt any three questions.

B.ARCHITECTURE - VIII SEMESTER

HOUSING-I

(AR-432/EL)

Uni. Exam. Marks	**-**	**50**
Sessional Marks	**-**	**50**
Duration of Exam.	**-**	**03 hrs.**

SYLLABUS

1. Preparation for conducting on the spot study of housing problems of an existing town viz. Material of socio-economic survey, methods of conducting surveys.

2. Strategy for solving the housing problems, factors affecting the housing strategies e.g. population projection, age composition, land ownership, land prices zoning, sieve map etc.

3. Housing standards and codes.

4. Housing policies of central Govt. and state Govt..

5. Problem of slums.

INSTRUCTIONS TO THE EXAMINER

The examiner is to set five questions spread over the whole syllabus and the student is required to attempt any three questions.

B.ARCHITECTURE - VIII SEMESTER

ACOUSTICS-I

(AR-434/EL)

Uni.Exam.Marks - 50
Sessional Marks - 50
Duration of Exam. - 03 hrs.

SYLLABUS

This course is offered to enable students to do a thorough analysis of existing proto-type such as theatres, cinema halls, auditoriums, multipurpose spaces etc. An intelligent understanding of the subject is expected so that the students can learn to design the above mentioned special purposes spaces in terms of acoustical constraints and objectives.

The analysis should be aimed at listing out performance specifications of prototype in terms of their acoustic behaviour in actual use.

The design should be aimed at applying theoretical and research material to a realistic design problem. Complete acoustic design for one of the special purpose spaces should be done to enable the students to have a critical appraisal of the problem involved and how these affect architectural concept. Acoustic design assignment will include use of acoustic diagram, calculation of reverberation time, specifications of acoustic material etc. put together as a workable acoustics design proposal for a special purpose space whose location, capacity, functions and other constraints are known.

Student's attention should be drawn to the need for acoustic design in bus terminals, railway stations, aerodromes, stadium offices, libraries, restaurants and other public spaces as well as in residential buildings.

NOTE

Students should be taken to national physical laboratory and other places for familiarising them with materials, equipments and the complexity of the problems of acoustics. Lectures by eminent specialists/professionals may also be arranged.

INSTRUCTIONS TO THE EXAMINER

The examiner is to set five questions spread over the whole syllabus and the student is required to attempt any three questions.

B.ARCHITECTURE – VIII SEMESTER

BUILDING MATERIALS-I

(AR-436/EL)

Uni. Exam. Marks - 50
Sessional Marks - 50
Duration of Exam. - 03 hrs.

SYLLABUS

A study of different building materials under the following suggested headings:

1. Thermal Qualities.
2. Acoustical Qualities.
3. Structural Qualities.
4. Constructional Qualities.
5. Aesthetic Qualities.
6. External & internal finish of materials.
7. Comparative costing of building materials.
8. Use of Building materials in historical buildings.
9. Vernacular/ regional use of materials.
10. Finishing materials and maintenance.

INSTRUCTIONS TO THE EXAMINER

The examiner is to set five questions spread over the whole syllabus and the student is required to attempt any three questions.

B.ARCHITECTURE - VIII SEMESTER
BUILDING MAINTENANCE-I
(AR-438/EL)

Uni. Exam. Marks - 50
Sessional Marks - 50
Duration of Exam. - 03 hrs.

TOPICS

- Introduction to maintenance, its need & Importance, role of an Architect.
- Economic and social significance of maintenance.
- Factors responsible for deterioration and decay of buildings.
- Study of maintenance problems related to materials, design and detailing.
- Various type of defects (efflorescence, dampness, settlement, cracks, corrosion etc.) in

Building and their causes, investigation methods, preventive and remedial measures.

- Effects of climate on the life of building.
- Repair of building after earthquake
- Building service and maintenance e.g. water supply, sewerage, and system.
- Case study of any existing building

INSTRUCTIONS TO THE EXAMINER

The examiner is to set five questions spread over the whole syllabus and the student is required to attempt any three questions.

B.ARCHITECTURE - VIII SEMESTER
INDIAN ARCHITECTURE-I
(AR-440/EL)

Uni. Exam. Marks - 50
Sessional Marks - 50
Duration of Exam. - 03 hrs.

SYLLABUS

The purpose of this course is to find out, through analysis and comparative study of traditional and contemporary architecture in India, how useful or harmful or natural is the imported variety of international style is in the Indian context. A brief historical background should be given.

The country may be divided into various zones based on climate in order to study and analyse residential/ vernacular architecture in the hills (Shimla , Kullu, Manali, Srinagar), in the plains(Lucknow, Kurukshetra, Chandigarh), in the hot and dry regions(Jaisalmer, Jaipur), in the Coastal areas(Bombay, Goa, Trivandrum).

The investigation should be aimed at isolating and identifying both in rural and urban area such elements of architectural design as courtyards, balconies, chajjas, skylights etc. as well as the use and development of indigenous technology with emphasis on local materials, building methods and innovations thereof. Other factor like climate, socio -culture and economic constraints, lifestyle etc. should be studied(not so much in themselves) as they appear to have affected the evaluation of certain prototypes over the centuries.

A comparative study with their contemporary counterparts is expected to reveal much that has been lost of our craze to copy the western models without questioning their relevance to or desirability in the Indian context. The assignment may be done in the form of illustrated reports for presentation and discussion in the class.

INSTRUCTION TO THE EXAMINER

The examiner is to set five questions spread over the whole syllabus and the student is required to attempt any three questions.

B.ARCHITECTURE -IX SEMESTER
ARCHITECTURAL DESIGN-VIII
(AR-521)

Uni.Exam.Marks - 125 (No exam., only viva-voce by external jury)
Sessional Marks - 125

INTENT

To inculcate in the students a confidence to handle large projects through group design and also to make the students aware of the urban environment/problems and their solutions in the strict building regulations.

TOPICS

The design problems will include public buildings with diverse activities.
a) Office/commercial complex, comprising of district centre.
b) Campus designing such as institutions.
c) Capital complex.
(d)All buildings should have accessibility to the physically challenged persons.

Minimum two projects should be done from the above topics.

NOTE:- Only external viva voce of work done during the semester shall be conducted by the external jury appointed by the university.

B.ARCHITECTURE-IX SEMESTER
BUILDING CONSTRUCTION-VIII
(AR-523)

Uni.Exam.Marks - 100
Sessional Marks - 100
Duration of Exam. - 04 hrs.

SYLLABUS

1. Complete set of working drawing of a major design project of 8th semester (site plan, foundation plan and details, Floor plans, Elevation and section).

2. Introduction of pre stressing, prefabrication. Advantages and disadvantages of onsite and off site prefabrication with respect to Indian conditions. Prefabricated component ,evolving simple details in prefabrication.

3. Curtain walls details.

4. Objectives of modular co-ordination, basic planning and structural modules.

5. Mass production, transportation storage and handling of constructional materials.

6. Commercial kitchen (study, designing and working drawings).

INSTRUCTIONS FOR EXAMINER

Minimum five questions are to be set out of which three questions are to be attempted.

B.ARCHITECTURE - IX SEMESTER

TOWN PLANNING-I

(AR-525)

Uni. Exam. Marks - 50
Sessional Marks - 50
Duration of Exam. - 03 hrs.

UNIT-I HISTORICAL DEVELOPMENT

- Importance & Scope of planning process
- Brief History of town planning its origin & growth.
- Historical development of town planning in ancient medieval towns, river valley civilization to pre industrial town.

UNIT-II

- Garden city movement, liner city & concentric city concept.
- Town & Region comparison
- Neighborhood-Definition, its relationship with the town plan its function and needs.

UNIT-III

- Type of city plan patterns based on road systems i.e. Iron, radial spider web, irregular & mined their ages with ancient & modern examples.
- Town and cities their present growth trends & future needs with Indian cities examines

UNIT-IV

- Master plan & its components.
- Zoning definition, needs & advantages.
- Scope of city planning-rehabilitation & brief out line of planning laws, of acts in design.

UNIT-V

- Survey Techniques methods of collection and analysis of data.
- Appraisal of existing condition of town , cities in India remedial measures with emphasis on physical planning.

INSTRUCTIONS FOR EXAMINER

Minimum five questions are to be set from the entire syllabus, out of which three questions are to be attempted.

B.ARCHITECTURE - IX SEMESTER
COMPUTER IN ARCHITECTURE -I
(AR-527/EL)

Uni. Exam. Marks - 50
Sessional Marks - 50
Duration of Exam. - 03 HRS

SYLLABUS

To make the students thoroughly aware of the usage of the Software Auto CAD. This would be of help in actual design and presentation purposes.

CONTENT

The theoretical knowledge imparted through lectures will be supplemented by demonstration computer ,especially for the Auto CAD package.

TOPICS:

(1) Introduction of computer assisted Architectural design New Hardware and Software suitable for the purpose.
(2) Abstraction :Architectural language vocabulary relations, Rules, Grammar and Programming.
(3) Discovery: Search and Representation in Architectural design inference and reasoning in Architecture.
(4) Creativity: Architectural Creativity, support utilities and Fractals(curves and surfaces of space filling character).
(5) Evaluation: Energy performance Evaluation, Cost Evaluation Structural evaluation and Integration of design Evaluation.
(6) Auto lisp programming exercises.
(7) Introduction to Auto Shade Auto Flip and Animator.

B.ARCHITECTURE - IX SEMESTER
ARCHITECTURAL PRESENTATION-I
(AR-529/EL)

Uni. Exam. Marks - 50
Sessional Marks - 50
Duration of Exam. - 03 hrs.

SYLLABUS

The course will be done in two parts.

(a) With special reference to site plan main plans ,sections, elevation etc. of a single building or a complex. Study and practice of methods of preparing presentation drawings for discussion with clients administrators and others required at various stages of design such as the conceptual preliminary developed and final preparation of competition drawings.

(b) With special reference to cut away perspectives birds's eye view etc. Study and practice of quick methods of preparing 1-point,2-points,3-points perspective ,bird's eye view of a single building or a group of buildings: interior views ,cutaway perspectives of private and public spaces. These methods will be applied both to existing buildings and design projects. Various methods of architectural rendering as applicable to (A)and (B) above will be studied from books, magazines and journals with special reference to the work of professional architectural renderers. The rendering techniques may be demonstrated by the teacher using different mediums such as sketch pens, Pen , ink, charcoal pencil, crayons, oil pastels, water colours and poster colours etc. Photo montage techniques may also be employed.

NOTE:

1. More emphasis should be laid on the demonstration and practice of various skills/methods/techniques/systems rather than their theoretical aspect.

2. Attempt should be made to help the students discover and develop their own preferred techniques by assiduous practice under constant supervision.

INSTRUCTIONS TO THE EXAMINER

The examiner is to set five questions spread over the whole syllabus and the students are required to attempt any three questions.

B.ARCHITECTURE - IX SEMESTER
LIGHTING AND ILLUMINATION-I
(AR-531/EL)

Uni.Exam.Marks - 50
Sessional Marks - 50
Duration of Exam. - 03 hrs.

SYLLABUS

A study of natural and artificial lighting in interiors and exteriors . Calculation methods of interior day-lighting. Calculation methods of interior artificial lighting.

Criterion for external lighting. Case studies in natural and artificial lighting for different types of interior such as living room, office, class room, hospital ward etc.

INSTRUCTION TO THE EXAMINER

The examiner is to set five questions spread over the whole syllabus and the student is required to attempt any three questions.

B.ARCHITECTURE - IX SEMESTER
VERNACULAR ARCHITECTURE-I
(AR-533/EL)

Uni.Exam.Marks - 50
Sessional Marks - 50
Duration of Exam. - 03 hrs.

INTENT

To understand vernacular architecture as distinct from other historical & modern styles of architecture to appreciate that it is site responsive and an outcome of indigenous techniques and various social, economic and mythical values of the society**.**

CONTENT

UNIT-I

- Vernacular Architecture- Meaning & theories.
- Determinants of vernacular architecture: Role of social, cultural, political, economic symbolic, climatic, technological contest in creation of form.

UNIT-II

- Materials & technology.
- Role of vernacular architecture in disaster management.

UNIT-III

- Illustrated case studies of vernacular settlements/building typology from various regions in India and abroad.

INSTRUCTION TO THE EXAMINER

The examiner is to set Eight questions spread over the whole syllabus and the student is required to attempt any five questions

B.ARCHITECTURE - IX SEMESTER
MULTI-STOREYED BUILDINGS-I
(AR-535/EL)

Uni. Exam. Marks - 50
Sessional Marks - 50
Duration of Exam. - 03 hrs.

SYLLABUS

(13) A study of reasons for and methods of high-rise developments in our urban centers.

(14) Need for multi storeyed development.

(15) Sitting of multi storeyed buildings.

(16) Problems caused by multi storeyed buildings.

(17) Construction methods.

(18) Services in multi storeyed buildings.

(19) Form of multi storeyed buildings and their effect of urban scape psychological implications of using such spatial organizations.

INSTRUCTIONS TO THE EXAMINER

The examiner is to set five questions spread over the whole syllabus and the student is required to attempt any three questions.

B.ARCHITECTURE - IX SEMESTER
LANDSCAPE ARCHITECURE-II
(AR-537/EL)

Uni. Exam. Marks - 50
Sessional Marks - 50
Duration of Exam. - 03 hrs.

SYLLABUS

Landscape design , its nature and scope. The forces of man and nature- their relationship and effect of shaping the landscape. Ecology and its importance to landscape design.

Natural elements of landscape design: Earth, Rock water and plants, detailed study of the problems and potential of using these elements in natural and environments.

History of landscape Gardens from their early beginnings of formal and informal gardens to contemporary designs.

Recreation spaces in urban areas from toilets to city parks and urban forests.

Site analysis site and structure relationship and landscape assessment.
Garden furniture, Public utility services, Sign language.

INSTRUCTIONS TO THE EXAMINER

The examiner is to set five questions spread over the whole syllabus and the student is required to attempt any three questions.

B.ARCHITECTURE - IX SEMESTER
TRAFFIC & TRANSPORTATION - I
(AR-539/EL)

Uni. Exam. Marks - 50
Sessional Marks - 50
Duration of Exam. - 03 hrs.

SYLLABUS

A study of the movement of humans and goods at the intercity and intra city levels.

The need for transportation.

The various kinds of transportation system with their qualitative analysis.

Inter-City Transport systems and the problems encountered in trafficking it, with special reference to road transport.

A study of methods used for resolving traffic problems such as decentralization of work centres, various traffic controls under and over passes . Subways, clover leaf flyovers, moving sidewalks suspended monorail systems

INTRODUCTIONS TO THE EXAMINER

The examiner is to set five questions spread over the whole syllabus and the student is required to attempt any three questions.

B.ARCHITECTUE - X SEMESTER (Thesis Studio)
ARCHITECTURAL DESIGN THESIS PROJECT-IX
(AR-522)

Uni. Exam. Marks - 250
Sessional Marks - 350
Duration of Exam. - 03 hrs.

Objective

To use and synthesise knowledge of various disciplines in an architectural project of the students own choice.

Content

A. The thesis project will comprise the following:

- An illustrated report, which will include the validity and scope of the chosen project, methodology, prototype studies, site analysis, client's and architect's briefs, delineation of programme and design criteria.
- A fully worked-out design proposal including consideration of site planning structures, services, and any other aspects/specific to the project.

B. Stages of Work:

1. Approval of project:
   - The intent of the thesis project as well as the criteria for selection of the project will be introduced to the students around the 6th week of the previous semester, i.e.9th Semester B.Arch.
   - Before the closing of the 9th Semester, students will submit brief write-ups on three projects out of which one will be approved.
2. Rough Report, comprising all analytical aspects of the project including the synopsis, library studies, prototype studies, site analysis, delineation of building program, etc.
3. Evolution of Design, to be worked out in a minimum of four stages.
4. Draft of Final Report, including Evolution of Dosing Final Report, drawings and model, to be evaluated through a University Examination.

NOTE:

- Students will submit two copies of the final report (original and one photocopy) on a standard format prescribed in the thesis programme issued every year by the Thesis Coordinator.
- The report must also included A-4/A-3 size copies of all final drawings and at least two photographs of the final model/models.
- The original copy of the report, the final drawings and models will be returned to the student after the declaration of the result. The photocopy of the report will be retained for reference in the college library.

C. Schedule of submissions/examination

(Note: Commencement of the semester is considered as o week.)

Stages of work		Time allocated	Max. Marks
1.	Sessional Work		
(a)	**Rough report**	**6 weeks**	**150**
(i)	Synopsis	1 week	
(ii)	Preliminary Library studies	2 weeks	
(iii)	Site analysis, Prototypes, additional Library studies	2 weeks	
(iv)	Programme Formulation	1 week	
(b)	**Evolution of Design**	**5 weeks**	**150**
(i)	Design Criteria and Concept		
(ii)	Design Proposal Stage-1		
(iii)	Design Proposal Stage-2		
(iv)	Pre-final Design		
(c)	**Draft Final report**	**1 week**	**50**

(Incorporating improvements suggested in Rough Report,
Design Criteria and explanatory Sketches of Evolution of Design)

2.	**External Examination**	**4 weeks**	**250**

NOTE:

- Students are required to submit the Final Report, all final drawings and models in the standard format prescribed in the Thesis programme.
- Submission will be made one day before the date of examination.
- **All buildings should have accessibility to the physically challenged persons.**

D Teaching and Evaluation System:

1. The thesis studio will be conducted under the overall coordination of the Thesis Coordinator. In addition, two members of the Visiting Faculty would also be associated throughout the duration of the studio. Each student will be assigned a Thesis Guide (from amongst the faculty) who will supervise the progress of the student's work on a regular basis.
2. Approval of the thesis project/topic will be done by the HOD, the Thesis Coordinator and the concerned Thesis Guide.

3. (i) All stages of sessional work will be evaluated jointly by the HOD, and the entire studio team (Thesis Coordinator, Visiting Faculty members and the concerned Thesis Guide).

(ii) Jury for the External Examination will comprise the Principal, Thesis Coordinator, the concerned Thesis Guide and two External Examiners appointed by the P.T.U. Jalandhar .

(iii) Marks awarded at each stage will be based on the average of those awarded by all jury members. The decision of the HOD will be final in case of dispute/discrepancy.

B.ARCHITECTURE - X SEMESTER
PRORESSIONAL PRACTICE-I
(AR-524)

Uni. Exam. Marks - 50
Sessional Marks - 50
Duration of Exam. - 03 hrs.

INTENT

Introduction to the professional, vocational and legal aspects of architectural practice.

CONTENT

UNIT-I

- Profession-vocation, trade union vis-à-vis professional activities, social obligations of profession, architectural professional association in its role and responsibilities.
- Architects Act 1972/87. Council of Architecture – its role and responsibilities.

UNIT-II

- Code of professional conduct.
- Condition of engagement and scale of professional fees.
- Copyright Act as applicable to architectural work.
- Architectural competition.

UNIT- III

- Concept of Contract and Arbitration.
- Duties and liabilities of architects, duties and liabilities of contractors.
- Articles of agreement, execution of work and payments.
- Arbitration, the Act, its application and its scope.
- Valuation and valuation methods.

UNIT-IV

- Tenders-types and the process of calling, scrutiny and election system.
- Pre-tender qualification and registration of contractors.
- Office organization and management, expense, structure, salaries and overheads role of design staff and supporting managerial staff: Personnel management and training responsibilities.

B.ARCHITECTURE - X SEMESTER
CONSTRUCTION MANAGEMENT-I
(AR-526)

Uni. Exam. Marks - 50
Sessional Marks - 50
Duration of Exam. - 03 hrs.

CONTENT

UNIT-I

- Significance of construction management
- Aim, objectives and functions of construction Management.
- Role in Architect in Construction Management.
- Resources of construction Industry.
- Construction stages, Construction team.

UNIT-II

- Bar charts and limitations of bar charts.
- Construction management techniques CPM, PERT, for project management.
- Development and analysis of CPM net work.
- Cost time analysis in network planning.

UNIT-III

- Planning of temporary services at the site.
- Safety precautions at construction sites.
- Security of materials at building site.
- Stages of inspection and quality control.

INSTRUCTIONS TO THE EXAMINER

The examiner is to set five questions spread over the whole syllabus and the student is to attempt any three questions.

B.ARCHITECTURE - X SEMESTER

INTERIOR DESIGN-II

(AR-528/EL)

Uni. Exam. Marks - NO EXAM
Sessional Marks - 50

INTENT

To understand and appreciate the complexities and constraints in the design and execution of architectural interiors.

CONTENT

UNIT-I

- Interior design in historical perspective.
- Principles of aesthetic composition in interiors.
- Meaning of spatial organization, perceptual needs, and psychological needs. Convenience, maintenance, durability and image in interior design.
- Application of colour, form and texture in interiors.
- Use of artificial and natural lighting in interiors.

UNIT-II

- Built-in furniture and movable furniture
- Interior furnishings
- Interior design accessories and decorative elements

UNIT-III

- Traditional and modern building materials for interior finishes.
- Treatments applied to floors, walls, partitions and ceilings for interior design.
- Electrical and mechanical services and their integration into interior design schemes.

NOTE:

Appraisal for above-mentioned issues through various library case studies or live projects.

B.ARCHITECTUE - X SEMESTER
DISASTER MANAGEMENT FOR BUILDINGS-I
AR-530(EL)

Periods per week : 03
Maximum Marks : 50
Internal : 50
No Exam.

Objective

To make the students understand the various pre & post disaster design and management measures.

Content

UNIT-I

- Earthquake: Problems & design issues
- General Principles of designing
- Special construction techniques.

UNIT-II

- General requirements, principles and measures for building design for Fire, floods, cyclones, avalanche, etc.
- Special construction technique.

UNIT-III

- Post diaster problems, issues & management.

B.ARCHITECTURE - X SEMESTER

LIGHTING DESIGN-I

(AR-532/EL)

Uni. Exam. Marks - NO EXAM
Sessional Marks - 50

INTENT

To introduce methods of determining qualitative & quantitative lighting requirements both for interiors and exteriors.

CONTENT

UNIT-I

- Basic anatomy and functions of the eye. Adjustments made by the eye, age related defects and their design implication.
- Visual arc, Visual acuity, resolution angle, contrast, Colour Contrast, Colour Adaptation, Visual performance and its relationship to contrast, Size of task and illuminance. Central and peripheral vision.
- Photometric terms used in the lighting industry and their interrelationship. Measurement of these terms.
- Colour Specification with Munsel and CIE system, Additive and Subtractive colour mixing.

UNIT-II

- Lamp Properties; Effect of voltage & Temperature fluctuation on functioning of lamps, lamp cost, lumen Loss, Lamp photometric, Brief history of lamps.
- Lamps – Incandecent, Discharge sources. High intensity discharge sources. Fiber optics, Induction Lamps, LED lamps. Recent developments in lamp technology.
- Luminaire properties like intensity distribution for ceiling luminaries & floodlights, LOR, ULOR, DLOR, IP rating, Glare control methods, Aesthetics and applications.

UNIT-III

- Quantitative lighting design of a simple space manually using lumen methods. Lighting design using computers.
- Design principles used for lighting of various types of internal spaces. Design principles used for lighting of various external situations.
- Day lighting, Importance and method to calculate illumination due to daylight using daylight factor, day lighting practices. Integration with electric lighting.

B.ARCHITECTURE - X SEMESTER

HILL ARCHITECTURE-I

(AR-534/EL)

Uni. Exam. Marks - NO EXAM
Sessional Marks - 50

INTENT

Building on the hills has been a challenge to man from time immemorial. The constraints of climate, topography and the local building materials produced rich traditions of vernacular architecture.
In the present context of environmental concerns that the hills face – a greater responsibility has been thrust on architects and builders.
The objectives of this course are to impart a comprehensive knowledge of these historical aspects and present day concerns.

CONTENT

UNIT-I

- Historical perspective of hill architecture and its unique attributes and concerns.
- Major hill settlements in various regions of the world.
- A broad view of traditional hill architecture of medieval European settlements and other places.

UNIT-II

- Traditional hill settlements of India.
- An overview of vernacular hill architecture of Himachal Pradesh.
- Building types, techniques and materials of vernacular architecture of Himachal Pradesh.
- Lessons from vernacular architecture and their time tested indigenous technology.

UNIT-III

- Modern buildings on the hills in India.
- Constraints of climate, topography and availability of materials.
- Design factors such as access, circulation and necessary safeguards.
- Environmental and ecological concerns and safeguards.