

IK Gujral Punjab Technical University

B. Urban Planning

Batch 2017 onwards

Semester 1st

Total Load per week: 24 Hrs.

Course Code	Course Name	Load Allocation			Marks Distribution		Total Marks	Credits
		L	T/S*	P	Internal	External		
BUP-101	Fundamentals of Urban and Regional Planning	2	1	0	50	50	100	3
BUP-102	Principles of Construction and Building Structures	2	1	0	50	50	100	3
BUP-103	Technical Report Writing and Research Methodology	2	1	0	50	50	100	3
BUP-104	Basic Architectural Design	2	1	0	50	50	100	3
BUP-105	Map Preparation	0	5	0	100	100	200	5
BUP-106	Map Graphics	0	5	0	100	100	200	5
BUP-107	Communicative English-I	2	0	0	50	50	100	2
Total		10	14	0	450	450	900	24

***S- Studio**

BUP-101: FUNDAMENTAL OF URBAN AND REGIONAL PLANNING

Settlement: definition and characteristics, rural, urban settlements as per census and classification of towns, city, metropolis, megalopolis, interaction and interdependence between city-region. Urbanization process: definition, character, function, migration, role of social, economic and demographic aspects on urbanization, major components of a settlement, major urban problems and their solutions, landuses.

Planning process: definition, need and importance, function and type of planning (sectoral and spatial), administrative level of planning (local, block, dist, state and national), role of environment, society, economy, political, administrative and legal system on planning process. Contents of spatial planning for a settlement: Site planning, transport planning, utility planning, landscape planning, master plans.

Regional planning: definition, need and importance, objective, concept of region, types of regions - resource region, agro-climatic region, topographic region, contents of regional planning for block, district, state, national, NCR, major regional problems and their solutions.

Suggested Readings:

1. 2006 S.K. Kulshrestha, 'Dictionary of Urban and Regional Planning', Kalpaz Publications, Delhi.
2. 2005 K.R. Thooyavan, 'Human Settlements - A Planning Guide to Beginners, M.A. Publications, Chennai.
3. 2002 Majid Hussein, Fundamentals of Physical. Geography, Second Edition, Rawat Publications, New Delhi.
4. 1994 Diwan&Kopardekar, 'Urban and Regional Planning-Principles, Practice and Law' S.H. Kopardekar, Talegaon - dabhade.
5. 1982 Madhu Sarin, Urban Planning in third World, the Chandigarh Experience, Mansell Publishing House, London.
6. 1975 Melville Branch, Urban Planning Theory, Dewden, Hutchinson & Ross Inc, Strondsburg Pennsylvirania
7. 1972 L. Keeble, 'Principles & Practice of Town and Country Planning', the Estates Gazette Ltd., London.

BUP 102: PRINCIPLES OF CONSTRUCTION AND BUILDING STRUCTURES

Elements of a building: their functions and characteristics, Common types of foundations for buildings: Walls and columns, Cross sectional components of a single storey and Multistoreyed building. Characteristics of the common building material used for these elements. Façade elements of Historical and traditional buildings.

Planning Considerations for Building making- Relevance of set-backs: Type and application, Covered areas, Plinth area, floor areas, carpet areas and FAR. Relevance of Court yard in Traditional or old buildings, Climate and traditional building forms, Verandah, roof height and considerations for healthy living environment in old buildings.

Buildings in Hills, Tropical, costal and desert areas- form, design and planning approaches. Buildings for Special Areas and Purposes—Slums, Temporary Structures, General types and Material used.

Suggested Readings:

1. 2014. Gurcharan Singh. Building Construction and Materials. Rajson Publication Pvt. Ltd. New Delhi.
2. 2006. National Building Code. Government of India. New Delhi.
3. 2001. Merritt S. Frederick. Building Design and Construction Handbook, Sixth Edition, McGRAW-HILL. New York.
4. 1996. R.K. Rajput. Strength of Materials. Sultan Chand & Company Ltd. New Delhi.
5. 1994. B.C. Punmia, P.C. Strength of Materials and Theory of Structures. Vol I, Laxmi Publications. Delhi.
6. 1990. R.K. Bansal. Engineering Mechanics and Strength of Materials. Lakshmi Publications. New Delhi.
7. 1990. S. Ramamurtham. Strength of Material. Dhanpatrai & Sons. New Delhi.
8. 1989. W.A. Nash. Strength of Materials - Schaums Series. McGraw Hill Book Co. New York
9. 1982. Callender, John Hancock. Time Saver Standards for Architectural Design Data. McGraw Hill Book Co. New York.
10. 1980. M.E. Bevin. Design through Discovery. Hercourt School. New York.

BUP-103: TECHNICAL REPORT WRITING AND RESEARCH METHODOLOGY

Types of reports, difference between technical, scientific, legal and other types of communications; specific characteristics of writing technical reports. English comprehension and oral communication. Presentation techniques in digital and oral format for group discussion in seminars and meetings.

Preface, acknowledgements, contents, indexing, key word indexing, introduction, body terminal section, appendices, references; Literature surveys: Use of libraries, knowledge of indexing and available reference materials

Planning and preparation of technical articles for publications; Popular articles; Formal letters and specifications: Business and official letters, styles and formats; Requests for specifications and other types of business enquiries; Agendas and minutes of official records and meetings

Scientific research, need for scientific approach to research; Research methods; Hypotheses, testing of hypotheses; Observations and Interviews.

Suggested Readings:

1. 2005. Kumar, Ranjit, Research Methodology - An Introduction, Pearsons Education, Baba Balak Nath Printers, New Delhi.
2. 2003. Crotty, Michael, The Foundations of Social Research: Meaning and Perspective in the Research, Sage Publishers, London.
3. 1984. T.S. Wilkiinson and P.L.Bhandarkar, Methodology and Techniques of Social Research, Himalaya Publishers, New Delhi.
4. 1970. Gopal, M.H., An Introduction to Research Procedures in Social Sciences, ASIAN Publication House, Delhi.

BUP-104: BASIC ARCHITECTURAL DESIGN

Introduction to Architecture - relevance in local and physical environment, Elements of Design; Point, Line, Plane, Colour, Light, Space and Material. Principles of Design - Balance, harmony, rhythm, proportions, scale, contrast, symmetry, variety, unity and diversity.

Objectives of Design; beauty, order, economy. Composition Formal / informal, two dimensional and three dimensional Compositions based upon principles of design. (e.g. preparation of collage, murals, motifs etc.) Anthropometry and circulation area required for various activities.

Design of small spaces such as office, bus-stop, kiosk and single storey residential unit. Design considerations and focus of elements used. Relationship of the building to the site, to time and man i.e. scale setting and citing of a building, streets/roads, landscape etc.

Suggested Readings:

1. 2013. Marco Bussagli. Understanding Architecture. I.B. Tauris. London
2. 2009. Nathan B Winters. Architecture is Elementary: Visual Thinking Through Architectural Concepts. Gibbs Smith Publishers. US
3. 2004. M. David Gann. Building Innovation. Thomas Telford Publishing. London.
4. 1996. Francis D.K. Ching Architecture Form, Space and Order. Van Nostrand Reinhold. New York.
5. 1984. Tom Heath. Method in Architecture. John Willy and Sons. New York.
6. 1983. K.W. Smitnies. Principles of Design in Architecture. Chapman & Publisher. New York.

BUP-105: MAP PREPARATION

- Basic elements of MAPS, components and presentation
- Scale and type of maps - study of large scale, small scale maps, Land use maps of cities. (tracing of maps and understating of concept of scale)
- Different theme maps—census map series, geographical maps, components of working drawings of a site, buildings.
- Topographical maps - sources, SOI specifications, grid formation, data factors, projection systems- Types, basic concepts, SOI guidelines and assumptions for projection systems, Study of SOI grids.
- Generation of Theme Maps from Base map_ Land Use Types etc. Demonstration of Use of Statistical Data on Maps- Pictographically, Graph etc.
- Preparation of a base of a city :
- Copying an existing map and Generating map from other sources
- Components of a Base map for a city or part of a city
- Map presentation with colours.

Suggested Readings:

1. 2001. A. H. Strahler. and A.N. Strahler, Modern Physical Geography (Fourth Edition), John Wiley and Sons, Inc.1., New York
2. 1999. D.R. Khullar, Essentials of Practical Geography, New Academic Publishing Co., Jalandhar.
3. 1998. R.L. Singh and P.B. Rana, Elements of Practical Geography, Kalyani Publishers, New Delhi.
4. 1996. D.S. Lal, Climatology, Chaitanya Publishing House, Allahabad
5. 1978. H. Robinson, Biogeography, ECBS & Mac Donald and Evans, London
6. 1964. Monkhouse and Willinson, Maps and Diagrams, Methuen & Co., London.

BUP-106: MAP GRAPHICS

The objective of this exercise is to orient students with the techniques of presentation. The students are required to undertake practical exercises in all the following two categories.

- Various types of grades of lines used in drawing. Meaning and description of plan, elevation and sections using geometrical shapes,
- Free hand sketching of solids, cones, cubes, cylinders, spheres etc. Free hand sketch of various settlement elements - electric poles, street features, trees, shrubs, bus stop physical natural features etc.
- Signs and Symbols used for different types of maps—building materials, landscape elements, land use pattern for a city and regional, common sign conventions adopted for topographical sheets.

Suggested Readings:

1. 2001. A. H. Strahler. and A.N. Strahler, Modern Physical Geography (Fourth Edition), John Wiley and Sons, Inc.1., New York
2. 1999. D.R. Khullar, Essentials of Practical Geography, New Academic Publishing Co., Jalandhar.
3. 1998. R.L. Singh and P.B. Rana, Elements of Practical Geography, Kalyani Publishers, New Delhi.
4. 1978. H. Robinson, Biogeography, ECBS & Mac Donald and Evans, London
5. 1964. Monkhouse and Willinson, Maps and Diagrams, Methuen & Co., London.

BUP-107: COMMUNICATIVE ENGLISH-I

Objective: To introduce students to the skills and strategies of reading and writing by identifying organizational patterns, spotting classification systems and understanding associations between ideas. This course will prepare students to read a variety of texts and also to communicate more effectively through writing. The course will also pay special attention to vocabulary building.

Prescribed Text books:

1. *Making Connections: A Strategic Approach to Academic Reading* by Kenneth J. Pakenham, Second Edition.
2. *The Written Word* by Vandana R. Singh, Oxford University Press, New Delhi.

Course Contents:

1. Reading and Comprehension Skills:

Students will be required to read and comprehend the essays in Unit 1 and 2 of the book *Making Connections: A Strategic Approach to Academic Reading* by Kenneth J. Pakenham, Second Edition. They will be required to answer the questions given after each essay.

2. Developing Vocabulary and using it in the Right Context:

The students will be required to master “Word List” and “Correct Usage of Commonly Used Words and Phrases” from the Chapter “Vocabulary” in the book *The Written Word*.

3. Writing Skills

Students will be required to learn “Report Writing” and “Letter Writing” as in the book *The Written Word*.

Students will be required to write long essays based on the prescribed text book *Making Connections: A Strategic Approach to Academic Reading*.

Minor 1:

Syllabus to be covered:

1. Unit 1 from *Making Connections: A Strategic Approach to Academic Reading* by Kenneth J. Pakenham, Second Edition.
2. Report Writing from *The Written Word*.

Suggested Paper Pattern:

1. Report Writing (8 marks)
2. Short answer type questions from Unit 1 of *Making Connections: A Strategic Approach to Academic Reading* (6 marks)
3. Essay type question from Unit 1 of *Making Connections: A Strategic Approach to Academic Reading* (6 marks)

Minor 2:

Syllabus to be covered:

1. "Word List" from the Chapter "Vocabulary" in the book *The Written Word*.
2. Unit-2 from the book *Making Connections: A Strategic Approach to Academic Reading* by Kenneth J. Pakenham, Second Edition.

Suggested Paper Pattern:

1. Word List from the Chapter "Vocabulary" in the book *The Written Word* (8 marks)
2. Short answer type questions from Unit 2 of *Making Connections: A Strategic Approach to Academic Reading* (6 marks)
3. Essay type question from Unit 2 of *Making Connections: A Strategic Approach to Academic Reading* (6 marks)

Suggested Paper Pattern for Major Exam:

1. Letter Writing as prescribed in *The Written Word* /1 out of 2 (10 marks)
2. Short answer type questions from Unit 1,2 of *Making Connections: A Strategic Approach to Academic Reading* (14 marks)
3. "Word List" and "Correct Usage of Commonly Used Words and Phrases" from the Chapter "Vocabulary" present in the book *The Written Word*. (10 marks)
4. Essay type question from Unit 1,2 of *Making Connections: A Strategic Approach to Academic Reading* 1 out of 2 (8 marks)
5. Report Writing from *The Written Word* (8 marks)