

**MAHARSHI DAYANAND UNIVERSITY,
ROHTAK**

BACHELOR OF PLANNING

**ORDINANCE
2010**

ORDINANCE FOR BACHELOR OF PLANNING

Notwithstanding anything contained in any other **ordinance** with regard to the matter hereunder, the courses of study for the degrees of Bachelor of Planning and the conditions for admission thereto shall be as under: -

1. The Bachelor of Planning Course shall extend over a minimum period of four academic years. Teaching in each academic year shall be divided into two semesters, each semester extending to about 16 weeks duration. Teaching for odd semesters will normally be during August to December and for even semesters from January to May.
2. A candidate can be admitted to first semester of this course only if he fulfills the following requirements:
 - (a) That s/he has passed 10+2 examination of Haryana School Education Board or its equivalent examination from a recognized Board/university with Mathematics and must have obtained at least 50% marks (without any rounding off) in the aggregate.

However, in case of Scheduled Caste/Schedules Tribes no minimum percentage of marks is prescribed and merely pass in qualifying examination with the said subjects is adequate.

- (b) Admission may be allowed in the beginning of the session to the candidates who are permitted to migrate to the University in accordance with the migration rules of the University for B.Planning course.
- 3.1 At the end of each semester there shall be an examination. Each semester shall be designated as first semester, second semester exam and so on. A practical training need to be conducted in summer vacation at the end of 4th & 6th semester for six weeks each according to the procedure laid in clause 4(e) of this ordinance. A report on 'Practical Training' needs to submitted by the student at the time of exam. The report must be duly signed by guide and HOD.
- 3.2 The examination for all semesters will normally be held in December/January and also in May/June on such dates as may be fixed by the Vice-Chancellor. The date(s) of commencement of examinations as well as the last date(s) for the receipt of examination forms and fees as fixed by the Vice- Chancellor shall be notified by the Controller of Examinations to the concerned University Teaching Departments and the Colleges / Institutes admitted to the privileges of the University.

However, in case of late declaration of result by the University, forms can be submitted without late fee within 10 days of declaration of result by the University subject to the requirements of Clause B.

The courses of the study and the subject of examinations shall be as approved by the Academic Council from time to time. The examination shall consist of : -

(a) Theory Papers:

- (i) The paper will be set the internal/external paper setter.
- (ii) The evaluation will be done by the internal examiner.

(b) Sessionals

Sessionals works of all the subjects shall be evaluated by the teachers of the various subjects based on the work done during semester in accordance with the guidelines/ procedure recommended by the Principal/Incharge of Department of Planning and approved by the Director of the college. The marks obtained in the sessional work shall be awarded by the teacher concerned and duly countersigned by the Principal / In Charge Department of B.Planning. of the college and then duly countersigned and forwarded by the Director of the College to the Controller of Examinations of the University before the last theory exam of that semester.

(c) Portfolio:

In the subjects conducted in the studio/Practical requiring drawing work there will be no theory examinations. The complete/part work done in these subjects during the semester will be evaluated by a jury comprising one external and one internal examiner. The work will be presented as a portfolio and will be according to the scheme of examination approved by the University.

(d) Terminal Project (Thesis)

- (i) Every student shall prepare a terminal project (Thesis) under the supervision of a guide on a topic approved by the Principal/In Charge Department of Planning of the college. The project shall be submitted in the form of Research, Report, Drawings, and Models etc. through the Principal/In Charge Department of Planning of the college to the Director of the college.
- (ii) The evaluation of the terminal project (Thesis) will be through sessionals and portfolio evaluation. The sessionals work made up of numerous stages, will be evaluated through a viva - voce portfolio evaluation will be conducted by a jury of one external and one internal/Principal/In Charge Department of B.Planning act as coordinator.

(e) Practical Training

- (i) During the summer vacation after 4th & 6th semester the students are required to undergo practical training of 6 weeks each. Every student is required to submit copies of representative work done and study report during this period together with a certificate from the organization to the Principal / In charge Department of Planning. The practical training work will be

evaluated, through seminar/Viva – voce by a jury of internal examiner.

The student will be required to repeat the training when:

- (ii) The report from the employer is not satisfactory.
- (iii) The attendance in the office is less than 70% of the number of days required for training.

A candidate is allowed to take a theory paper, present the portfolio/thesis when:-

- (a) The candidate has his name submitted to the Registrar/Controller of Examination by the Director of the College.
 - (b) The Candidate has passed in Sessional of the concerned subject in the semester.
 - (c) The candidate has attended no less that 75% of total classes held in that semester in the subject offered by him/her for the examination provided that his/her subject attendance in each individual subject is not less than 60%. The Director of the college/Chairperson of the concerned University Department may in bona-fide cases, condone deficiency up to 10% in the total and/or 5% in individual subjects.
 - (d) The candidate is certified by the Director- Principal to have behaved in a manner befitting a student of a professional institution.
 - (e) A candidate not covered under clause 6 below whose result declaration for no fault of his is delayed, should attend classes of the next higher semester provisionally at his own risk and responsibility. His attendance and/or sessionals will be, however, credited subject to his passing the concerned semester examination. Such candidates shall also be governed by clause 5.
6. If a candidate has after attending the course of studies in the college either not appeared or appeared in any semester examination and failed in one of more courses for that examination he can appear for such courses at subsequent examinations without attending a fresh course for the next semesters and appear in the examination for the same along with for the lower semester.

Provided that a candidate shall not be allowed to attend classes and appear in that semester examination mentioned in column (a) unless he/she has passed in the semester examination mentioned in column(B) below:-

A	B
5 th Semester onwards	1 st semester

6 th Semester onwards	2 nd semester
7 th Semester onwards	3 rd semester
8 th Semester onwards	4 th semester

Provided that candidate who is unable to complete the first 6 semester of the B.Planning course within a maximum of 5 consecutive academic years and or unable to complete the B.Planning course in 7 consecutive years from the date of his admission shall not be eligible for appearing in any subsequent B.Planning examination.

7. (a) The minimum marks required to pass the examination shall be:
- (i) 40% in each theory paper
 - (ii) 50% in each sessional
 - (i) 50% in Portfolio evaluation
 - (ii) 50% in Terminal Project
 - (iii) 50% in practical training
- (b) Any student who secures less than 50% marks in the sessional part of any subject shall not be eligible to take the theory examination in that subject. Similarly in studio/practical course and terminal project (Thesis) any student who secures less than 50% marks in the sessional part of the subject shall not be eligible to make the portfolio presentation. He may be permitted to appear in the next examination in those subjects only if he secured the pass marks in those subjects/thesis sessionals.
- (c) Grace marks, if any, will be given by the university only in theory papers and in sessional, portfolio, thesis or practical training.
8. In order to determine the division in which a candidate shall be placed the scaled marks will be:

<u>Name of Examination</u>	<u>Scaled Marks</u>
1st & 2nd Semester	40 % of aggregate marks
3rd & 4th Semester	60 % of aggregate marks
5th & 6th Semester	80 % of aggregate marks
7 th & 8 th Semester	100% of aggregate marks

Candidates who pass the prescribed subjects for all the semesters, but obtain

i) Less than 50 % marks	Pass Class
ii) 50 % or more, but less than 60 %	Second Division
iii) 60 % or more, but less than 70 %	First Division
iv) 70 % or more	First Division with
Honours Provided	
that they have passed all semester	

period of the exams within the normal course.

Provided that in case of a candidate who is permitted from any other University, the marks obtained by him in this University only will be taken into account. These marks, however, be increased proportionately so as to raise them to the level of maximum marks of University.

9. The medium of instructions and examination shall be in English.
10. The amount of examination admission fee to be paid by a candidate for each semester shall be as decided by Vice-Chancellor from time to time. A candidate who appears in one or more papers shall pay the full examination fee.
11. At the end of each semester examination, the Controller of Examinations shall publish the result, provided that in a case where candidate who was permitted to take examinations for higher semester under clause 6 but has not cleared the lower semester examinations his result for the higher semester examination will be declared provisionally. And would be confirmed only when he passes in all the written papers/sessionals/architectural design etc. of the examination.
12. Notwithstanding the integrated nature of this course which is spread over more than one academic year, the **Ordinance** in force at the time of a student joins the course shall hold good only for the Examination held during or at the end of the academic year and nothing in this **Ordinance** shall be deemed to debar the university from amending the **Ordinance** and the amended **Ordinance**, if any, shall apply to all students, whether old or new.
13. A candidate, who has passed the final examination of this University and is desirous of improving his/ her performance, will be allowed to appear as an ex-student in even/odd semester examinations, as and when held, twice within the period permissible under Clause-6. Such a candidate in the first instance shall be required to intimate all the paper(s) in which he/she would like to improve his/her performance. He/She will then appear in the respective paper(s) at the concerned semester examinations simultaneously as and when held. If he/she does not improve his / her performance, he /she shall be eligible to do so in the following examinations, which would be treated as second chance.

**MAHARSHI DAYANAND UNIVERSITY,
ROHTAK**

**BACHELOR OF PLANNING
SCHEME OF EXAMINATION**

W.E.F. SESSION 2010-2011

MAHARSHI DAYANAND UNIVERSITY, ROHTAK
BACHELOR OF PLANNING
SCHEME OF EXAMINATION
W.E.F. SESSION 2010-2011

SEMESTER - I

S. No.	Subject	Paper Code	Teaching Hours				Marks				Duration of Exams
			Lectures	Practical	Tutorials	Total	Theory Exam	Internal Assessment/Portfolio	External Jury	Total	
1.1	Basics of Design-I	BP-101A	0	11	0	11	-	300	300	600	
1.2	Arts & Graphics-I	BP-102A	0	3	0	3	-	150	-	150	
1.3	Workshop	BP-103A	0	3	0	3	-	50	-	50	
1.4	Statistical Methods-I	BP-104A	3	0	0	3	50	50	-	100	2 Hrs
1.5	Materials and Principles of Construction	BP-105A	2	1	0	3	-	150	-	150	
1.6	Basics of Structural Design	BP-106A	3	0	1	4	50	50	-	100	2 Hrs
1.7	Applied Mathematics	BP-107A	3	0	0	3	50	50	-	100	2 Hrs
	TOTAL		11	18	1	30	150	800	300	1250	

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SEMESTER - II

S. No.	Subject	Teaching Hours					Marks				Duration of Exams
		Paper Code	Lectures	Practical	Tutorials	Total	Theory Exams	Internal Assessment / Portfolio	External Jury	Total	
2.1	Basic of Design-II	BP-201A	0	11	0	11	-	300	300	600	
2.2	Arts & Graphics-II	BP-202A	0	3	0	3	-	150	-	150	
2.3	History of Art & Culture of Settlements	BP-203A	2	0	0	2	-	50	-	50	
2.4	Statistical Methods-II	BP-204A	2	0	1	3	50	50	-	100	2 Hrs
2.5	Applied Geology	BP-205A	2	1	0	3	50	100	-	150	2 Hrs
2.6	Environmental Science	BP-206A	2	0	1	3	-	-	-	-	3 Hrs
2.7	Surveying, Photogrammetry and Photography	BP-207A	2	2	0	4	50	50	-	100	2 Hrs
	TOTAL		10	17	2	29	150	700	300	1,150	

Note:-

1. Environmental Science will be evaluated on grade basis by the internal jury.

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SEMESTER - III

S. No.	Subject		Teaching Hours				Marks				Duration of Exam
			Lectures	Practical	Tutorials	Total	Theory Exams	Internal Assessment/Portfolio	External Jury	Total	
3.1	Planning & Design Studio (Transportation Aspects)	BP-301A	0	11	0	11	-	300	300	600	
3.2	Evolution of Human Settlements	BP-302A	3	0	0	3	100	50	-	150	3 Hrs
3.3	Computer Programming & Application -I	BP-303A	2	2	0	4	-	100	-	100	
3.4	Planning Theory I	BP-304A	3	0	0	3	50	50	-	100	2 Hrs
3.5	Techniques of Planning-I	BP-305A	3	0	0	3	50	50	-	100	2 Hrs
3.6	Ecology & Resource Management	BP-306A	2	0	1	3	50	50	-	100	2 Hrs
3.7	Traffic & Transportation Planning-I	BP-307A	3	0	1	4	50	50	-	100	2 Hrs
	TOTAL		16	13	2	31	300	650	300	1,250	

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SEMESTER - IV

S. No.	Subject	Teaching Hours					Marks				Duration of Exam
		Paper code	Lectures	Practical	Tutorials	Total	Theory Exams	Internal Assessment/Portfolio	External Jury	Total	
4.1	Planning & Design Studio (Housing Aspects)	BP-401A	0	11	0	11	-	300	300	600	
4.2	Quantity Surveying & Specifications	BP-402A	2	0	1	3	50	50	-	100	2 Hrs
4.3	Computer Programming & Application -II	BP-403A	2	1	0	3	-	100	-	100	
4.4	Planning Theory II	BP-404A	3	0	0	3	50	50	-	100	2 Hrs
4.5	Techniques of Planning-II	BP-405A	3	0	0	3	100	50	-	150	3 Hrs
4.6	Theory of Design	BP-406A	2	0	1	3	-	100	-	100	
4.7	Elements of Economics	BP-407A	3	0	0	3	50	50	-	100	2 Hrs
	TOTAL		15	12	2	29	250	700	300	1250	

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SEMESTER - V

S. No.	Subject	Teaching Hours					Marks				Duration of Exam
		Paper Code	Lectures	Practical	Tutorials	Total	Theory. Exams	Internal Assessment/Portfolio	External Jury	Total	
5.1	Planning & Design Studio (Area Planning/Zonal Planning)	BP-501A	0	11	0	11	-	300	300	600	
5.2	Utilities and Services Planning	BP-502A	3	1	0	4	50	50	-	100	2 Hrs
5.3	Demography & Urbanization	BP-503A	3	0	0	3	50	50	-	100	2 Hrs
5.4	Housing & Community Planning	BP-504A	3	1	0	4	100	50	-	150	3 Hrs
5.5	Settlement Geography	BP-505A	2	1	0	3	50	50	-	100	2 Hrs
5.6	Development Planning	BP-506A	3	0	0	3	50	50	-	100	2 Hrs
5.7	Traffic & Transportation Planning-II	BP-507A	3	0	0	3	50	50	-	100	2 Hrs
5.8	Practical Training-1	BP-508A	-	-	-	-	-	50	-	50	
	TOTAL		17	14	0	31	350	650	300	1300	

Note:

1. Practical training-I will be done in the summer vacation between fourth and fifth semester. Marks of Practical training will be added in the fifth semester.

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SEMESTER - VI

S. No.	Subject	Teaching Hours					Marks				Duration of Exam
		Paper Code	Lectures	Practical	Tutorials	Total	Theory. Exam	Internal Assessment/Portfolio	External Jury	Total	
6.1	Planning & Design Studio (Development Plan Preparation for Village/Town/City)	BP-601A	0	11	0	11	-	300	300	600	
6.2	Urban Design & Conservation	BP-602A	3	0	1	4	100	50	-	150	3 Hrs
6.3	Operations and Research Systems Analysis/Computer Applications-III	BP-603A	3	0	0	3	50	50	-	100	2 Hrs
6.4	Planning & Management of Informal Sector & Basic Needs	BP-604A	3	0	0	3	50	50	-	100	2 Hrs
6.5	Landscape Planning & Design	BP-605A	3	0	0	3	50	50	-	100	2 Hrs
6.6	Land Economics & Locational Theory	BP-606A	3	0	0	3	50	50	-	100	2 Hrs
6.7	Elements of Settlement Sociology	BP-607A	3	0	0	3	50	50	-	100	2 Hrs
TOTAL			18	11	1	30	350	600	300	1,250	

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SEMESTER - VII

S. No.	Subject	Teaching Hours					Marks				Duration Of Exam
		Paper Code	Lectures	Practical	Tutorials	Total	Theory Exams	Internal Assessment/ Portfolio	External Jury	Total	
7.1	Planning and Design Studio (Block/Sub-Regional Plan)	BP-701A	0	11	0	11	-	300	300	600	
7.2	Rural & Resource Planning	BP-702A	3	0	1	4	100	50	-	150	3 Hrs
7.3	Planning Info Systems & C Use	BP-703A	2	0	1	3	50	50	-	100	2 Hrs
7.4	Urban Management	BP-704A	2	0	1	3	100	50	-	150	3 Hrs
7.5	Project Planning and Control	BP-705A	2	0	1	3	50	50	-	100	2 Hrs
7.6	Public Finance	BP-706A	2	0	1	3	100	50	-	150	3 Hrs
7.7	Practical Training-II	BP-707A	-	-	-	-	-	50	-	-	
TOTAL			11	11	5	27	400	600	300	1300	

Note:

2. Practical training-II will be done in the summer vacation between Sixth and Seventh semester. Marks of Practical training will be added in the seventh semester.

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SEMESTER – VIII

S. No.	Subject	Teaching Hours					Marks				Duration of Exam
		Paper Code	Lectures	Practical	Tutorials	Total	Theory Exams.	Internal Assessment/ Portfolio	External Jury	Total	
8.1	Terminal Project	BP-801A	0	16	0	16	-	300	500	800	
8.2	Planning Legislation	BP-802A	3	0	0	3	100	50	-	150	3 Hrs
8.3	Professional Practice	BP-803A	2	0	1	3	50	50	-	100	2 Hrs
8.4	Political Systems and Planning	BP-804A	2	0	0	2	50	50	-	100	2 Hrs
8.5	Technical Report Writing	BP-805A	2	0	0	2	-	100	-	100	
	TOTAL		9	16	1	26	200	550	500	1,250	

**MAHARSHI DAYANAND UNIVERSITY,
ROHTAK**

**BACHELOR OF PLANNING
SYLLABUS**

W.E.F. SESSION 2010-2011

FIRST SEMESTER

BASICS OF DESIGN-I

BP-101A

Periods per Week:	11
Sessional Marks:	300
External Jury :	300

Use of various drafting equipments; lettering-freehand and block; drawing of logo, insignia and jail pattern, orthographic projections-principles and concepts; one, two and three dimensional objects.

Construction of linear and diagonal scale; isometric and perspective views; syography and rendering.

Anthropometrics and furniture layout of a room, building drawing-plans, elevations and sections at appropriates scales.

Preparation of base maps and graphical presentation of statistical data.

NOTE:

Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester

ART AND GRAPHICS-I

BP-102A

Periods per Week: 3

Sessional Marks: 150

Unit 1: Point and Line

Significance of point and line; motifs and composition in point and lines; types of lines; horizontal, vertical, diagonal, curves etc. and kind of effect each line generates; predominant lines in a building can be studied; principals of composition in terms of balance, harmony.

Unit 2: Texture and Color

Creating texture with points and lines; appreciation of textures of various materials like brick, stone, wood, etc. Use of various textures in the design exercises undertaken in the architectural design studio; introduction to the color system, shade, tone, tint, etc.; harmonious and contrasting colors; warm, neutral and cool colors and their use in art to create varying effect; use of color in design exercises; use of texture in color.

Unit 3: Shape and Form

Basic shapes and forms; concept of negative and positive space; emphasis on receding and projecting planes as well as basis forms of buildings; outdoor sketching to understand the basic forms; understanding the concept of scale and proportion in composition; introduction to human figures.

NOTE:

1. Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

WORKSHOP

BP-103A

Periods per Week: 3

Sessional Marks: 50

Materials and techniques used in physical models, use of hand tools, making scale models of residential blocks and a site layout using appropriate material and techniques.

NOTE:

1. Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

STATISTICAL METHODS-I

BP-104A

Periods per Week:	3
Sessional Marks:	50
Theory Exam Marks :	50
Duration of Exam :	2 Hrs

Unit 1: Introduction

Statistical data and methods; collection of data, record, file, sources of data, questionnaire design, design of sample surveys; simple random sampling stratified sampling etc. data coding, data verification.

Unit 2: Data Presentation

Statistical tables; types of tables, comparisons, methods of presentation, graphic presentation; types of charts, plotting a curve, rules of drawing curves, bar charts, pictography, pie charts, histograms.

Unit 3: Statistical Methods

Raw data, frequency distribution, selecting number of classes, class limits, curves, cumulative frequency distribution, and ogives, measures of central tendency; arithmetic mean, median, mode, geometric mean and harmonic mean; measures of absolute dispersion, range, quartile deviation, average deviation, standard deviation, skewness and kurtosis.

Unit 4: Correlation

Degree of correlation, correlation co-efficient, methods of concurrent deviation, co-efficient of rank correlation, partial correlation analysis and multiple correlations.

Unit 5: Probability

Introduction, addition rule, conditional probability, multiplication rule, random variables and probability distribution, mathematical expectation.

Unit 6: Sampling Distribution

Nature of sampling distribution, Binomial distribution, Poission's distribution and normal distribution.

NOTE:

1. Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.
2. Examiner will set seven questions in total covering the whole syllabus. Students will have to attend four questions in all. All questions carry equal marks. (12.5 x 4 = 50).

MATERIALS AND PRINCIPLES OF CONSTRUCTION

BP-105A

Periods per Week: 3

Sessional Marks: 150

Unit 1: Introduction to Building Materials and finishes

Brick, timber, stone, cement, lime ,glass, R.C.C. ,asbestos, paints and varnishes, Fibre Reinforced Plastic(FRP)

Unit 2: Structural Use of Timber

Timber used as lintels, post and trusses.

Unit 3: Principles of construction of building elements

Foundation, footing, DPC, flooring, sills, lintel, roofing, parapet, coping, cladding expansion joints, waterproofing of roofs, external wall section with detail, beams, columns, slabs, retaining walls.

Units 4: Site developments and layouts

Principles and components of site developments, setting out of building on site.

Units 5: Principles on service lines and networks.

Layout and construction of roads, culverts, flyovers, sewer and storm water drain, water supply line, service duct under the road.

NOTE:

Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester

BASICS OF STRUCTURAL DESIGN

BP-106A

Periods per Week: 4
Sessional Marks: 50
Theory Exam Marks : 50
Duration of Exam : 2 Hrs

Unit 1: Compression and Tension

Forces of compression and tension, concept of equilibrium of forces and conditions of equilibrium, concepts of elasticity and plasticity, hooke's law, stress-strain relationship of tension and compression.

Unit 2: Columns and Walls

Phenomenon of buckling ,short and long columns, concept of slenderness ratio, masonry wall.

Unit 3: Shear force and Bending Moment Diagrams

Unit 4: Principles of Design of Structures.

Principles of design of beams, slabs (one way and two way) and cantilevers, framed structures.

NOTE:

1. Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.
2. Examiner will set seven questions in total covering the whole syllabus. Students will have to attend four questions in all. All questions carry equal marks. (12.5 x 4 = 50).

APPLIED MATHEMATICS

BP-107A

Periods per Week:	3
Sessional Marks:	50
Theory Exam Marks :	50
Duration of Exam :	2 Hrs

Unit 1: Linear Algebra

Real numbers, vectors and vector spaces, linear independence of vectors; matrices, addition, multiplication, inversion and square of matrices, rank of matrix, solution of linear equations, computer methods of matrix, solution of linear equations, computer methods of matrix algebra.

Unit 2: Calculus

Function and their graphic representation, differential coefficient, methods of differentiation, Taylor's theorem, indeterminate forms, function of several variables, partial differentiation, maxima and minima.

Methods of integration, definite integrals, areas, volumes, center of gravity, moment of inertia.

Unit 3 Analytical Geometry of Two and Three Dimensions

Elementary concepts of conic sections, planes, spheres paraboloids, ellipsoids, hyperboloids.

Unit 4: Differential Equations

Order and degree of differential equations, variable separable, homogeneous, exact and linear equations, second order equation with constant co-efficient, complementary function, particular integrals of exponential and trigonometric functions.

Unit: 5 Analysis (for use in computer methods)

Interpolation and extrapolation, numerical differentiation, numerical integration.

Note: In unit 3 and 5, emphasis is to give a basic idea to the students of the shape of different solids as well as the computer methods of evaluation of mathematical function.

NOTE:

1. Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.
2. Examiner will set seven questions in total covering the whole syllabus. Students will have to attend four questions in all. All questions carry equal marks. (12.5 x 4 = 50).

BASICS OF DESIGN - II

BP-201A

Periods per Week: 11

Sessional Marks: 300

External Jury: 300

Factors and concepts related to building design-climate, site characteristics, land form, visual elements, behavioural factors and space utilization; design of residential, commercial, institutional and other buildings (only two types to be selected every year).

Measured drawings to develop perception of area, volume and building elements relationships.

Appreciation studies of residential, commercial or industrial area

NOTE: Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester

ARTS AND GRAPHICS-II

BP-202A

Periods per Week: 3

Sessional Marks: 150

Unit 1: Basic Design

Composition in shape, form and color with special emphasis on rhythm, balance, harmony and proportion; human figures in different scales, sketches of different buildings, streets etc; process of creative thinking.

Unit 2: Standard Presentation Format

Composition of drawing, proportion of lettering for varying emphasis, drawing pens and their use for different purposes, standard drawing format, standard symbols and notations in drawing.

Unit 3: Presentation Drawings and Communication Skills

Preparation of presentation drawings of a house, cluster and a site layout in black and white as well as color; data presentation; communication skills for a presentation.

Unit 4: Sculpture and Modelling

Concrete sculpture, plasticine modeling; sculpture and modeling of natural landscape with plaster of Paris; paper Mache.

Unit 5: Mural Painting

With pastel, crayon etc. on the wall.

NOTE:

Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester

HISTORY OF ART AND CULTURE OF SETTLEMENTS

BP-203A

Periods per Week: 2
Sessional Marks: 50

Unit 1: Art, Culture and Architecture of Old Civilizations

Fundamentals of art; definition, scope, different art: forms, materials and techniques; cave art in Europe and India; Indus Valley, Mesopotamia, Egyptian, Greek and Roman art; art of Gandhara, Byzantine, Buddhist, Islamic and Medieval period.

Unit 2: Development of Building Technology

Gothic, trabeated, corbelled, arch, domical etc.

Unit 3: Revolutions and their Influences on Culture

Revolutions; from renaissance to industrial revolution; India and other civilizations up to 17th century, colonial, industrial, American and French; theory of evolution; artists of the renaissance, Botticell, Raphael, Leonardo da Vinci and Michael Angelo; impressionism and post - impressionism.

Unit 4 Art and its development

Art from 1900 to 1920; art in India and West from 1920 to the present century art.

Unit 5: New Art Forms and Techniques

Print making photography, pottery weaving, action painting mobiles, etc.

NOTE:

Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester

STATISTICAL METHODS – II

BP-204A

Periods per Week: 3
Sessional Marks: 50
Theory Exam Marks : 50
Duration of Exam : 2 Hrs

Unit 1: Linear Regression Analysis

Linear and non-linear regression, lines of regression, coefficient of regression.

Unit 2: Time Series

Variation in time series, trend analysis, cyclical variation, seasonal variation, irregular variation, time series analysis forecasting.

Unit 3: Index Number

Defining an index number, types and use of index numbers; construction of index number; simple aggregate method etc. cost: of living index number and its construction.

Unit 4: Estimation and Testing of Hypothesis

Types of estimation; point, interval, testing of hypothesis, statistical hypothesis, simple and composite tests of significance, null hypothesis, alternative hypothesis, types of errors, level of significance, critical region.

Unit 5: Large Sample Test, Chi-Square Test

Test for single proportion, test of significance for single mean, chi-square distribution, applications of chi-square distribution; test of goodness of fit.

NOTE:

1. Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.
2. Examiner will set seven questions in total covering the whole syllabus. Students will have to attend four questions in all. All questions carry equal marks. (12.5 x 4 = 50).

APPLIED GEOLOGY

BP-205A

Periods per Week: 3 (two lecture and one practical)

Sessional Marks: 150

Theory Exam Marks : 50

Duration of Exam : 2 Hrs

Unit 1 Introductory Earth Science and Meteorology

Earth as a planet, the solar system, movement of the earth, atmosphere and its composition, composition of the earth; the earth processes, geological cycles, igneous activities, volcanoes, minerals and their properties; rock types and their character; bending, outcrop and strikes; rock cycle; geological and time scale; India stratigraphy.

Unit 2: Geological Structure, Land Forms, Weathering, Landscapes and Mass Wasting

Description and classification of folds, faults, joints, unconformities, fault planes, geometrical destruction, etc. land form types; erosional, depositional fluvial, glacial, deolian and marine; rock weathering and climate; mechanical and chemical processes, soil formation, landslides, sources and causes of crystal displacements, types, characters and effects, unstability of hill slopes, prevention.

Unit 3: Earthquake

Historical account, tectonic behaviour and seismic belts; causes, intensity and magnitude of earthquakes, seismic zoning in India, earthquake waves and their character, particle motion and behaviour in various geological formations; seismography, accelerograms and their interpretation, prediction and prevention; earthquake resistant structures.

Unit 4: Selection of Site and Foundations

General considerations, sources of preliminary geological data particularly related to Indian stratigraphic sequences and the types of foundations, nature and preparation of foundation for road, bridge, building and other geotechnical structures; geophysical explorations.

Unit 5: Ground Water

Concept and role in town planning of different types of terrain, hydrologic cycle, vertical distribution of groundwater, interstices.

Groundwater bearing properties of different lithological formations, porosity, permeability, specific: yield, specific retention, transmissivity and storage coefficient; ground water in igneous, sedimentary and metamorphic rocks; aquifers; types and classification (geological), aquiclude, aquitard, aquifuge, water table and piezometric surface; surface water reservoirs and springs; artificial recharge and ground water mound hydrological features in relation of seepage, fluctuation of water table and hydrographs, geological structure and underground passages for water supply.

NOTE:

1. Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.
2. Examiner will set seven questions in total covering the whole syllabus. Students will have to attend four questions in all. All questions carry equal marks. (12.5 x 4 = 50).

ENVIRONMENTAL SCIENCE

BP-206A

Periods per Week: 3

Duration of Exam: 3

Theory Marks: (Only qualifying examination)

INTENT

To acquaint the student with issues related to environmental problems.

CONTENTS

Unit 1: The Multidisciplinary nature of environmental studies, Definition, scope and importance.

Unit 2: Natural Resources.

Renewable and Non-renewable resources.

Natural resources and associated problems.

Unit 3: Ecosystems

Unit 4: Biodiversity and its conservation.

Unit 5: Environmental Pollutions.

Unit 6: Social issues and the Environment

Unit 7: Human Population and the Environment

Unit 8: Field Work

NOTE:

Detail teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

Field work to be done off class hours.

SURVEYING, PHOTOGRAMMETRY AND PHOTOGRAPHY

BP-207A

Periods per Week: 4 (two lecture and two practical)

Sessional Marks: 50

Theory Exam Marks : 50

Duration of Exam : 2 Hrs

Unit 1: Basic Principles and Chain Surveying

Definitions, scale and symbols; measurement of distance; instruments used, ranging of survey lines, chaining a line with examples, chaining on sloping ground, errors in chaining, tape corrections; chain surveying; principles, off-sets, booking field notes, instruments, obstacles in chaining, plotting chain survey with practical examples.

Unit 2: Traversing and Plain Table Surveying

Compass and chain traversing; instruments used, methods of traversing bearing lines, local attraction, plotting, magnetic declination, precautions in using compass; traversing by theodolite, instruments used and methods; plain table surveying methods, two-point and three-point problems, exercise in preparation of base map of small areas.

Unit 3 Computation of Areas and Levelling

Computation of areas from field notes and from plan with example, levelling; instruments used, definitions, principles, reduction of levels, classification of levelling, errors in levelling, contouring; characteristics of contour lines, interpolation and interpretation of contours, use of contour lines.

Unit 4: Photogrammetry

Basic principles and concepts in aerial remote sensing; aerial photography, types of photographs; stereoscopic principles, elementary stereoscopic devices; scale of photographs, measurement of heights from photographs and use of parallax bar; principles of photogrammetry; applications in urban and regional planning.

Unit 5: Photography

Basic tools of photography, concepts of film (ASA and DIN) aperture, focus etc., camera function; depth of field, shutter and lens function, basic dark room techniques; development, enlargement, printing, fixing the prints, composition and lighting in picture frames, video photography and display.

NOTE:

1. Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.
2. Examiner will set seven questions in total covering the whole syllabus. Students will have to attend four questions in all. All questions carry equal marks. (12.5 x 4 = 50).

PLANNING AND DESIGN STUDIO (TRANSPORTATION ASPECTS)

BP-301A

Periods per Week:	11
Sessional Marks:	300
External Jury	300

Following surveys relating to transportation aspects will be carried out: traffic volume survey, speed and delay studies parking studies, pedestrian studies, road geometries and road components, rotaries and signalized intersections.

Analysis of the data and presentation of the same through scale drawings and written documents; design of road sections, road junctions and rotaries.

Preparation of area traffic circulation plan by studying the existing land use, existing circulation pattern, geometric design, level of services provided by the networks and traffic management measures.

NOTE:

1. Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

EVOLUTION OF HUMAN SETTLEMENTS

BP-302A

Periods per Week:	3
Sessional Marks:	50
Theory exam:	100
Duration of Exam	3 hrs

Unit 1: Introduction

The importance and significance of the study of history, human settlements as the physical expression of a civilization; increasing urbanization and need for higher levels of expertise to handle the situation in future; human settlements planning as the end result of this understanding.

Unit 2: Planning Elements and Dimensions

The concept of scale; elements of settlement planning; space, form and structure; role of climate in the final form of a settlement pattern; the technological aspects of form through the ages.

Concept of time as dimension of the built form; concept of space and scale as followed through different cultures; the elements of the house, the street, the chowk; social and cultural criteria of location of towns and activities witting it.

Unit 3: Planning Through the Ages

Planning in ancient India; Manasara Treatise and socio-cultural basis of planning; planning as an activity reflecting the cultural context of an era.

Planning in other parts of the world; structure of the Islamic city and role of the Jama Masjid as a landmark, planning in Greece; the Roman city, the European Medieval cities and Medieval planning in India, the common elements of the Indian and European Medieval towns; renaissance and idea of the baroque plan.

Unit 4: The Modern City

Technological advances and their effect on the town; utopian thinking and movements about urban improvement and planning; the concept of neighbourhood planning; planning concept and city structure in typical new town design, examples from other countries; plan and concept of Chandigarh.

Unit 5: Synthesis

The concept of ring towns and satellite towns; Delhi Master Plan and the concept of NCR; disorientation of contemporary towns from its cultural context; the concept of conservation; role of planner as a central figure to understand the present day problems through the medium of the study of history.

NOTE:

1. Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.
2. Examiner will set nine questions in total covering the whole syllabus. Question first is a compulsory carrying 25 marks. Rest of the question carry equal marks out of which student need to attempt six questions. ($12.5 \times 6 = 75 + 25 = 100$).

COMPUTER PROGRAMMING AND APPLICATIONS – I

BP-303A

Periods per Week: 4(two lecture & Two Practical)

Sessional Marks: 100

Unit 1: Introduction

Introduction to computer; types of computer, computer organization, computer peripherals, input/output media devices, software/hardware concepts and history of computer, bits, bytes and concepts of high Level language.

Unit 2: Flow Charts

Flow charts, data processing methods, EDP, concepts of data, data items, records and files, types of files, design of proforma, data validation, data coding and preparation for computer analysis.

Unit 3: Other Packages

Other packages related to data base (OBMS) with applications in the area of planning.

Unit 4: Word Processing Package and Its Application

Word processing package, mail, merge, spell check mail merge.

NOTE:

1. Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

PLANNING THEORY – I

BP-304A

Periods per Week:	3
Sessional Marks:	50
Theory exam:	50
Duration of Exam	2 hrs

Unit 1: Concept Formation and Perception of Space

Thinking process; cognitive units, concept formation, hypothesizing, conceptual scheme and behaviour formation; perception of space, behaviour pattern in small spaces; space at city scale; urban activity pattern, urban symbolism, image the city, building attributes, cognitive maps; urban behaviour; attitudes towards city, metropolitan personality, geographical space, functional, space.

Unit 2: What is Planning

Definitions, planning as a hierarchical process, systems concept, systematic planning, optimization, planning as a problem solving process, philosophy and purpose of planning; Justification of planning, essential features of planning, biological perspective of planning, the scope and meaning and objectives of planning; town planning as a practice, profession and discipline; the nature of town planning problems; development of planning thought.

Unit 3: Physical Planning

Origin of physical planning; basic questions: essential features and cornerstones of physical planning, changes within physical environment; systemic change, systems approach to physical planning, control mechanisms, physical planning as a guidance and control of change; contributions of physical planning :o economic and social development, planning in transition, dimensions of change, future directions.

Unit 4: Process of Planning

Definition and meaning of values, norms, goals and objectives; methodology of goal formulation; development plans; form and content of the PAG report's new planning system, structure plans, local plans, district plans, action area plans, public participation, people and plans; regional planning.

Unit 5: Plan Preparation and Implementation

Central state and local government agencies; management structures of agencies; development control; regulations importance of town and country planning acts in India.

NOTE:

1. Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.
2. Examiner will set seven questions in total covering the whole syllabus. Students will have to attend four questions in all. All questions carry equal marks. (12.5 x 4 = 50).

TECHNIQUES OF PLANNING – I

BP-305A

Periods per Week:	3
Sessional Marks:	50
Theory exam:	50
Duration of Exam	2 hrs

Unit 1: Techniques of Preparing Base Maps

Choice of appropriate scale for region and settlement level plans; town development plans, zonal development plans, layout plans; graphical, linear and areal scales; contents of base maps at various scales, techniques of reducing and enlarging maps, notations-basic disciplines of maps.

Unit 2: Data Base for Planning and Socio – Economic Surveys

Data requirements for urban and regional planning; sources of primary and secondary data; questionnaire design, measurement scale and their application, sampling techniques, types of socio-economic surveys; self surveys, interviews, mailed questionnaires and observer participation.

Unit 3: Physical Surveys

Techniques of conducting surveys for land use, building use, density, structural condition of buildings, height of building, land utilization and physical features of land.

Unit 4: Techniques of Presenting and Analysing Data

Land use classification, coding and analysis; residential and non-residential density patterns and analysis; tabulation of data, graphical presentation of data; pie diagrams, histograms, bar charts, normal, semi-log and double log graphs their uses, color, black and white presentation techniques; basis discipline of illustration and tables.

NOTE:

1. Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.
2. Examiner will set seven questions in total covering the whole syllabus. Students will have to attend four questions in all. All questions carry equal marks. (12.5 x 4 = 50).

ECOLOGY AND RESOURCE MANAGEMENT

BP-306A

Periods per Week:	3
Sessional Marks:	50
Theory exam:	50
Duration of Exam	2 hrs

Unit 1: Introduction

Meaning and scope of ecology; evolution of ecology; man, environment and ecosystem; components of nature and basic concepts and processes of ecology; flow of material water energy, invasion, succession, predation, regulatory forces, adaption, tropic levels, food chain, food web, ecological pyramids.

Unit 2: Ecosystem and its Relevance to Environment

Resources and human settlements impact of advanced agricultural methods, urbanization and industrialization on nature; urban ecosystem approach evolution and significance; soil, water, land, vegetation and energy resources; development and management.

Unit 3: Quantitative Ecology

Introduction to quantitative ecology, identification of ecological parameters for planning at different levels; site planning, settlement planning and regional planning; data needs and format for data collection; types of analysis required to evolve ecological parameters.

Unit 4: Environmental Impact Studies

Environmental impact studies of development projects.

NOTE:

1. Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.
2. Examiner will set seven questions in total covering the whole syllabus. Students will have to attend four questions in all. All questions carry equal marks. (12.5 x 4 = 50).

TRAFFIC AND TRANSPORTATION PLANNING - I

BP-307A

Periods per Week:	3
Sessional Marks:	50
Theory exam:	50
Duration of Exam	2Hrs

Unit 1: Urbanisation and Transport Problem

Traffic characteristics and problems at: national, regional and urban level; different modes of transport; slow and fast and their characteristics; vehicle types, capacity, overloading factor; vehicle characteristics and road characteristics.

Unit 2: Urban and Regional Road Design

Road hierarchies, classification, capacity and level of service; space standards for road design, land acquisition, components, objectives and functions; intersection types; uncontrolled, controlled; space sharing and time sharing junctions; merits and demerits, design considerations; design in built up areas, cycling and pedestrian systems, design considerations and guidelines; road and road transport infrastructure; terminals, depots, bus bays, stops, fuel stations etc.

Unit 3: Surveys and Studies

Demand and supply surveys and studies: traffic assessment; traffic volume, traffic density, traffic flow and speed; parking supply and demand survey; control, provision and layout of on street and off street parking, traffic: regulatory measures for parking, pedestrian facilities, pedestrian volume studies, origin-destination studies, controlled crossings.

Unit 4: Geometric Design of Roads and Intersections

Components of geometric design in new development and built-up areas; horizontal and vertical alignment, network alignment planning, sight distance, cross-section, alignment check, lateral and vertical clearance, control of axis; design guidelines for transport infrastructure.

Unit 5: Traffic Management

Objectives, principles and approaches for traffic management, traffic signs and signals; types of traffic signs, sign standards, location and maintenance; traffic signals; types, advantages and disadvantages; traffic safety, environmental area concept and application.

NOTE:

1. Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.
2. Examiner will set seven questions in total covering the whole syllabus. Students will have to attend four questions in all. All questions carry equal marks. (12.5 x 4 = 50).

FOURTH SEMESTER

PLANNING AND DESIGN STUDIO (HOUSING ASPECTS)

BP-401A

Periods per Week: 11
Sessional Marks: 300
External Jury: 300

Unit 1: Group Housing Design

Design and preparation of plan, sections and elevation of low rise and high rise apartments taking into account the building byelaws and zoning regulations; preparation of presentation drawings.

Unit 2: Working Drawings

Introduction to the working drawings; preparation of plans sections, elevations and important details of an apartment unit;

Unit 3: Site Layout

Site analysis, development standards, and preparation of the design brief,

Various considerations for site layout, conceptual approach to site planning, preparation of preliminary layout and area analysis, Final layout showing the circulation and basic infrastructure. Rough costing of the scheme.

NOTE:

1. Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

QUANTITY SURVEYING AND SPECIFICATIONS

BP-402A

Periods per Week:	3
Sessional Marks:	50
Theory exam:	50
Duration of Exam	2 Hrs

Unit 1: Specification

Significance, methods of writing specifications; general specifications for common building materials and building trades; earthwork, structure (framing), flooring, stonework, plasters, waterproofing of basements and terraces, roofing, doors and windows.

Unit 2: Specifications for Infrastructure Work

Water supply, pipes and sanitary fittings, overhead tanks, electrical fixtures, elevators.

Unit 3: Specifications for External Work

Landscaping, roads, pathways, boundary wall, pools, lighting, concept of outline specifications.

Unit 4: Estimation

Cost estimation and determination of rates of works involved in the infrastructure services.

Unit 5: Development Costs of Planning Schemes as per Standards, Norms

Costing procedure; raw land, land for different land use categories, development works, interest on investment, and phasing.

NOTE:

1. Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.
2. Examiner will set seven questions in total covering the whole syllabus. Students will have to attend four questions in all. All questions carry equal marks. (12.5 x 4 = 50).

COMPUTER PROGRAMMING AND APPLICATIONS - II

BP-403A

Periods per Week: 4(two lecture & Two Practical)

Sessional Marks: 100

Unit 1: Workstation

Graphical devices, concept of computer graphics

Unit 2: Graphical Presentation

Packages related with graphical presentation of data

Unit.3: Drafting and Designing

A graphical package (like Autocad) for drafting and designing 2D and 3D objects; storing drawings in different layers; creating digitizing a map through graphical package.

Unit 4: Spread Sheet

Analysis of data using spread sheet package.

NOTE:

1. Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

PLANNING THEORY - II

BP-404A

Periods per Week:	3
Sessional Marks:	50
Theory exam:	50
Duration of Exam	2 Hrs

Unit 1: Urban Structure and Growth

Definitions, concepts and examples of urbanization, urban growth, urbanism, development of a city as an organism, a physical entity, a social entity and a political entity; land values, economic attributes of activity location, economic forces in urban development, locational theory, the urban functions and interrelationships, the theories of urban structure and growth.

Unit 2: Land Use Planning

Definition and explanation of the concepts of density, floor area ratio, land use and zoning, land use and use classification, location and interrelationship; case studies of land use planning in Indian cities, foreign examples and comparisons; basic concepts of land use planning.

Unit 3: Types of Planning

Long term and short term planning, perspective planning, development planning, normative planning sectoral and spatial planning, single and multi-level planning, integrated area planning; the comprehensive development plans and layout plans and case studies; design concepts for new towns; the planning process followed in India, planning at the local, state, regional and national levels.

Unit 4: Principles of Regional Planning

Integration between national and local level plans, spatial and spatial planning, sectoral plans and their spatial dimensions; balanced growth and development; the rural-urban relationships; city in the context of a region, their classification system, spatial structure of a region, principles in delineation of a region.

Unit 5: Regional Planning in India

Concepts of balanced regions, development as imbibed in the five year economic development plans; unbalanced growth, special and backward regions; national capital regional plan; south-east resource region; river valley projects; implementation machinery for regional plans, regional planning boards, funding procedures and phasing.

NOTE:

1. Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.
2. Examiner will set seven questions in total covering the whole syllabus. Students will have to attend four questions in all. All questions carry equal marks. (12.5 x 4 = 50).

TECHNIQUES OF PLANNING-II

BP-405A

Periods per Week:	3
Sessional Marks:	50
Theory exam:	100
Duration of Exam	3 Hrs

Unit 1: Planning Practice in India

An overview of evolution from piecemeal projects town planning schemes, comprehensive development plans for towns and cities to regional planning, metropolitan planning and metropolitan region development plans; scope and content of planning practice today; role of central planning and developments in urban and regional planning and development; evolution of local governments, development authorities, other planning and development agencies, the role in planning and planning administration.

Unit 2: Spatial Standards

Formulation of spatial standards for residential, industrial commercial and recreational areas, space standards for facility areas and utilities.

Unit 3: Regional Survey

Techniques for conducting regional surveys; data requirement for various types of regional plans; district level plans metropolitan region plans, backward regions, resource regions, etc; regional delineation techniques.

Unit 4: Plan Preparation Techniques

Methodologies for preparation of urban/regional, development plans, master plans, structure plan and strategy plan techniques; plan implementation techniques; public participation and plan implementation; techniques of urban renewal and central area re-development.

Unit 5: Introduction to Advanced Techniques

Systems approach to planning, thresholds analysis, retail location and industrial location analysis; intervening opportunity models.

NOTE:

1. Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.
2. Examiner will set nine questions in total covering the whole syllabus. Question first is a compulsory carrying 25 marks. Rest of the question carry equal marks out of which student need to attempt six questions. (12.5 x 6 = 75+ 25=100).

THEORY OF DESIGN

BP-406A

Periods per Week: 3

Sessional Marks: 100

Unit 1: Forms

Form in inanimate nature, biological nature and human environment.

Unit 2: Design

Design as a problem solving activity, as a multivariate activity; idea idealism form design, value judgement in design.

Unit 3: Perception

Thinking techniques, intuition.

Unit 4: Building Elements

Elements of a building and their meaning; measurable and non-measurable aspects in the design of building elements.

Unit 5: Architecture

Architecture of space, air, water and earth; examples from architecture, art sculpture, etc.

NOTE: Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester

ELEMENTS OF ECONOMICS

BP-407A

Periods per Week:	3
Sessional Marks:	50
Theory exam:	50
Duration of Exam	2 Hrs

Unit 1: Definition and Scope of Economics

Central problems of economics; micro and macro economic: decisions, use of economics in planning.

Unit 2: Theory of Demand and Supply

Law of demand and supply, elasticities of demand and supply, its use in planning.

Unit: 3 Theory of Firm and Production

Perfect and imperfect market types, market demand and supply; pricing under different market conditions, theory of production; factors of production, costs, scale of production, and economies of scale.

Unit 4: Concept of Income, Employment and Money

Classical and modern approaches, growth and development indicators; measures of national income, defining, development and under development.

Unit 5: Introduction to Urban and Regional Economics

Use of economic concepts in urban planning, housing, transport, taxes, land use, location, etc.; use of economic concepts in regional planning; location, disparities in development, input-output techniques, sectoral development etc.

NOTE:

1. Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.
2. Examiner will set seven questions in total covering the whole syllabus. Students will have to attend four questions in all. All questions carry equal marks. (12.5 x 4 = 50).

FIFTH SEMESTER

PLANNING AND DESIGN STUDIO (AREA PLANNING/ ZONAL PLANNING)

BP-501A

Periods per Week: 11
Sessional Marks: 300
External Jury: 300

The different approaches to plan making; the concepts of master plan, comprehensive development plan - the structure plan, the sector plan, the zonal plan, and other types of plan making processes,

The approach to developing the zonal plan in the framework of a given master plan,

The study and development of the relevant planning standards for different land uses, Development, of subdivision regulations and building byelaws, Detailing of specific sites in the proposed zonal plans, covering different land uses,

Report writing.

NOTE:

1. Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

UTILITIES AND SERVICES PLANNING

BP-502A

Periods per Week:	4(three Lecture one Practical)
Sessional Marks:	50
Theory exam:	50
Duration of Exam	2 Hrs

Unit 1: Introduction, Basic Concepts and Theories

Role of physical planner in planning of utilities and services; objectives of utilities and services planning and implications for public health and environmental protection; hydrology, precipitation, hydrological cycle, urban water cycle; measurement of precipitation, intensity-duration-frequency relationships, rainfall, formula, rainfall map; surface water; watershed, run off, hydrograph, measurement of discharge for small and big rivers; rational method for estimating run off, unit hydrograph and application, flood frequencies, flood protection.

Unit 2: Storm Water System

Estimating storm run-off, run-off co-efficient, rainfall intensity, time of concentration; gravity flow, hydraulic gradient line, Manning's formula and nomographs, full flow and partial flow; layout and design of storm water system general, considerations, inlets, self-cleansing velocity, non scouring velocity, physical layout-design principles, data requirement hydraulic design of storm water system

Unit 3: Sanitation and Sewer System

On-site detention, design procedure for on-site detention; low cost appropriate technologies for sanitation; off-site and on-site technology upgradation.

Sanitary sewer system, sewer network, materials used; sewer system location and layout, data needs and procedure of planning; quantity of sewage, standards for Indian cities, computer simulation design procedure for storm water and sewerage system; sewer appurtenances; sewer lift station, sewer pumping and forced main manholes.

Unit 4: Water Supply System

Water distribution system measurement of pressure and velocity, pressure requirement and number of storeys of buildings; water requirement for different land uses, factors affecting water demand, per capita requirement and its relationship with population sizes, variation of water consumption; seasonal & hourly peak factor;

demand of water for fire fighting; distribution and storage; types and locational criteria, operating storage for 24 hours, 14 hours and 8 hours of pumping; pumps; types, efficiency, head, head loss system, flow conservation of energy and total energy; water supply distribution system, layout design of water supply system; flow in pipe network, Hydraulically equivalent pipes, pipes in series and parallels; pipe network analysis, Hardy Cross method and its use for designing complex network; 'Loop' and 'Branch' computer simulation for water supply design.

Unit :5 Solid Waste Disposal

Solid waste management for Indian cities, issue and data base, quantity of solid waste and its character, collection and transportation, disposal of solid waste, land filling and composting, pre and post treatment; Indore and Bangalore methods, incineration, pyrolysis and recycling park.

NOTE:

2. Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.
3. Examiner will set seven questions in total covering the whole syllabus. Students will have to attend four questions in all. All questions carry equal marks. (12.5 x 4 = 50).

DEMOGRAPHY AND URBANISATION

BP-503A

Periods per Week:	3
Sessional Marks:	50
Theory exam:	50
Duration of Exam	2 Hrs

Unit 1: Study of Population

Demographic variables-fertility mortality, migration; evolution of population study, contribution of Malthus; mortality-trends, mortality in developed and developing countries; biological and social factors and mortality-gender, race, social structure, life style, social" status, occupation etc; measures of mortality-crude and age-specific death rates; infant mortality, reproductive ages, advance ages; adjusted or standardized death rates; neonatal mortality rate; fertility-fertility trends, fertility and social and biological behaviour, differential fertility, ethnic group, socio-economical group mobility, location etc.; measures of fertility, crude birth rate.

Age-specific fertility rate; total fertility rate, net reproduction rate; migration causes and consequences of population movement; reasons and types of migration trends; theories of migration and population movement; methods of measuring volumes of migration; direct and indirect measures; effect of migration on composition of population.

Unit 2: Study of Demography

Source of demographic data; population structure and composition - age sex composition, sex ratio, dependency ratio, child-woman ratio; measures of age - sex structure, age - sex pyramid, population composition; marital status, caste, region , literacy level, etc; life table techniques; techniques in preparing life table, abridged life table; population estimation, projection and population forecasting; basic cohorts-survival model, inter regional cohorts survival model.

Unit 3: World Urbanisation and Urbanisation in India

Urban revolution; its preconditions; brief history of urbanization in the world leading up to the industrial cities, related problems, concepts of urbanism and urbanization; brief history of Urbanisation in India; Mughal and British influences of India cities; post-independence urbanization; urbanization process as influenced by socio-cultural, political, economic and administrative factors; definition of urban centres, concepts of rural-urban continuum and dichotomy; census definition of urban places town, cities, town groups, urban agglomeration, standard urban area, metropolis, megalopolis etc. functional classification of urban places.

Unit 4: Settlement System and Role of Urban Area

Settlement: system, primate city, rank-size rule, central place concept, concepts of complementary area, central goods and services, range, threshold etc; city-region relationship; structure of city regions, area of influence, dominance; rural-urban fringes; its structure, stages of growth, its role in urban development; push and pull factors; migration trends and its impacts on urban and rural development.

Unit 5: Policies and Strategies for Directing Urbanization Trends in India

Urbanisation policy, basic issues in urbanization policy; role of national and state level policies; five year plans, latest attempts at urbanization policy formulation in the country; salient features of the report of the national commission of urbanization.

NOTE:

1. Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.
2. Examiner will set seven questions in total covering the whole syllabus. Students will have to attend four questions in all. All questions carry equal marks. (12.5 x 4 = 50).

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HOUSING AND COMMUNITY PLANNING

BP-504A

Periods per Week: 4(three Lecture one Practical)

Sessional Marks: 50

Theory exam: 100

Duration of Exam 3 Hrs

Unit 1: Housing as a Basic Human Necessity

A major land use component and integral sector of urban and regional development; the housing problem; classification of housing by climate, materials location, tenure, income, socio-cultural features and design.

Unit 2: Role of Community Development in Housing

Communities; its characteristics and housing.

Unit 3: Housing Standards

Basic principles in formulating housing standards for rural and urban areas; desirable and minimum standards.

Unit 4: Planning and Design of Housing Areas

Physical and social infrastructure; housing densities and implication; patterns of housing development in urban areas, housing for the urban poor and the informal sector; strategies and approaches with case studies; basic factors and reasons for emergence of slums; identification of slum areas; socio-economic implication of slums, clearance/improvement of slum; sites and services schemes, squatter upgrading, incremental approach.

Unit 5: Housing and Finance Policies

Co-operative housing, objectives and principles; management and financing of housing projects; investment in housing in public and private sectors, National Housing Society.

NOTE:

1. Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.
2. Examiner will set nine questions in total covering the whole syllabus. Question first is a compulsory carrying 25 marks. Rest of the question carry equal marks out of which student need to attempt six questions. (12.5 x 6 = 75+ 25=100).

SETTLEMENT GEOGRAPHY

BP-505A

Periods per Week: 3(two Lecture one Practical)

Sessional Marks: 50

Theory exam: 50

Duration of Exam 2 Hrs

Unit 1: Introduction of Settlement Geography

Nature and scope of settlement geography, origin, setting evolution and structured human settlements; man, environment and society; social economic and political consequences of geographical conditions; physical features and its effect on urban and rural communities.

Unit 2: Classification of Settlements

Census classification urban, rural census size classes; theories of settlement systems, primate city settlement system, rank size rule relationships central place settlement systems, fundamental concepts, concepts of hierarchy, concept of complimentary area, range of goods; dynamics of central places, settlement systems in a developing economy.

Unit 3: Rural Settlements

Types, patterns, morphology, house types, comparative study of origin and growth of settlements in ancient and modern times, rural housing problems and policies.

Unit 4: Urban Settlements

City structure, new towns and cities, environmental impact of planned and unplanned growth, rural – urban fringe.

Unit 5: Settlements as a System

Rural and urban continuum, settlements as a hierarchy; areas of influences, areas of dominance, distance decay effect.

NOTE:

1. Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.
2. Examiner will set seven questions in total covering the whole syllabus. Students will have to attend four questions in all. All questions carry equal marks. (12.5 x 4 = 50).

DEVELOPMENT PLANNING

BP-506A

Periods per Week:	3
Sessional Marks:	50
Theory exam:	50
Duration of Exam	2 Hrs

Unit 1: Developed, Developing and Under-Developed Economics

Characteristics, indicators and phases of development; obstacles to development; business cycles; levels of development; series of development and planning relevance of economic development in physical planning.

Unit 2: Classical Theories of Development

Introduction to Adam Smith's theory, specialization and division of labour; Ricardian theory of rent; land value and quasi-rent.

Unit 3: Modern Theories of Development

Keynesian revolution - innovation theory, backwash and spread effect; critical minimum effort and stages of economic growth.

Unit 4: Models of Development

Balanced vs. unbalanced - dualistic approach in development; derived development; Lewis model; Hoarrod - Domar model; Sen's model, etc.; development models in Indian planning - first to eighth five year plan; effectiveness of the models in Indian planning.

Unit 5: Issues in Growth and Development

Planning in India - goals and objectives; targets and achievements impact, types of planning - regional disparities, population and poverty, unemployment, savings, balance of trade and payments, resource transfers and regional development, sectoral priorities and development; structural reform and its impact on growth; financing five year plans.

NOTE:

1. Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.
2. Examiner will set seven questions in total covering the whole syllabus. Students will have to attend four questions in all. All questions carry equal marks. (12.5 x 4 = 50).

TRAFFIC AND TRANSPORTATION PLANNING - II

BP-507A

Periods per Week:	3
Sessional Marks:	50
Theory exam:	50
Duration of Exam	2Hrs

Unit 1: Evaluation of Urban Structures

Transport systems, infrastructure and management, transport systems and their types, design and operating characteristics, urban road hierarchy, planning engineering and management! criteria for road and junction improvements, arterial improvement techniques.

Unit 2: Planning and Management of Transport System

Study area definitions, surveys and their types, sampling of travel methods, survey techniques; programming and scheduling, processing of travel data, analysis and interpretation of traffic studies; introduction to transport planning process; trip generation, trip distribution, trip assignment, model split, land use transportation models; existing organisational and legal framework, traffic and environmental management techniques; review of existing traffic management schemes in case cities.

Unit 3: Regional Transport Systems

Importance of accessibility in regional transport planning, role of road, rail, air and water transport systems, regional transport systems planning; road network planning for micro regions.

Unit 4: Transport and Environment

Traffic noise, factors affecting noise, noise abatement measures, standards; air pollution standards; traffic safety; accident reporting and recording systems, factors affecting road safety; transport planning for target groups- children adults, handicapped and women; norms and guidelines for highway landscape; street lighting types, standards and design considerations.

Unit 5: Economic Evaluation and Transport Policies

Pricing and funding of transport service and systems, economic appraisal of highway and transport projects; techniques for estimating direct and indirect road user costs benefits, value of time; review of national, state and local level transport policies and their relevance in spatial and economic planning, pricing and funding of transport systems; energy and environmental, implications in transport; transport policy planning; transport planning in developing countries.

NOTE:

1. Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.
2. Examiner will set seven questions in total covering the whole syllabus. Students will have to attend four questions in all. All questions carry equal marks. (12.5 x 4 = 50).

PRACTICAL TRAINING - I

BP-508A

Periods per Week: -

Sessional Marks: 50

Practical Training-I will be taken for six weeks in a Office during the Summer Vacation between the Fourth and Fifth Semesters and a certificate of satisfactory/unsatisfactory will be given. Student need to submit a report of the practical Training –I at the time of exam. He/She will be evaluated on the basis of the report submitted by him/her. This report should be dully signed by the Guide/ Town Planner and Head of the Department. A viva-voice will be conducted at the time of submission of the report by the internal Jury.

NOTE:

1. Detailed Practical training program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

SIXTH SEMESTER

PLANNING

AND DESIGN STUDIO (DEVELOPMENT PLAN PREPARATION FOR A TOWN)

BP-601A

Periods per Week:	11
Sessional Marks:	300
External Jury:	300

The study for this studio exercise shall be limited to the preparation of a comprehensive development plan of a small town; The programme may carry predetermined focus such as planning for tourism, energy conservation, heritage conservation etc. The studio programme is designed to expose the student to:

Study and establish appropriate planning standards, Techniques of population project,

Identification of the data to be collected and the sources thereof, Organising surveys and collecting socio-economic, traffic and other data, Using selected computer software to analyse the data,

Projecting the future with different scenarios and identification of 'action areas' (i.e., specific problems related with housing, services, circulation, etc.), Preparation and presentation of all relevant drawings and reports of complete comprehensive development plan proposal.

NOTE:

1. Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

URBAN DESIGN AND CONSERVATION

BP-602A

Periods per Week:	4
Sessional Marks:	50
Theory exam:	100
Duration of Exam	3 Hrs

Unit 1: Introduction to Urban Design Theory

Relationship between architecture, urban design and planning; city as a three dimensional entity; study of volumes and open spaces at all levels; a brief historic review of the development of the urban design discipline and principles.

Unit 2: Elements of Urban Design

Urban form as determined by inter-play of masses, voids, building typology; scale, harmony, symmetry, color, texture, light and shade; dominance, height, urban signage and graphics; organization of spaces and their articulation in the form of squares, streets, vistas and focal points; image of the city and its components such as edges, paths, landmarks, street features, sky-line, etc.; urban transportation.

Unit 3: Physical and Non-Physical Determinants of Urban Forms

Activity and the morphology of places; form, size and structure of cities and the related geometry co-related with their determinants; case studies of urban design characteristics of cities in India and abroad; related issues for public intervention.

Unit 4: Basic Principles of Conservation

Overview and introduction of the basic concepts of conservation values, attitudes and principles for judging the conservation importance of sites, areas and related typology; scope and basic technique of urban conservation.

Unit 5: Aspects of Urban Conservation

Legal and administrative aspects, archaeological acts/ charters pertaining to conservation, development and conservation; case studies of proposals for urban conservation of sites/areas in India and abroad.

NOTE:

1. Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.
2. Examiner will set nine questions in total covering the whole syllabus. Question first is a compulsory carrying 25 marks. Rest of the question carry equal marks out of which student need to attempt six questions. (12.5 x 6 = 75+ 25=100).

**OPERATIONS RESEARCH AND SYSTEMS
ANALYSIS/COMPUTER APPLICATION - III**

BP-603A

Periods per Week:	3
Sessional Marks:	50
Theory exam:	50
Duration of Exam	2 Hrs

Unit 1: Linear Programming Problems

Introduction, mathematical formulation of the problem, solution methods and problems, graphical solution, simplex method; duality and post-optimality analysis.

Unit 2: Transportation Problems

North-West corner rule, Vogel's approximation method, modified distribution method, transshipment problems, the assignment and the traveling salesman problem.

Unit 3: Queuing systems

General structure and operating characteristics, deterministic queuing model, probabilistic queuing models, Poisson-exponential single server model.

Unit 4: PERT and CPM Networks

Rules of network construction, determination of critical path, earliest and latest schedules, slack and float, resource analysis and allocation.

Unit 5: System Simulation

Systems concept, types of systems, system modeling, types of models, nature and process of simulation, Monte Carlo simulation, simulation of queuing systems, application of simulation; computer application; computer packages of operations research models, spread sheet analysis, what-if simulation, simulation languages.

NOTE:

1. Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.
2. Examiner will set seven questions in total covering the whole syllabus. Students will have to attend four questions in all. All questions carry equal marks. (12.5 x 4 = 50).

**PLANNING AND MANAGEMENT OF
INFORMAL SECTOR AND BASIC NEEDS.**

BP-604A

Periods per Week: 3
Sessional Marks: 50
Theory exam: 50
Duration of Exam 2 hrs

Unit 1: Urban Poverty

Dimensions of urban poverty, magnitude of problem, urban poverty alleviation programmes, impact of macro-economic structural adjustment policies on poor urban households.

Unit 2: Basic Needs

Development of the concept of basic needs; identification of basic needs and their provision for various target groups and informal sector; standards for basic needs, NGO's and voluntary organization associated with provision of basic needs.

Unit 3: Alternative Approaches for Delivery of Basic Services to the Urban Poor

Community planning approach, low cost alternatives and institutional reforms approach.

Unit 4: Migratory Impulses and Impact on Informal Sector

Characteristics of migrants and their association with growth of informal sector; socio-economic deprivation and informal sector; development of informal sector concept.

Unit 5: Consequences of Spontaneous Growth

Study of major aspects; spontaneous living and working, their characteristics and functions in urban context, actions for improvement; appraisal of the government, private and voluntary organizations; existing management; their organizational set-up and limitations; planning and development of urban settlements in respect of the spontaneous growth; case studies from India and other developing countries.

NOTE:

1. Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.
2. Examiner will set seven questions in total covering the whole syllabus. Students will have to attend four questions in all. All questions carry equal marks. (12.5 x 4 = 50).

LANDSCAPE PLANNING AND DESIGN

BP-605A

Periods per Week:	3
Sessional Marks:	50
Theory exam:	50
Duration of Exam	2 Hrs

Unit 1: Landscape Elements

Landscape as an outcome of natural processes; principles and techniques of design with landform, water and vegetation; the role of surface materials, outdoor fittings and structures; man-made landscapes in history; a comparative study of the major traditions of landscape design in the east and the west in relation to concepts of space and variations in the use of landscape elements.

Unit 2: Urban Landscape

Characteristics and components of open space patterns in towns and cities (traditional and contemporary) basic types: streets, squares, plazas, gardens, ghats and maidan, public parks at district, local and neighbourhood levels; park systems; landscape design related to land-use, circulation networks and activity; street furniture as a component of urban landscape.

Unit 3: Landscape Aspects of Site Planning - I

Principles of understanding and evaluating an existing landscape; development as a response to constraints and opportunities offered by the site; the landscape concept and open space structure as a basic component of the site plan.

Unit 4: Landscape Aspects of Site Planning - II

The role of vegetation : environmental benefits, functional requirements, aesthetic considerations; typical situations and criteria for design with plants and selection of species; grading; in relation to existing contours, plinth levels, road alignment and storm water drainage; principles of cut and fill.

Unit 5: Elements of Landscape Planning

The rural landscape; characteristics, components and change related to agriculture, forestry and development; western experience of landscape planning; landscape assessment techniques; the concept of landscape quality; landscape planning as a component of regional development proposals for industrial location (manufacturing and extractive); environmental conservation, tourism, etc.; landscape planning in the context of urban extensions and new towns.

NOTE:

1. Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.
2. Examiner will set seven questions in total covering the whole syllabus. Students will have to attend four questions in all. All questions carry equal marks. (12.5 x 4 = 50).

LAND ECONOMICS AND LOCATIONAL THEORY

BP-606A

Periods per Week:	3
Sessional Marks:	50
Theory exam:	50
Duration of Exam	2 Hrs

Unit 1: Introduction to Land Economics

Economic concepts of land, objectives and scope of land economics; relevance for spatial planning; economic principles of land uses; economic rent, land use and land values, market mechanism and land use pattern.

Unit 2: Development of Land and Real Property

Process, cost of development, source of finance, financial calculation for private developer.

Unit 3: Real Property Markets

Heterogeneity and imperfections, valuation of real property - principles and practices; private ownership and social control of land; disposal of land; land development charges and betterment levy; land use restrictions, compensation and requisition taxation of capital, gain on land versus public ownerships, economic aspects of land policies at various levels of decision making.

Unit 4: Factors Influencing Locational Decisions

Analysis of location of specific uses like residential, industrial, commercial and institutional in the light of location theories in intra-regional and inter-regional context.

Unit 5: Technique of Cost Benefit Analysis

Techniques of cost benefit analysis of urban development programme.

NOTE:

1. Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.
2. Examiner will set seven questions in total covering the whole syllabus. Students will have to attend four questions in all. All questions carry equal marks. (12.5 x 4 = 50).

ELEMENTS OF SETTLEMENT SOCIOLOGY

BP-607A

Periods per Week:	3
Sessional Marks:	50
Theory exam:	50
Duration of Exam	2 Hrs

Unit 1: Introduction

Definition and scope of sociology; relation sociology and town planning.

Unit 2: Basic Concepts of Society

Basic concepts, social groups, social institutions, social stratifications, orders and changes and social control.

Unit 3: Sociology of India

Culture, language, religion, caste, rural community and its relationship with urban community, social division of urban and rural poor.

Unit 4: Urban and Industrial Sociology

Urbanisation and urbanism; social aspects of urban-rural migration; concept of industrial society; social aspects of industrialization; social problems of urban community; crime delinquency and violence.

Unit 5: Neighbourhood Concept

Implications and limitations in Indian context.

NOTE:

1. Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.
2. Examiner will set seven questions in total covering the whole syllabus. Students will have to attend four questions in all. All questions carry equal marks. (12.5 x 4 = 50).

SEVENTH SEMESTER

PLANNING AND DESIGN STUDIO (BLOCK/SUB-REGIONAL PLAN)

BP-701A

Periods per Week:	11
Sessional Marks:	300
External Jury:	300

Understanding the role and relevance of regional planning; state of art, role of planning at district and sub district level, critical appraisal of district/sub district plans.

Formulation of goals, objectives, methodology, identification of data sources, analysis of data available, survey and preparation of schedules. Field work: visit to the field study area; conducting surveys, collection of data from secondary sources, sectorally and block wise. Detailed data analysis, identification of potential thrust areas and development issues, both sectorally and block wise. Appropriate alternate strategy planning, settlement development strategy and programmes. Formulation of sectoral prioritization and financial allocation (block wise); final recommendations for a district/sub district development plan.

NOTE:

1. Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

RURAL AND RESOURCE PLANNING

BP-702A

Periods per Week:	4
Sessional Marks:	50
Theory exam:	100
Duration of Exam	3 Hrs

Unit 1: Introduction

Village as an organic entity; physical, social, and economic structure of village; village problems to cultivated land, cultivable land, waste land, flooding and water logging, utilities and services, poverty and distress; rural urban relationship, complementarities, continuation and dichotomy; problems related to rural-urban migration.

Unit 2: Village Planning : Concepts and Institutional Framework

Trans-humance, accessibility of village, inter-village communication, delivery of social services, rural reconstruction and related programmes, improvement of rural sanitation, hygiene and drainage; panchayati raj institutions; district block and village administration.

Unit 3: Rural Planning in Relation to National and Regional Policies

Norms, principles and strategies for rural development, afforestation, soil conservation and wild life preservation; planning for sustainable agriculture; rural development programmes.

Unit 4: Resource Planning Development and Management

Endowments; types of resources, exhaustive and replenishable resources development; utilization and conservation of national, technological and human resources; resource management, recycling of resources and resource equilibrium; water resource management, waste land management; rural industrialization and use of non-conventional energy in rural development; major resource development programmes in India; case studies of resource development projects in agriculture, forestry, minerals, water, manpower, etc.

Unit 5: Community Development and Participation

Community development, community development and rural planning; basic principles of self-help techniques and role of voluntary organizations in community development; appropriate technologies, innovation and entrepreneurship.

NOTE:

1. Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.
2. Examiner will set nine questions in total covering the whole syllabus. Question first is a compulsory carrying 25 marks. Rest of the question carry equal marks out of which student need to attempt six questions. ($12.5 \times 6 = 75 + 25 = 100$).

PLANNING INFORMATION SYSTEMS AND COMPUTER USE

BP-703A

Periods per Week:	3
Sessional Marks:	50
Theory exam:	50
Duration of Exam	2 Hrs

Unit 1: Introduction

Definition of systems, systems hierarchy, nature of systems, nature of organizations and control systems; definition of information, value of information, handling of information, information flows and loops; information systems and systems design; Competitors in information systems; definition of data, file structure and organization, data manipulation, data bank and data administration.

Unit 2: Information Systems

Planning information system; types and modes of operation, limitations and pre-conditions for using systems; data base management information systems; managements of tabular data, spread sheets, introduction to statistical packages with advantages and limitations of each; municipal information system: definition, need, scope, limitations and introduction to related software.

Unit 3: Geographic Information System

Introduction, components, benefits, data structure for GIS, thematic maps, map-data organization, goal setting and projecting needs and trends in GIS.

Unit 4: Use Map

Introduction, configuration required, menus, general menu, practical exercises and case studies.

Unit 5: Other Packages

Introduction to the maps, presenting thematic data, hardware requirements, practical exercise and case studies; introduction to digitization; hardware requirements digitizing functions, practical exercise, introduction to latest trends; ARC/INFO; ISROGIS, NICGIS, GPS/GRAM.

NOTE:

1. Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.
2. Examiner will set seven questions in total covering the whole syllabus. Students will have to attend four questions in all. All questions carry equal marks. (12.5 x 4 = 50).

URBAN MANAGEMENT

BP-704A

Periods per Week:	3
Sessional Marks:	50
Theory exam:	100
Duration of Exam	3 Hrs

Unit 1: Introduction to Management

Principles and practices, techniques and approaches; their application in urban management.

Unit 2: Legal Framework

Development control mechanisms; property law governing transfer, letting leasing and mortgaging.

Unit 3: Urban Management

Institutional and organizational framework, existing institutional and organizational setting for urban management in India; distribution of responsibilities and activities among different levels as government and their special purpose bodies in the urban field; significance of organizational framework.

Unit 4: Organisations Involved in Urban Management

Local government; types, organization (deliberative and executive wings), powers and functions, resources, state supervision control and conditions of their working; improvement trust: organizations, scope of their powers and functions, and their working; city development authorities: organizations, scope of their powers and functions, resources, and their workings.

Unit 5: Coordination of Participation

Inter-organisation relations and coordination at the local level, alternative to multiplicity of authorities-various models, their advantages and limitations; citizen participation in urban development and management.

NOTE:

1. Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.
2. Examiner will set nine questions in total covering the whole syllabus. Question first is a compulsory carrying 25 marks. Rest of the question carry equal marks out of which student need to attempt six questions. (12.5 x 6 = 75+ 25=100).

PROJECT PLANNING AND CONTROL

BP-705A

Periods per Week:	3
Sessional Marks:	50
Theory exam:	50
Duration of Exam	2 Hrs

Unit 1: Introduction to Project Management

Importance of project management; reasons for shortfall in its performance; scientific managements, life cycle of project.

Unit 2: Project Planning Management

Methodology for project identification and formulation; detailed project report, and feasibility studies; techniques of financial appraisal, pay back period, IRR, DCF, NPV, CBR, social-cost benefit analysis.

Unit 3: Pre-Implementation Planning Phase

Word break down structure; network analysis; CPM, PERT, resource levelling and allocation, time-cost trade off aspects;

Unit 4: Project Implementation and Evaluation Phase

Organisation of project; matrix organization, task forces, project teams; monitoring and control of project.

NOTE:

1. Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.
2. Examiner will set seven questions in total covering the whole syllabus. Students will have to attend four questions in all. All questions carry equal marks. (12.5 x 4 = 50).

PUBLIC FINANCE

BP-706A

Periods per Week:	3
Sessional Marks:	50
Theory exam:	100
Duration of Exam	3 Hrs

Unit 1: Taxation

Principles, direct and indirect taxation, tax incidences; general, specific taxes; delegation of tax powers.

Unit 2: Fees and Charges

Quid-pre-que tariff structure and gross subsidization, cost recovery.

Unit 3: Borrowing

Sources of borrowing; government, market, institutional; long term development finance, ways and means of advance, debt rescheduling repayment.

Unit 4: Inter-Governmental Fiscal Relations

Grants; general and specific; assigned and shared taxes, plan assistance, fiscal equalization and finance commission, state supervision and control over municipal finance.

Unit 5: Public Expenditure

Public expenditure; principles, revenue and capital, project appraisal, budgetary techniques including budgeting for capital projects.

NOTE:

1. Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.
2. Examiner will set nine questions in total covering the whole syllabus. Question first is a compulsory carrying 25 marks. Rest of the question carry equal marks out of which student need to attempt six questions. ($12.5 \times 6 = 75 + 25 = 100$).

PRACTICAL TRAINING - II

BP-707A

Periods per Week: -

Sessional Marks: 50

Practical Training-II will be taken for six weeks in an Office during the Summer Vacation between the Sixth and Seventh Semesters and a certificate of satisfactory/unsatisfactory will be given. Student need to submit a report of the practical Training –I at the time of exam. He/She will be evaluated on the basis of the report submitted by him/her. This report should be dully signed by the Guide/ Town Planner and Head of the Department. A viva-voice will be conducted at the time of submission of the report by the internal Jury.

NOTE:

1. Detailed Practical training program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

EIGHTH SEMESTER

TERMINAL PROJECT (THESIS)

BP-801A

Periods per Week:	16
Sessional Marks:	300
External Jury:	500

Each student of Bachelor of Planning is required to prepare terminal project on a subject: concerning urban, rural or regional development as approved by the Department. The terminal project will provide an opportunity to the student to synthesize the knowledge and skills acquired through the learning of various theories and practices during the course.

NOTE:

1. Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

PLANNING LEGISLATION

BP-802A

Periods per Week:	3
Sessional Marks:	50
Theory exam:	100
Duration of Exam	3 Hrs

Unit 1: Concept of Law

Sources of law (custom, legislation and precedent); meaning of the term of law, legislation,, ordinance, bill, act, regulations and bye-laws; significance of law and its relationship to urban planning; benefits of statutory backing for planning schemes; eminent domain and police powers.

Unit 2: Indian Constitution

Concepts and contents of Indian Constitution; provisions regarding property rights; evolution of planning legislation and overview of legal tools connected with urban planning and development; model town planning laws.

Unit 3: Land Acquisition Act

Introduction to land acquisition act, 1984.

Unit 4: Case Studies Related to Land Acquisition Act.

Case studies highlighting nature of contention, parties in dispute and the decisions in specific planning disputes.

Unit 5: Organisations for Plan Implementation

Special purpose bodies for plan implementation such as urban metropolitan development authorities, improvement trusts, water and sewerage boards, housing boards, slum/improvement/clearance boards, transport undertakings; regional development boards.

NOTE:

1. Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.
2. Examiner will set nine questions in total covering the whole syllabus. Question first is a compulsory carrying 25 marks. Rest of the question carry equal marks out of which student need to attempt six questions. (12.5 x 6 = 75+ 25=100).

PROFESSIONAL PRACTICE

BP-803A

Periods per Week:	3
Sessional Marks:	50
Theory exam:	50
Duration of Exam	2 Hrs

Unit 1: Organisation, Scope and Scale of Charges

Aims and objectives of professional institutes, sister bodies; professional roles and responsibilities of planning consultants; professional ethics; responsibilities towards clients, fellow professionals and general public; scope of services for different projects like master plan for urban area, zonal/district plan, sector/neighbourhood; layout, group housing schemes, commercial centres, industrial estates etc; consultancy agreements, and safeguards; fees and scales of professional charges, competitions and copyrights.

Unit 2: Role of Planner

Planner's input as professional at various levels and organizations, his role in decision making processes, relevant issues: generalists vs. specialists, professionals vs. technocrats, planner as decision maker vs. advisor to decision maker: relationship with client, developers, institutions and contractors; relationship with other experts such as engineers, architects, sociologists, economist, lawyers, etc. for specialized studies related to planning.

Unit 3: Valuation

Fundamentals of valuation, ownership of land, compound interest theory calculating for present value, concepts of economic rents and social rents, property taxes, sinking fund, annuity, depreciation, valuation tables; legislative framework-rent control, land acquisition, easements and their effects on properties.

Unit 4: Methods of Real Property Valuation

Income capitalization methods, land and building method and other methods of valuation.

Unit 5: Contract Documents and Project Formulation

Tenders, contracts, arbitration, schedule of rates for construction; materials, labour and equipment for land development, unit and mode of measurements, rate analysis; formulation of project proposals and outline.\

NOTE:

1. Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.
2. Examiner will set seven questions in total covering the whole syllabus. Students will have to attend four questions in all. All questions carry equal marks. (12.5 x 4 = 50).

POLITICAL SYSTEMS AND PLANNING

BP-804A

Periods per Week:	2
Sessional Marks:	50
Theory exam:	50
Duration of Exam	2 Hrs

Unit 1: Decision Making

Decision-making; definition, features, factors, essentials and hindrances in sound decision-making; structure of decisions and types of decisions; theories of decision-making: rational theory, incremental theory, systems theory, game theory, conflict theory, Herbert Simon's contribution in decision making; decision makers and decision making bodies related to urban and regional planning at national, state and local level.

Unit 2: Leaderships

Planner's functions as a leader, urban development manager, public bureaucrat, policy analyst and social reformer, approaches to study leadership; trait-approach, behavioural approach and situational approach; role of the planner in the decision-making process; generalists vs. specialist.

Unit 3: Communication

Importance of communications; elements, types, features and essentials of effective communications; hindrances to effective communication; theories of motivation; carrot and stick approach, need based theory, motivational environment policies, motivational system; integration versus disintegration; coordination and cooperation; centralization and decentralization; single versus plural supervision; elements and types of organization; theories of organization; scientific management theory; bureaucratic theory, classic theory, human relations theory; behavioural approach and systems approach.

Unit 4: Political Systems, Social Systems and Planning

Democracy and planning, socialism and planning, fascism and planning; tribal society, peasant society, industrial society, spatial segregation in India

Unit 5: Conflicts

Nature and mode of resolution of conflicts; public participation in planning as an aid to better understanding planning and implementation; political nature of planning and

implementation problems in India; examples from the other parts of the world highlighting situations where such problems have been minimized.

NOTE:

1. Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.
2. Examiner will set seven questions in total covering the whole syllabus. Students will have to attend four questions in all. All questions carry equal marks. (12.5 x 4 = 50).

TECHNICAL REPORT WRITING

BP-805A

Periods per Week: 2

Sessional Marks: 100

Unit 1: Types & Classification of Reports

Types of reports, difference between technical, scientific, gal and other types of communication; specific characteristics of writing technical reports.

Unit 2: Format and Elements of Reports

Preface, acknowledgements, contents, indexing, introduction, body terminal section, appendices, bibliographies, references.

Unit 3: Literature Survey

Use of libraries, knowledge of indexing and available reference material.

Unit 4: Special Type of Writing

Special type of Writing, Special type of writing: articles and manuals, planning and preparation of technical articles for publication.

Unit 5: Formal Letters & Specifications

Business and official letters, styles and format, requests for specifications and other types of business enquiries, replies to bidding for tenders conduct of meetings responsibilities of the chairman and secretaries; agendas and minutes of official records.

NOTE:

1. Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.