BACHELOR OF TECHNOLOGY (PLANNING)
ACADEMIC REGULATIONS, COURSE STRUCTURE AND SYLLABUS
(EFFECTIVE FROM ACADEMIC YEAR 2017-18)

SCHOOL OF PLANNING
JAWAHARLAL NEHRU ARCHITECTURE AND FINE ARTS UNIVERSITY
Mahaveer Marg, Masab Tank, Hyderabad – 500 028

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JAWAHARLAL NEHRU ARCHITECTURE AND FINE ARTS UNIVERSITY
Mahaveer Marg, Masab Tank, Hyderabad – 500 028.

Academic Regulations for B.Tech. (Planning)
(Under the CBCS, Effective from the Academic Year 2017-2018)

Preamble :

JNAFAU's Choice Based Credit System (CBCS) aims to provide comprehensive learning opportunities which takes into account individual interests and abilities of the students. Apart from the compulsory core courses, the students can choose from the elective courses on offer in the university or also from approved online platforms like the MHRD's SWAYAM or MOOCs.

These regulations are subject to amendments as may be decided by the Academic Council / Committee of the University from time to time. Any or all such amendments will be effective from such date and to such batches of students (including those already in the middle of the program) as may be decided by the Academic Council / Committee.

1. Glossary of Terms

1.1. **Program:** An educational program leading to award of a Degree in a discipline.

1.2. **Course:** Generally referred as a 'subject' offered under the degree program. Each course is identified by a unique course code and course title. A course may be designed to comprise lectures/ studio/tutorials/ laboratory work/ fieldwork/ outreach activities/ project work/vocational training /seminars /term papers/ assignments/ presentations/ self-study etc. or a combination of some of these. All courses do not carry the same credits.

1.3. **Choice Based Credit System (CBCS):** In addition to the compulsory core courses in a program, CBCS provides choice for students to select from a number of elective courses offered. The term credit refers to the weightage given to the course and is usually the number of periods per week allotted to it.

1.4. **Re-admission:** Process required to continue the program requirement after a student is detained in a course due to shortage of attendance or takes a break of study.

1.5. **Re-registration:** Process required when the student has satisfactory attendance but has failed in a course and wishes to improve performance in internal assessment as well as end semester external examinations.

1.6. **Re-appearance/ supplementary examinations:** Process required when student has failed in a course and wishes to improve performance only in end semester external examinations.

1.7. **Director of Evaluation (DE)** means the Authority of the University who is responsible for all activities of the End Semester Examinations of the University Departments

1.8. **Director, Academic and Planning (DAP)** means the authority of the University who is responsible for all academic activities for the implementation of relevant rules and regulations.

2. Program Structure

2.1. C2.1. Category of Courses: The program shall have a curriculum with syllabi consisting of courses as prescribed by the Board of Studies, and broadly categorized under:

2.1.1. **Compulsory Core (CC)** are courses deemed to be the core learning required for the discipline. These courses are part of the compulsory requirement to complete the program of study. A core course cannot be substituted by any other course. A core course offered in this program may be treated as a Professional or Open Elective by other programs.

2.1.2. **Professional Electives (PE)** courses which are elective courses relevant to the discipline. An Elective course is generally a course that can be chosen from a pool of courses on offer.

2.1.3. **Open Electives (OE)** chosen generally from an unrelated discipline/ subject, with an intention to seek exposure/ add generic proficiency. These may include Liberal Arts courses, Humanities and Social Science courses, etc. They may include courses offered by other departments/ programs.

2.1.4. **Ability Enhancement Courses (AEC).** These are mandatory courses based upon content that lead to general knowledge and soft skills enhancement, such as, Environmental Studies, Communication Skills, Value Education, etc.

2.2. Co-Curricular Activity / Extension Activity (EA) (for all round development) :

2.2.1. It is compulsory for every student to participate in any one of the following programs like NCC/ NSS/ Sports/ NOSPLAN/

University's Pro-bono project activity/ any national or international student camp /any other community development activity listed by the University and acquire a "satisfactory" grade to be considered eligible for award of a degree.

2.2.2. The above activities shall be conducted primarily outside the regular working hours of the University (except for full days/ week camps).

2.2.3. The student's performance shall be examined by the faculty in-charge of the relevant extension activity along with the Head/ Coordinator of the Department/ activity.

2.2.4. Physically challenged students who are unable to participate in any of the above activities shall be required to take a test in the theoretical aspects of any one of the above activity and be graded and certified accordingly

2.3. **English Language Course:** A Test will be administered to the students after admission to assess proficiency in English. Students not passing this test of proficiency will study English as a bridge course (without credits) during the First Semester. They have to acquire a "satisfactory" grade in the English language course to be considered eligible for award of a degree.

2.4. **Credit Based System:**

2.4.1. Credits are indicative of the importance of the course. In the case of core courses 1 period of direct teaching per week (Theory / Tutorial/ Studio/ Practical) = 1 credit

2.4.2. In the case of other courses like the Electives and the AEC courses, the credits are based on their level of importance as decided by the Board of Studies and as described in their respective course structure.

2.4.3. Every student shall be required to opt for the electives from the list of electives offered. Students can also opt for the electives on offer from any of the other Programs, besides his / her own discipline courses, or even do online courses subject to the respective Program specific regulations.

2.5. Pre-requisites: Some of the courses may have pre-requisites (i.e. the student may be required to have registered and attended the course specified as a pre-requisite.)

2.6. Online Courses: Students may be permitted, with the prior approval of the Department, to take online courses through SWAYAM or MOOCs or any other approved online facility, in lieu of the Electives (both PE and OE) offered in the University.

2.7. **Types of Courses and Learning Source**

Types of Courses	Learning Sources
Compulsory Core (C)	Parent Department (PD)
Professional Elective (E)	PD / OD / online
Ability Enhancement Course (AEC)	PD / OD / online / Univ.
Open Elective (OE)	PD / OD / online / Univ.
Extension Activity (EA)	PD, OD, Univ.

Note: PD = Parent Department; OD = Other Departments / Institutions / Universities

3. Duration of Program

3.1. A student is normally expected to complete the Program in four academic years (8 Semesters) but in any case not more than 8 years (including break of study for personal reasons or suspension/ detention due to disciplinary action, etc.).

3.2. Each semester shall normally consist of 90 working days (excluding end semester examination days).

3.3. A student may be permitted to take a break of study for a maximum of one academic year for any personal or medical reason with prior approval. In such cases the student will be eligible for award of First Class with Distinction/ other awards. Rules of re-admission will apply to such cases.

4. **Enrolment / Registration for choice of Electives:**

4.1. Each student on admission shall be deemed to have registered for all the courses prescribed in the curriculum in the student's first Semester of study.

4.2. Each student shall be deemed to have registered for all the compulsory core and other mandatory (AECC) courses of every semester that he/ she is promoted to, on the payment of the requisite fees.

4.3. However, as per the course structure, whenever electives are offered, students have to enroll and after allotment of the elective course, register for elective courses of their choice – both professional and open electives. Every student is expected to attend the orientation event in their college, read the list of electives on offer, check for the pre-requisites, consult the faculty members, understand the choices and the process, and then select their choice of elective courses.

4.4. Every student shall submit their preferences from the list of electives on offer (including approved online courses), as per the academic schedule.

4.5. The departments shall put up the list of electives allotted to the students enrolled, based on the departments' discretion and physical capacities, with first preference given to the students from the parent department and later, considering a first come first and/or CGPA basis for students from other departments. However, students who have registered for elective courses previously are allowed to re-register for courses in which they have failed.

4.6. In case none of the student's enrolled choices is allotted, or even otherwise, the student may propose an alternative choice from among the available ones after due consultation with the respective faculty. The students shall register (which is effected only on their choice of elective being approved) for the courses within the given deadline.

4.7 It is mandatory for every student to register for the elective courses, in a Registration Form, which (s)he plans to take up for the semester. The form is prepared in triplicate: student copy; department copy and Exam Section copy. The students shall submit the department copy and Exam Section copy to the parent department offering the elective and retain the student copy for their own records. The Exam Section copy shall be forwarded by the parent department offering the elective. In case the student is not from the same department offering the elective, another copy shall be submitted to the student's parent department.

4.8 After registering for a course, a student shall attend the classes, satisfy the attendance requirements, earn Internal Assessment marks and appear for the End Semester Examinations.

4.9 A student is permitted to cancel his/her registration for the elective courses, within two weeks of starting of the semester.

4.10 The information on the list of all the courses offered in every department specifying the course code, course title, credits, the prerequisites, the instructor who is offering the course and the time slot will be made available on the University website.

4.11 To enable the students to choose electives from across the departments, the DAP shall in consultation with all the departments, facilitate the announcement of a common time-slot for the elective periods in the time tables of the departments.

4.12 No elective course shall be commenced unless a minimum of 10 students are registered

5. **Attendance Requirements**

5.1 A student has to put in a minimum of 75% of attendance, in aggregate of all the courses registered in the semester (excluding approved online elective courses) for becoming eligible to register for the end examinations and for acquiring credits in each semester.

5.2 Shortage of attendance in aggregate up to 10% (65% and above, and below 75%) in each semester may be condoned by the College Academic Committee on genuine and valid grounds, based on the student's representation with supporting evidence.

5.3 Condonation of shortage of attendance as stipulated above, shall not be automatic but on the merits of the case to the satisfaction of the College Academic Committee.

5.4 A stipulated fee shall be payable along with the application for condonation

5.5 Shortage of attendance below 65% in aggregate shall in no case be condoned.

5.6 A student will not be promoted to the next semester unless the attendance requirement of the present semester is satisfied. In case of such detention the student is not eligible to take the End Examination of that semester and the course registration shall stand cancelled. The student shall seek re admission for that semester when offered next.

5.7 In the case of re-registration (clauses 10.4 to 10.7) for a course/s, the attendance requirement is not applicable.

6. **Assessment**

6.1 Performance in each course shall be evaluated as prescribed in the respective semester's course structure and syllabus. As a general pattern, 50% of the marks in a course are through internal assessment and 50% through end semester examinations. A few courses may have 100% of the assessment purely through internal assessment. The thesis, the internship/ practical training courses and many of the studio courses are assessed through a jury and viva-voce for the end semester examination.

6.2 The students shall diligently follow the given internal assessment schedule for the semester including submissions and tests.

6.3 Every teacher is required to maintain an 'Attendance and Assessment Record' for every course which consists of attendance marked in each class, and the internal assessment marks. This should be submitted to the Head of the Department periodically (after every four weeks of instruction in a semester).

6.4 The compiled cumulative internal assessment marks and attendance of the students will be displayed once in every four weeks for information to the students.

6.5 In case a student misses the assessment due to medical reasons (hospitalization / accident / specific illness) or due to participation in the College / University / State / National / International level sports or any other event/s with prior permission from the Head of the Department, an opportunity for reassessment may be given after getting approval from the Head of the Department through the concerned course teacher or coordinator.

6.6 Assessment for Online Course: In case of credits earned through approved online modes, the credits and grades shall be assigned by a committee consisting of Head of the Department or a teacher nominated by the HoD and a senior faculty member nominated by the DAP/ Principal (in case the credits or grades are not included by the online course faculty).

6.7 A student can apply for revaluation of the end semester examination, within 2 weeks from the declaration of results, on payment of a prescribed fee along with prescribed application.

7. Award of Letter Grades

7.1 The performance of a student will be reported using letter grades, each carrying certain points as detailed below:

S. No.	% of Marks		Letter Grade	Grade Points
	Minimum	Maximum		
1.	90.00	100.00	A+	10
2.	80.00	89.99	A	9
3.	70.00	79.99	B	8
4.	60.00	69.99	C	7
5.	50.00	59.99	D	6
6.	40.00	49.99	E	5
7.	00.00	39.99	F	0
8.	Shortage of attendance and hence prevented from writing end semester examination		SA	0
8.	Absent for End semester examination		Ab	0
9.	Satisfactory *		Satisfactory	0

Note: * Satisfactory grade will be given only for the non-credit courses/ activity such as mentioned in clause 6.5. A 'Satisfactory' grade in these listed course/ activities is compulsory for the award of degree.

Example of assignment of letter grade and grade points for marks:

Course Title	Int. Marks	End Exam	Total	Grade	Grade point (GP)
Course X1	22	25	47	E	5
Course X2	39	41	80	A	9
Course X3	37	34	71	B	8
Course X4	29	30	59	D	6
Course X5	25	24	49	E	5

7.2. A student who earns at least an E grade in a course is declared to have successfully completed the course, and is deemed to have earned the credits assigned to that course. A course successfully completed cannot be repeated.

7.3. Students who fail to appear for end semester examinations will be marked as 'Ab' (Absent) and should register for supplementary examination by paying the prescribed fees.

7.4. For the Co-curricular activities as mentioned in clause 2.2.1, a satisfactory / not satisfactory grading will appear in the mark sheet. A satisfactory grade in the above co-curricular activities is compulsory for the award of degree.

8. **Academic Requirements:** The following academic requirements have to be satisfied, in addition to the attendance requirements mentioned in clause 7.

8.1 A student shall be deemed to have satisfied the academic requirements and earned the credits allotted to each subject/ course, if the student secures not less than 40% marks in the semester end examination, and a minimum of 40% of marks in the sum total or aggregate of the Internal Assessment and Semester End Examination taken together; in terms of letter grades, this implies securing 'E' grade or above in that subject/ course.

8.2 A student failing in any course on the first attempt, will not be eligible for any awards, and/or distinctions including the award of Distinction at the end of the course.

8.3 A student eligible to appear in the end semester examination for any course, but absent from it or failed (thereby failing to secure 'E' grade or above) may reappear for that course in the supplementary examination as and when conducted. In such cases, the internal marks obtained earlier for that course will be retained, and added to the marks obtained in the end semester supplementary examination for evaluating performance in that course.

9. **Promotion between Semesters:**

9.1. A student shall be promoted from odd to even semester if the minimum requirement of attendance as in clause 7 is fulfilled.

9.2. A student shall be promoted from even to odd semester, if the minimum requirement of attendance as in clause 7 is fulfilled and as per the other requirements specified in the following table.

9.3. Table indicating promotion requirements from even to odd semesters:

From 2nd sem. to 3rd sem.	If the student does not have more than three backlog courses in the 1st semester.
From 4th sem. to 5th sem.	Secured all the credits upto 2nd semester and does not have more than three backlog courses in the 3rd semester

From 6th sem. to 7th sem.	Secured all the credits upto 4th semester and does not have more than three backlog courses in the 5th semester

Note: Upto the 4th semester all the credits have to be secured and optional (only for elective courses) credits are available only from the 5th semester onwards.

10. **Re-admission and Re-registration**

10.1 A student detained in a semester due to shortage of attendance, may be re-admitted when the same semester is offered in the next academic year for fulfillment of academic requirements. In such cases of readmission, the student may choose to be readmitted in the same or any other Professional Elective or Open Elective course.

10.2 The academic regulations which are in force at the time when the student will be readmitted shall be applicable along with any prescribed transitory regulations. No grade allotments or SGPA/ CGPA calculations will be done for the entire semester in which student has been detained.

10.3 A student detained due to lack of credits, shall be promoted to the next academic year only after acquiring the required academic credits. The academic regulations under which student has been readmitted shall be applicable to him.

10.4 If a student fails in a Professional Elective or an Open Elective, the student may re-register for the same or register afresh for any other Professional Elective or Open Elective course respectively in the subsequent semesters. In case of re-registration in the same courses, attendance is not mandatory, whereas registration for any other elective course/s requires the student to attend the classes and fulfill the attendance requirements as per Clause 7.

10.5 A student who fails in any course may be permitted the option of re-registering in that subject only if the internal assessment marks are less than 40%, so as to enable him to improve/redo and resubmit the work for internal evaluation. In such cases of re-registration, the student's previous performance both in the internal evaluation and end evaluation in the particular subject/s shall stand cancelled and he/she shall be required to appear for the end semester evaluation again (end examination and /or external jury as the case may be).

10.6 The maximum number of courses a student may be permitted for 're-registration' in a semester, is limited to three. Re- registration of any course should be done within 15 days from the date of commencement of class work. A stipulated fee shall be payable towards re registration in any subject.

10.7 The student may attend classes in the case of the re-registered courses, if the student wishes. However, the attendance requirement is not compulsory for such courses

11. Grade Points, SGPA and CGPA Calculation

11.1. After the results are declared, Grade Sheets will be issued to each student which will contain the list of courses registered during the semester and the performance in each with details of whether passing or failing, credits earned in that semester and the cumulative credits, promoted or not, grade points, the SGPA and the CGPA.

11.2. Grade Points: The grade points obtained in a subject multiplied by the credits for that subject will be the weighted grade points.

Weighted Grade Points (W) = C x G

Where 'C' is the number of credits assigned for the subject and 'GP' is the Grade Point obtained as per the Table in clause 9.1 above.

11.3. SGPA: The sum of the weighted grade points divided by the total number of credits in a semester will give the Semester Grade Point Average (SGPA).

$SGPA = \sum CiGPi \; / \sum Ci \qquad i = 1 \text{ to } n$

Where n is the number of courses the student registered for in the semester, 'C' is the number of credits allotted to each of the courses, and 'GP' is the grade-point obtained by the student in the respective courses.

An example follows:

Course Title	Credits (C)	Grade (GP)	Weighted Grade Points (WGP)
Course X1	3	7	21
Course X2	8	8	64
Course X3	8	7	56
Course X4	7	7	49
Course X5	2	6	12
Course X6	2	6	12
Total	30		214
Semester Grade Point Average (SGPA) = Total WGP/ Total credits =			7.13

11.4. CGPA: The Cumulative Grade Point Average (CGPA) will be computed for every student as:

$$CGPA = \sum CiGPi \; / \sum Ci \qquad i = 1 \text{ to } m$$

Where 'm' is the number of subjects registered for in all the semesters from the first semester up to and including the semester under computation, 'c' is the number of credits allotted to a particular subject, and 'g' is the grade-point obtained by the student as per table in clause 9.1.

11.5. The CGPA would indicate the cumulative performance of the student from the first semester up to the end of the semester to which it refers. The CGPA and SGPA will be rounded off to the second decimal place and recorded as such.

11.6. When a student gets the grade 'F' in any subject during a semester, the SGPA & CGPA from that semester onwards will not be calculated, until such 'F' grade(s) has been substituted by better grades during a subsequent semester.

11.8. For the purpose of computation of the final CGPA, award of degree, award of the class as in clause 14, and other honours if any, including medals, the performance in the best 220 credits only will be taken into account.

12. **Eligibility for the Award of Degree :** A student shall be eligible for the award of the "B.F.A." Degree in the specific discipline into which he/she was admitted, if the following academic regulations are fulfilled:

12.1. Has pursued the program of study for not less than four academic years and not more than eight academic years. Students, who fail to fulfill all the academic requirements for the award of the degree within eight academic years from the year of their admission, shall forfeit their seat in the program and their seat shall stand cancelled.

12.2. Successfully secured at least 220 credits.

12.3. Successfully completed the Extension Activity requirements.

12.4. Has secured a minimum of 5.0 CGPA

12.5. No disciplinary action is pending against the student

13. **Withholding of the results :** The results of a student may be withheld if:

13.1. He/she has not cleared any dues to the University/Institution/ Hostel.

13.2. A case of disciplinary action against the student is pending disposal.

14. Classification of the Degree Awarded

14.1. After a student has satisfied the requirements prescribed for the completion of the program and is eligible for the award of the B.Tech. (Planning) Degree, he/she shall be placed in one of the four classes as shown in the Table.

First Class with Distinction	1. Have a CGPA of 8.0 and above. 2. Should have passed the examination in all the courses of all the eight semesters within five years, which includes any authorized break of study of one year (clause 3.3). 3. Should NOT have been prevented from writing end semester examination due to lack of attendance in any of the courses.
First Class	Below 8.0 but not less than 7.0 of CGPA and
Second Class	Below 7.0 CGPA but not less than 6.0
Pass Class	Below 6.0 CGPA but not less than 5.0

Note : In all the above cases CGPA shall be calculated from the Grade Points secured for the best 283 credits. For calculating the 'best' 283 credits, the credits secured in all the Core and AEC courses (which are compulsory) shall be included. The choice of 'best' credits to be included in the calculation shall be from only those credits secured in the Electives – both Professional and Open Electives.

14.2. A student who is absent in End Semester Examination in a course after having registered for the same shall be considered to have appeared in that examination (except in the case of approved withdrawal from end semester examinations as per clause 15) for the purpose of classification

15. Provision for Withdrawal from Examination:

15.1. A student may, for valid reasons, (medically unfit / unexpected family situations / sports/ etc.) be granted permission to withdraw from appearing for the end semester examination in any course or courses in ANY ONE of the semester examinations during the entire duration of the degree program. The application shall be submitted to the Principal/ Chief Superintendent of the Examination with required documents.

15.2. Withdrawal application shall be valid only if the student is otherwise eligible to write the examination (Clause 5) and if it is made before the commencement of the end semester examination in that course or courses and also recommended by the Head of the Department (excepting in the case of any unforeseen incident occurring after registration for the examination, which prevents the student from attending/writing the examination).

15.3. Withdrawal shall not be considered as an appearance for deciding the eligibility of a student for First Class with Distinction.

15.4. Withdrawal is permitted for the end semester examinations in the final semester only if the period of study of the student concerned does not exceed 5 years.

16. **Malpractice:** If a student indulges in malpractice in any of the examinations, he/she shall be liable for punitive action as prescribed by the University from time to time.

17. **General**

17.1 In case of any doubt or ambiguity in the interpretation of the academic regulations, the decision of the Vice-Chancellor is final.

17.2 The University may from time to time revise, amend or change the Regulations, Curriculum, Syllabus and Scheme of examinations.

TRANSITORY REGULATIONS (from Academic Year 2017-18)
(Approved on 6th Feb., 2018)

Preamble:
The CBCS regulations and courses (referred to collectively as R-17) introduced from the academic year 2017-18, have brought in significant changes in the course structures and academic regulations of the programs in the University as indicated below.

	Aspects	Remarks
1	Course Codes	All changed
2	Course Names / Titles	Some changes
3	Course Structure	Major changes – introduction of AEC courses; electives from 4th sem. onwards. Total No. of courses in a program have generally increased (Eg. B.Arch. from 53 to 62)
4	Pass Marks	Changed in BFA and BTech. programs
5	Promotional Requirements	Changed in all programs
6	Award of Degree	Changed in all programs
7	Performance Evaluation and Award of Class	Changed in all programs – is now based on a system of letter grades, SGPA and CGPA
8	Choice in terms of credits	Changed – Now available in all programs

Considering the significant changes in all the aspects as indicated above, the following transitory regulations have been approved.

The following regulations shall be applicable for the students from the pre CBCS programs (referred to as pre R17) applying for 're-admission':

1. **Readmission into 1st semester of R-17**: Only students readmitted into the full 1st semester of R-17 will, for all purposes be subject to the entire provisions of R-17.

2. **Readmission from 2nd semester onwards:**
Students readmitted from the 2nd semester onwards will be subject to the provisions of the pre R-17 in which they were first admitted The student will be facilitated in completing the academic requirements by either permitting him/her to attend "equivalent" coursework in the R-17 (as approved by the respective Boards of Studies), wherever available, or if equivalent coursework is not available, then by special arrangement for conducting the coursework as per the regulations in which admitted.

Academic Regulations for Re-registration cases of Students admitted prior to 2017

1. Students originally admitted in the pre R17 programs, may be assigned teacher/s wherever possible, to enable them to complete their internal assessment as per their pre R17 regulations. Student has to complete the courses whenever offered. Special arrangement for the course/s may be made in case it effects the time line of the student's academic engagement

2. Wherever "equivalent" courses are available in the CBCS programs, reregistered students may be permitted to attend such courses if they choose to, but the academic regulations (and course codes / course titles, marks, credits, etc.) shall be as per the older regulations into which they were first admitted.

3. Wherever there is a change of syllabi, end semester examinations based on the old syllabi will be conducted in order to enable the students to clear the backlogs.

NOTE :

1. The term "Prerequisites" implies having registered in the course/s specified as prerequisite/s and fulfilled the attendance requirements.
2. The term "Open" mentioned in the remarks column in the courses structure indicates the courses that are open to students from other departments or Programs. These courses which are open may be taken by students from other programs, either as professional electives or open electives.
3. Abbrevations used in the course structure :

   In the case of Periods per week:

   L = Lecture S = Studio

   F = Fieldwork P = Practicals

   T = Tutorial O = Others (including workshops, seminars, colloquiums, etc.)

   In the case of type of End Semester Examination:

   W = Written / Drawing J = Jury P = Practical

4. Course /Subject codes and type:

   In the 9-digit alphanumeric course code:

   a. the first two characters represent the Program or Department that offers the course:

   - AR = Architecture
   - AA = Applied Arts and Visual Communication
   - AN = Animation;
   - ID = Interior Design
   - PL = Planning
   - DT=Digital Techniques for Design and Planning
   - FS = Facilities and Services
   - PA = Painting
   - SC = Sculpture
   - PH = Photography and Visual Communication

   and in the case of common courses- FA = Fine Arts; GN = General

   b. The 3rd an 4th digits denote the Academic Year of starting the course structure,

   c. The 5th character denotes the level of the course (Bachelors / Masters/ Diploma),

   d. The 6th digit denotes the semester number followed by a decimal and a number indicating the serial number of the course in that semester.

   e. The last alphabet in the course code indicates the type of course.

   C = Core A = AEC E = Professional Elective

   O = Open Elective.

Course Structure for B.Tech. Planning

(Under the CBCS, Effective from the Academic Year 2017-2018)

Semester - I

S. No.	Course Code	Course Title	Pre-req uisites	P/Wk	Credits	Int.	Ext.	Total	End Exam W/J/P	Re-marks*
1	PL17 B1.1C	Graphics & Presentation Techniques for Planning	_	10	10	100	100	200	S/J	_
2	PL17 B1.2C	Introduction to Physical Planning	_	4	4	50	50	100	W	_
3	PL17 B1.3C	Materials for Settlement Planning	_	4	4	50	50	100	W	_
4	PL17 B1.4C	Elements of Geology & Settlement Geography	_	4	4	50	50	100	W	_
5	PL17 B1.5C	Structural Systems for Settlements	_	4	4	50	50	100	W	_
6	GN17 B1.2A	Environmental Studies	_	2	2	50	50	100	W	_
7	GN17 B1.3A	Computer Applications	_	4	2	50	50	100	P	_
					32	30			800	

Note:- Practical: Where the student does a Practical work for a given problem and is evaluated

Studio Jury: Semester work Portfolio of the studio is evaluated

Semester - II

S. No.	Course Code	Course Title	Pre-req uisites	P/Wk	Credits	Int.	Ext.	Total	End Exam W/J/P	Re-marks*
1	PL17 B2.1C	Settlements Mapping and Visual Representation	PL17 B1.1C	8	8	100	100	200	S/J	_
2	PL17 B2.2C	Demography & Urbanization	_	4	4	50	50	100	W	_
3	PL17 B2.3C	Quantitative Methods	_	4	4	50	50	100	W	_
4	PL17 B2.4C	Estimation & Specifications	_	4	4	50	50	100	W	_
5	PL17 B2.5C	Economics & Sociology	_	4	4	50	50	100	W	_
6	PL17 B2.6C	Surveying	_	4	2	100	0	100	_	_
7	GN17 B2.1A	Communication Skills	_	2	2	50	50	100	P	_
8	GN17 B2.2A	Value Education	_	2	2	50	_	50	_	
				32	30			850		

Semester - III

S. No.	Course Code	Course Title	Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	End Exam W/J/P	Remarks*
1	PL17 B3.1C	Site Planning & Built Environment	PL17 B2.1C	12	12	100	100	200	S/J	_
2	PL17 B3.2C	Traffic &Transportation Planning	_	4	4	50	50	100	W	_
3	PL17 B3.3C	Planning Techniques	_	4	4	50	50	100	W	Open
4	PL17 B3.4C	Housing & Community Planning	_	2	2	50	50	100	W	_
5	PL17 B3.5C	CAD Applications in Planning	_	6	6	100	100	200	P	_
6	PL 17 B3.6 C	Communication Skills for Planning	_	2	2	100	0	100	_	Open
				30	30			800		

Note:- Practical: Where the student does a Practical work for a given problem and is evaluated

Studio Jury: Semester work Portfolio of the studio is evaluated

Semester - IV

S. No.	Course Code	Course Title	Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	End Exam W/J/P	Remarks*
1	PL17 B4.1C	Neighborhood& Area Planning	PL17 B3.1C	8	8	100	100	200	J	Open
2	PL17 B4.2C	Planning Principles	_	4	4	50	50	100	W	Open
3	PL17 B4.3C	Infrastructure Planning	_	4	4	50	50	100	W	Open
4	PL17 B4.4C	Planning for Informal sector	_	2	2	50	50	100	W	Open
5	PL17 B4.5C	Rural Development	_	4	4	50	50	100	W	Open
6	PL17 B4.6C	GIS	_	5	5	100	100	200	P/J	Open
7		Open Elective - 1	*	-	-	-	-	-	-	-
				31	30			800		

Note:- Practical: Where the student does a Practical work for a given problem and is evaluated

Studio Jury: Semester work Portfolio of the studio is evaluated

For open elective 4 periods per week and 3 credits or assumed to calculate the totals

Semester - V

S. No.	Course Code	Course Title	Pre-req uisites	P/Wk	Credits	Int.	Ext.	Total	End Exam W/J/P	Re-marks*
1	PL17 B5.1C	Rural Area Planning Studio	PL17 B4.1C	7	7	100	100	200	S/J	_
2	PL17 B5.2C	Urban Design & Conservation	_	4	4	50	50	100	W	Open
3	PL17 B5.3C	Planning & Management for Disasters	_	2	2	50	50	100	W	Open
4	PL17 B5.4C	Development Planning	_	4	4	50	50	100	W	_
5	PL17 B5.5C	Planning Workshop I (Traffic Studies)	_	3	3	100	100	200	J	_
6	PL17 B5.6C	Planning Theory and Urban Policy	_	4	4	50	50	100	W	Open
7	PL17 B5.xE	Elective - 1	_	4	3	50	50	100	_	_
8		Open Elective - 2	*	-	-	-	-	-	-	-
				31	30			800		

Note:- Practical: Where the student does a Practical work for a given problem and is evaluated
Studio Jury: Semester work Portfolio of the studio is evaluated
For open elective 4 periods per week and 3 credits or assumed to calculate the totals

Semester - VI

S. No.	Course Code	Course Title	Pre-req uisites	P/Wk	Credits	Int.	Ext.	Total	End Exam W/J/P	Re-marks*
1	PL17 B6.1C	Urban Planning Studio	PL17 B5.1C	8	8	100	100	200	S/J	_
2	PL17 B6.2C	Regional Planning	_	4	3	50	50	100	W	_
3	PL17 B6.3C	Project Formulation, Appraisal & Management	_	4	3	50	50	100	W	Open
4	PL17 B6.4C	Planning Legislation	_	4	4	50	50	100	W	_
5	PL17 B6.5C	Planning Workshop II (Infrastructure Studies)	_	3	3	100	100	200	J	_
6	PL17 B6.6C	Environmental Planning & Management	_	4	4	50	50	100	W	Open
7	PL17 B6.7C	Seminar	_	2	2	50	50	100	_	_
8	PL17 B6.8C	Practical Training-I	_	_	_	_	_	_	J	_
9	PL17 B6.xE	Elective - 2	_	4	3	100	-	100	_	_
				31	30			1000		

Semester - VII

S. No.	Course Code	Course Title	Pre-req uisites	P/Wk	Credits	Int.	Ext.	Total	End Exam W/J/P	Re-marks*
1	PL17 B7.1C	Metropolitan and Regional Planning Studio	PL17 B6.1C	8	8	100	100	200	S/J	_
2	PL17 B7.2C	Implementation and Financing of Urban projects	_	4	4	50	50	100	W	Open
3	PL17 B7.3C	Urban Governance & Management	_	4	4	50	50	100	W	_
4	PL17 B7.4C	Professional Practice	_	2	2	50	50	100	W	_
5	PL17 B7.5C	Planning Colloquium	_	4	4	100	0	100	_	_
6	PL17 B7.6C	Pre-Thesis	_	2	2	50	50	100	W	_
7	PL17 B7.xE	Elective - 3	_	3	3	50	50	100	_	_
8		Open Elective - 3	*	-	-	-	-	-	-	-
				31	30			800		

Note:- Practical: Where the student does a Practical work for a given problem and is evaluated
Studio Jury: Semester work Portfolio of the studio is evaluated
For open elective 4 periods per week and 3 credits or assumed to calculate the totals

Semester - VIII

S. No.	Course Code	Course Title	Pre-req uisites	P/Wk	Credits	Int.	Ext.	Total	End Exam W/J/P	Re-marks*
1	PL17 B8.1C	Planning Thesis	PL17 B6.1C	_	12	200	200	400	S/J	_
2	PL17 B8.2C	Project Documentation	_	2	2	100	0	100	_	Open
3	PL17 B8.3C	Practical Training-II	_	_	10	50	Pass/ Fail	Pass/ Fail	J	_
4	PL17 B8.xE	Elective - 4	_	4	3	50	50	100	_	_
				6	27			600		

Note:- Core Courses will be held for 12 weeks and the Summer internship/Practical Training will be for 6 weeks

List of Electives

Elective - 1

I	PL17B5.xE	Real Estate Development
II	PL17B5.xE	Affordable Housing
III	PL17B5.xE	Urban Sanitation

Elective - 2

I	PL17B6.xE	Seminar on Ethics, Values and Philosophy
II	PL17B6.xE	Seminar on Changing Context for Planning in relation with other Disciplines.

Elective - 3

I	PL17B7.xE	Planning workshop III (Redevelopment)
II	PL17B7.xE	Planning workshop III (Industrial area planning)

Elective - 4

I	PL17B8.xE	Climate Change and Planning
II	PL17B8.xE	Technology in Managing Cities.

SEMESTER I

PL17B1.1C : GRAPHICS& PRESENTATION TECHNIQUES FOR PLANNING

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
Nil	10	10	100	100	200	S/J

UNIT I

Introduction to drawing equipments & mediums Simple exercises in drafting, points, types of lines, line thickness and intensities, polygons, texture, colour and tone in materials.

UNIT II

Concepts of Scales & Proportions

Graphic and numerical scales, dimensioning of lines and planes, enlargement and reduction of drawings, anthropometrics and the scale of man to function, lettering for titles and annotations, freehand lettering, measuring and drawing to scale different objects, rooms etc.

UNIT III

Freehand Drawing & Rendering Techniques

Graphical representations of trees, hedges, foliage, vehicles, human figures etc in pen and ink, observation recordings through different mediums.

UNIT IV

Orthographic projections and views

Orthographic projections of point, lines, planes and solids, section of solids, study of isometric, axonometric and oblique views.

UNIT V

Model Making

Exercises in model making with different materials, preparation of block models, making building blocks & forms using different materials.

Expected Outputs & Assignments

- Scale drawings of simple objects to minimum one room building plan, elevation, section
- **Exercises in:**
    1. Fundamentals of 2 D compositions
    2. Rendering techniques using different mediums
    3. Applications of anthropometrics in design

4. Freehand sketching
5. Model making using different materials
6. Orthographic projections.

References

Robert Gill: Rendering with Pen & Ink

Kevin Forseth: Graphics for Architecture

Frank Ching: Architectural Graphics

Bhatt: Engineering Drawing

PL17B1.2C: INTRODUCTION TO PHYSICAL PLANNING

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
Nil	4	4	50	50	100	W

UNIT I

Evolution of Human Settlements

Evolution of human settlements through civilizations, Sumerian, Egyptian, Greek, Roman, Baroque, Renaissance, industrial and contemporary.

History of settlements in India: Ancient, medieval, colonial and modern. Changing form and pattern of human settlements.

UNIT II

Introduction to history of Planning Thoughts

City Beautiful movement by Daniel Burnham, F.L. Wright's Broad Acre city, man and machine: La Ville Radieuse, Clarence Perry's neighborhood unit formula. Ebenezer Howard's Garden City of Tomorrow, Lewis Mumford's views on new social order, Dynapolis concept of Doxiadis. Patrick Geddes' contributions to evolution of planning thought and his work in India.

UNIT III

Introduction to contemporary physical planning

Meaning and need of Planning; scope and nature of planning, multidisciplinary approach, Planning distinguished from design and management, definitions, goals and approaches to physical planning at different levels.

UNIT IV

Growth versus Development

Meaning and concept of development, development versus growth, indicators of development, overview of development process.

Physical aspects, Zoning, landuse planning and infrastructure services; Environmental concerns, sustainability; Socio–cultural and economical perspective; Politics and planning; Need for legislations in planning- Municipal Acts, development controls and regulations, etc; Aesthetics in planning, Urban Design & Conservation; management of human settlements and built environment, public participation, failures and success in physical planning.

Expected Outputs& Assignment

The internal assessment to be in the form of term papers, tests and presentations on above mentioned aspects of physical planning.

References:

Clara Greed: Introducing Planning

Shamsher Singh: Urban Planning and Development Issues and Imperatives

Rangwala: Town Planning

Reading material of ITPI on Socio Economic basis for planning

Stanley D. Brown: Cities of the World.

PL17B1.3C : MATERIALS FOR SETTLEMENT PLANNING

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
Nil	4	4	50	50	100	W

UNIT I

Materials used in building construction

Study of traditional construction materials such as PCC, RCC, bricks, hollow blocks, steel etc and emerging technologies such eco-material and their advantages. Study of fire safety building materials.

UNIT II

Materials used in Basic Infrastructure

Comprehensive study of materials used in provision of basic infrastructure namely-Roads (Asphalt, Concrete etc.), Electricity (types of cables, elevated and underground, transformers, poles, earthing techniques etc.), Communication cable, Water Supply (MS pipes, GI pipes, UPVC, PVC etc.) and Sewerage (clay/ mud pipes, MS moulded pipes, man-holes, man-hole covers etc.), Drainage and Storm water drains.

Understanding of the cost of the materials. Study of materials used in street infrastructure such as kerbs, street lighting, landscape, medians, traffic islands, street furniture, distribution poles etc.

UNIT III

Area perception study

The students in a group will select a small urban area and document, using photographs, the existing infrastructure facilities in the area. The aim of the exercise is to gain and understanding of materials used in the roads., drains, man-hole, electricity poles, street furniture, kerbs etc. and all other details discussed in Unit I and Unit II.

Expected Outputs& Assignment

Students to make documentation of different built elements and their aspects mentioned above. Structural/ study models of different structures such as arches, truss etc. shall be made along with short notes on the same and on relevant topics and tests on relevant topics.

References:

Rowland J. Mainstone: Development of Structural Form

Rangwala:Engineering Materials

S. P. Bindra, S. P. Arora: Building Construction

B.C. Punmia: Strength of Materials vol – I

PL17B1.4C : ELEMENTS OF GEOLOGY AND SETTLEMENT GEOGRAPHY

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
Nil	4	4	50	50	100	W

UNIT I

Introduction

Types of geological structure, landforms, types of regions, concepts of spatial organization and region (in India), geological structures suitable for buildings with relevance to selection of site and foundations.

UNIT II

Study of Land Forms and Indian Stratigraphy

General considerations and overview of preliminary geological data particularly related to Indian Stratigraphy, basic understanding of landforms- erosional, depositional, fluvial, glacial, delta and marine with relevance to landuse planning.

UNIT III

Ground Water

Concept and role in town planning for different types of terrain, vertical distribution of groundwater in India, water table and isometric surface, surface water reservoirs

and springs, artificial recharge and ground water mound hydrographs, geological structure and underground passage for water supply.

UNIT IV

Thematic Mapping

Types of thematic maps, interpretation of SOI topographic sheets, conventional signs, Indian physiographic maps, Andhra Pradesh physiographic maps, district maps etc.

UNIT V

Introduction to Settlement Geography

Natureand scope of settlement geography, origin, setting evolution and structure of 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 VI

Classification of Settlements

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

UNIT VII

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 VIII

Urban Settlements

Citystructure, Theories of urban structure concentric zone theory, sector theory, multiple nuclei theory, gradient analysis, form of the pre industrial city, dual structure of the colonial city, modern city forms, new towns and cities, environmental impact of planned and unplanned growth, rural urban fringe.

UNIT IX

Settlements as a System (Settlement System) and Role of Urban Areas

Rural and urban continuum, city region relationships; growth pole theory, settlement systems in a developing economy, structure of city regions, area of influences, dominance; rural urban fringes; its structure, stages of

growth, its role in urban growth; urbanization, industrialization and urban development; push and pull factors; migration trends and impacts on urban and rural development.

Expected Outputs& Assignment

Students to make a brief recording of the geological studies at local or regional level in terms of the factors mentioned above. Internal assessment also to be in the form of term papers and tests on above mentioned topics.

References:

Das Gupta: Physical Geography

Harold Carten: Urban Geography

Truman &Hartshone: Interpreting Cities – An Urban Geography

R Y Singh: Geography of settlemen

PL17B1.5C : STRUCTRURAL SYSTEMS FOR SETTLEMENTS

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
Nil	4	4	50	50	100	W

UNIT I

Fundamentals of Structures

Introduction to basic structural systems, elements of structure, their functions & behaviour, beams, slabs, columns, walls, foundations, bearing wall systems, trusses, rigid frames, linear and curved elements; simply supported, cantilever and overhanging beams for various loads; effect of simple geometric forms on the overall structural behaviour.

UNIT II

Fundamentals of Forces

Primary and secondary forces acting on structures dead loads, live load, wind, seismic forces, distribution of loads through the elements of the system.

Basic fundamentals in force systems, stresses and strains, temperature variation and resultant stresses, relation between E, N, and K; relation between bending moment and shear force, BM and SF diagrams.

Moment of inertia and section modulus for various structural shapes. Theory of simple bending, Columns and struts, failure of columns, Arches.

Expected Outputs & Assignment

Students to make documentation of different built elements and their aspects mentioned above. Structural/ study models of different structures such as arches, truss etc. shall be made along with short notes on the same and on relevant topics and tests on relevant topics.

References:

Rowland J. Mainstone: Development of Structural Form

Rangwala: Engineering Materials

S. P. Bindra, S. P. Arora: Building Construction

B.C. Punmia: Strength of Materials vol – I

GN17B1.2A : ENVIRONMENTAL STUDIES

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
Nil	2	2	50	50	100	W

Course Overview: A compulsory subject for all the undergraduate students of various discipline highlights significance of maintaining balance and sustainability of various components of the environment.

Objectives of the Course : To sensitize the students towards sustainable environment.

Course Contents:

Unit – I

Environmental studies – Introduction: - Definition, scope and importance, Measuring and defining environmental development indicators.

Unit – II

Environmental and Natural Resources: Renewable and non-renewable resources - Natural resources and associated problems - Forest resources - Use and over - exploitation, deforestation, case studies - Timber extraction - Mining, dams and other effects on forest and tribal people - Water resources - Use and over utilization of surface and ground water - Floods, drought, conflicts over water, dams-benefits and problems - Mineral resources: Use and exploitation, environmental effects of extracting and using mineral resources, case studies. - Food resources: World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity, case studies. - Energy resources: Growing energy needs, renewable and non-renewable energy sources use of alternate energy sources. Case studies. Land resources: Land as a resource, land degradation, man induced landslides, soil erosion and desertification. Role of an individual in conservation of natural resources. Equitable use of resources for sustainable lifestyles.

Unit - III

Basic Principles of Ecosystems Functioning: Concept of an ecosystem. - Structure and function of an ecosystem. - Producers, consumers and decomposers.- Energy flow in the ecosystem Ecological succession. - Food chains, food webs and ecological pyramids. Introduction, types, characteristic features, structure and function of the following ecosystem:

a. Forest ecosystem

b. Grassland ecosystem

c. Desert ecosystem

d. Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries).

Unit - IV

Biodiversity and its conservation: Introduction - Definition: genetic, species and ecosystem diversity. Bio-geographical classification of India - Value of biodiversity: consumptive use, productive use, social, ethical, aesthetic and option values - Biodiversity at global, National and local levels. - India as a mega-diversity nation - Hot-sports of biodiversity - Threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts. - Endangered and endemic species of India - Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity.

Unit - V

Environmental Pollution: Definition, Cause, effects and control measures of:

a. Air pollution b. Water pollution c. Soil pollution d. Marine pollution e. Noise pollution f. Thermal pollution g. Nuclear hazards

Solid waste Management: Causes, effects and control measures of urban and industrial wastes. - Role of an individual in prevention of pollution. - Pollution case studies. - Disaster management: floods, earthquake, cyclone and landslides.

Unit - VI

Social Issues and the Environment: From unsustainable to sustainable development -Urban problems related to energy -Water conservation, rain water harvesting, and watershed management -Resettlement and rehabilitation of people; its problems and concerns. Case Studies -Environmental ethics: Issues and possible solutions. -Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust. Case Studies. -Wasteland reclamation. - Consumerism and waste products. -Environment Protection Act. -Air (Prevention and Control of Pollution) Act. -Water (Prevention and control of Pollution) Act - Wildlife Protection Act -Forest Conservation Act -Issues involved in enforcement of environmental legislation. -Public awareness.

Unit - VII

Human Population and the Environment: Population growth, variation among nations. Population explosion - Family Welfare Programme. -Environment and human health. -Human Rights. -Value Education. -HIV/AIDS. -Women and Child Welfare. -Role of information Technology in Environment and human health. -Case Studies.

Unit - VIII

Field work: Visit to a local area to document environmental assets River /forest grassland/hill/mountain -Visit to a local polluted site-Urban/Rural/industrial/ Agricultural Study of common plants, insects, birds. -Study of simple ecosystems - pond, river, hill slopes, etc.

TEXT BOOK:

ErachBharucha, A Text Book of Environmental Studies for Undergraduate Courses, University Grants Commission.

GN17B1.3A : COMPUTER APPLICATIONS

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
Nil	4	2	50	50	100	P

UNIT I

Introduction

Introduction and history of computer, software & hardware concepts - bits, bytes - types of languages – Operating systems (windows, DOS, Linux).

Introduction to Word Processing Package (like MS office), toolbar, creating a new document, formatting text, inserting tables, pictures, page numbers and date/time, spelling and grammar checking, taking print outs.

UNIT II

Spread Sheets

Introduction to spread sheets (like MS Excel), creating formulae, order of operations, borders and shading, inserting chart, taking print outs.

UNIT--III

Multi-media Presentations

Introduction to multi-media presentation (like MS Power Point), creating a presentation, opening an existing presentation, creating a blank presentation, different Power Point views, slide manipulation, slide animation, slide transitions, view slide show, navigating while in slideshow, hyper linking to various other media/ application outputs, scanning of different media in different formats, setting of options, resolution settings, management of file size, integrating partial scans of large documents, pack up a a presentation for use on another computer, taking print outs.

UNIT IV

Exploring Microsoft Access

Introduction, creating new and opening existing databases, creating a database using a wizard, creating a database without using a wizard, tables - what they are and how they work, create a table from scratch in design

view, primary keys, switching views, entering data, manipulating data, advanced table feature examples.Relationships - how to link multiple tables together, forms - what they are and how

they work, creating a form using a wizard, reports - what they are & how they work, creating report & mail merge labels using a wizard.

Internet concepts

Introduction to Internet, Hyper Text Markup Language, introduction to basic features and uses of Java, VB.

UNIT V

Graphical Concepts

Photo editing and Desktop publishing (application) software Introduction, software & system requirements, preferences, workspace, graphics terminology, image depth, resolution and image size, up sampling and down sampling, image sources, straightening an image, cropping an image, basic image correction, printing photo edited documents, selections, choosing foreground and background colors, filling with color, options & preferences revisited, file browser,stepping back in time, use ram efficiently, sharpening images, working with layers, painting in photo editing software, color theory, image modes, channels, more advanced adjustment commands, file format categories.

Import and export of photo edited files, objects in photo editing, fills, outlines, basic toolbox of photo editing software (like Coral Draw), color management tools, starting your page right, introduction to Flash multimedia software.

UNIT VI

Programming languages

C language, flow charts; Introduction, What is C? Structure of C program, Variables, I/O statements, Branching and Looping, Arrays, Strings, Functions, Pointers, Structures, files.

UNIT VII

Database management systems

SQL (structured query language), PL/SQL; Introduction, creating and inserting data into tables, updating values, modifying tables, working with quires Basic Structure of PL/SQL, Variables and Types, Simple PL/SQL Programs.

Expected Outputs& Assignment

The internal assessment to be in the form of tests and practicals on above mentioned topics.

References:

Microsoft Office 2000- Leon Hard Woody, New Delhi, Prentice hall of India.

Microsoft Office for Windows –Sagman India Addison Wesley, 1999.

Adobe Photoshop CS Classroom in a Book (Classroom in a Book) by Adobe Creative Team (Paperback - December 1, 2003).

Fundamental Photoshop: A Complete Introduction by Adele Droblas-Greenberg.

SQL/PL/SQL – The Programming Language Of Oracle By Ivanbayross, Bpb Publications

LET US C –YashwathKanitkar

Programming In ANSIC –Balaguruswamy

The C Programming Language –Karningh and others

HTML Black Book

SEMESTER II

PL17B2.1C : SETTLEMENTS MAPPING AND VISUAL REPRESENTATION

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
PL17 B1.1C	8	8	100	100	200	S/J

UNIT I

Photography & Applications

Scope of photography and media, techniques and principles of photographic compositions, documentations in field studies.

UNIT II

Base mapping protocols

Types and contents of maps- topographic, cadastral, landuse, administrative maps, etc. Choice of appropriate scales (graphic and numeric); orientation of maps; title of sheet and lettering; techniques of reducing and enlarging maps, legends items, notations, use of monochrome and colour.

UNIT III

Techniques of base map preparation

Tracing the topographic sheets manually by identifying the regional/district boundaries, city and municipal ward boundaries, existing settlement boundaries, major water bodies, reserve forests, rocky formations ecologically sensitive areas, major roads, major electric power lines, historical monuments of national importance , and protected defence establishments; using of appropriate legend items, standard patterns, symbols and notations.

UNIT IV

Map analysis

Superimposition of the cadastral map to identify the revenue boundaries; ground verification of region/area for updation and modification; land suitability analysis; layering exercises; techniques and application.

UNIT V

Preparation of thematic maps

Appreciation studies of land use classification of residential, commercial, institutional, transportation, recreation areas small urban and/ or rural settlements; tabulation and graphic presentation of statistical data; use of monochrome and colour coding, black and white as presentation techniques by using internationally accepted hatching patterns.

Expected Outputs & Assignments

- Case studies to understand concepts of maps at different levels
- Exercise in preparation of maps for different scales.
- Base map preparation for a small area & documentation for the same.
- Photographic documentation of a small area.

References:

Lanse Bowen Bellings: Perspective- Space and Design

Bhatt: Engineering Drawing

Frank Ching: Architectural Graphics

PL17B2.2C : DEMOGRAPHY & URBANIZATION

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
Nil	4	4	50	50	100	W

Unit I

Introduction to Demography

Definitions, need for demographic studies, Demographic Variables, Data Sources, Theories of Demography, Population and Development; Concepts, measures, trends and explanations / determinants, data sources of Nuptiality, Fertility, Mortality (with special reference to infant mortality and maternal mortality), health and morbidity, in India (including differentials within India); biological and social factors. Cause of Death statistics; Life Table.

Unit II

Sources of Population Data

World: Census; Registration of vital events; Demographic Surveys; Population Registers. India: Census, Civil Registration System (CRS); Sample Registration Scheme (SRS); National Sample Survey (NSS); Demographic surveys and other sources;

Unit III

Population Composition and Change

Spatial and temporal changes in the size, composition & distribution of population – global perspective with special focus on India; Composition of India's population; Demographic Composition; Social Composition; Economic Composition; Cultural Composition Concept of ageing.

Unit IV

Population Theories

Theories of Population Growth – Malthus to modern; limits to population growth; Theory of Demographic Transition; Population and Gender – its relationship with components of population – fertility, mortality, migration; Status of women – social, economic, cultural and health; Women empowerment and its demographic consequences; Population Policies and Programs; Population policies in the context of growth, structure, distribution and quality of life; National and State population policies in India.

Unit V

Population, Development and Environment

Concepts, definitions, relevance and measurement; Inter – relationship between population growth, environment and sustainable development with special reference to India; Implications of population growth on food supply, water, sanitation, housing, employment, health, education, etc; Spatial Distribution of Population; Measures of density and concentration; factors affecting spatial distribution and temporal changes in density and concentration; World / India's pattern of population distribution.

Population Movements: Basic concepts and definitions; circulation, commutation, mobility, migration – their environmental impact assessment; determinants and consequences of internal / international migration; urbanization and migration in developed and developing countries; Theories of migration, pull and push factors; Lee's theory of migration; Ravenstein's Law of migration; Stouffer's model of intervening opportunities and

competing migrants; gravity models; Harris – Todaro Model of Migration; Direct and indirect interrelations of population, natural resources and environment;

Unit VI

Urbanization: Introduction and Overview

Urbanization, History of urbanization, histories that shaped (post) colonial and transition societies in the Third World; Theorizing Urbanization/Urban Typologies; Concepts and definitions of urban; trends and patterns of urbanization in India;

Issues in urbanization and urban problems in developing countries with focus on India; Urbanization as a global phenomenon; Urbanization and economic growth.

Unit VII

World Urbanization and Urbanization 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; history of urbanization in India; Mughal and British influences of Indian cities; post-independence urbanization; urbanization process as influenced by socio-cultural, political, economic and administrative factors; definition of urban centers, concepts

of rural urban continuum and dichotomy; census definition of urban places-town, cities, town groups, urban agglomerations, standard urban area metropolis, megalopolis etc. functional classification of urban centre.

Unit VIII

Policies and Strategies for directing Urbanization Trends in India

National Urbanization policy; basic issues in urbanization policy; role of national and state level policies; five year plans; salient features of the national commission of urbanization. Programs / schemes such as the IDSMT, Mega-city project, JnNURM, UIDSSMT, Satellite towns / countermagnets of million plus cities, etc.

Expected Outputs& Assignment

The internal assessment to be in the form of term papers tests and presentations on above mentioned aspects of physical planning.

References:

Demographic and population problem by RajendraK.Sarma Publisher: Atlantic

Hand book of Urbanisation in India,Second edition by K.C.Sivarama Krishnan, Amitabkundu, B.N.SinghOxfor University pren.

Population and sustainable development in India by EhsanulHaq,Sudhirkumar Singh

Population of India-2001 by S.N.Dubey.

Demography and population studios O.S.Shrivartama

PL17B2.3C : QUANTITATIVE METHODS

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
Nil	4	4	50	50	100	W

Planning and Data Requirements

Importance & need of planning; Planning problems and Quantitative methods; Need of surveys and Data required for spatial planning and Sources available; formulation of goal and objectives – Variable identification.

UNIT II

Data Collection

Types of Data; Survey and Experiment; Survey: Sample Vs census; merits and demerits.

Methods of data collection -Direct observation, questionnaire, schedules, Interviews and video conference methods, Document Reviews; Advantages and Disadvantages.

Sampling- types-Sampling frame, Sample selection –sample size calculation;

UNIT III

Data analysis and presentation Data Processing; Data Analysis- level of measurement, Univariate analysis- central Tendency, dispersion etc; Bivariate

analysis –correlation, Regression methods, chi-square test. Methods of Graphical representation – single and multivariables

UNIT IV

Probability Distributions

Probability- Introduction, Basic Definitions Events and types – dependent-independent, mutually exclusive and not exclusive. Addition and multiple rules, conditional probability, Bayes rule etc. Application of probability in Planning. Statistical Distributions–random variable -discrete and continuous- Normal, Binomial, Poisson; Mathematical Expectation of random variable.

UNIT V

Hypothesis Testing

Important aspects of Research, Formulation of hypothesis- Null hypothesis, Alternate hypothesis, Type I and Type II errors, level of significance, degrees of freedom, Critical region one and two-sample Z-Tests when population S.D is known and not known, one and two-sample t-tests, paired t-test.

UNIT VI

Time series Analysis

Components of time series analysis, Method of semi-averages, fitting of 1st and 2nd degree polynomials for trend fitting, seasonal variation, Method of moving averages for finding seasonal indices.

UNIT VII

Index Numbers, Sampling Methods, Non Parametric Statistics

Indexing– simple index and composite index – application of Index numbers-planning perspective

Sampling method : Drawing a sample, simple random sampling, stratified random sampling, cluster sampling.

Non parametric statistics : Levels of measurements, Sign test, Wilcoxon test, Mann-Whitney test, Friedman's test, Kruskal-Wallis test.

Expected outcome:

Students must able to list probable variables as per their objectives of a survey. Preparation of schedules for a planning problem. Application of sampling methods

methods and observe the differences in selected samples. Exercise on Demographic data, land use, housing, Transportation data etc., using Excel or any other basic statistical softwares like Systat, SPSS, Minitab.

References:

SP Gupta: Statistical Methods

Ram Ahuja: Research Methods

Philip I. Good: A practical Guide to Data Analysis

Nageswara Rao G. : Research Methodology and Quantitative Methods, B.S. Publications, Hyderabad.

PL17B2.4C: ESTIMATION & SPECIFICATIONS

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
Nil	4	4	50	50	100	W

UNIT I

Introduction to Specification & Estimation

Why the knowledge of quantity surveying and specifications is necessary for Planners? Significance and methods of writing specifications, classifications of specifications, sources of specifications; and Types and methods of cost estimation rates for different components of planning projects; ISI units of measurement and modes of payment for different items of works – prevalent rates types of estimates.

UNIT II

Specifications writing

Significance and methods of writing specifications; issues related to housing, infrastructure, pumping et; general specifications for housing, city level infrastructure like water supply network, pumping stations, sewerage network, power supply, road network, street lighting etc.

UNIT III

Specifications for Infrastructure & External Work

Detailed specifications for infrastructure works like W. S. system, sewage drains, roads, landscaping, railings, paving, pathways, and boundary walls, fencing.

UNIT IV

Estimation

Purpose of estimation, methods of estimation, types of estimates-approximate estimates, definite estimate; levels of detailed estimate; Cost estimation and determination of rates for different types of housing; Cost estimation and determination of rates of works involved in the infrastructure services (roads, water supply, sewer systems etc.);

Costing procedure for different land use categories, development works, interest on investment, and phasing; preparation of detailed Development Costs of a Planning Schemes for an approximate population of 5000 as per Norms and standards.

UNIT V

Valuation

Valuation, value and purpose of valuation; Definition and importance of valuation of land and buildings; Factors affecting property and land value at a city and locality level; fiscal and administrative measures of land value; Betterment charges, introduction to methods of calculating depreciation value of buildings.

Expected Outputs& Assignment

Internal assessment shall be in the form of case study by taking small unit of urban or rural area. Tutorials and tests to be conducted for estimation and valuation taking any field problems.

References:

Rangwala: Valuation of Real Properties (Charota Publications)

Vazirani/Chandala: Estimation & Costing

B.N. Datta: Estimation & Costing

Gurucharan Singh: Building Planning, Designing and Scheduling

PL17B2.5C : ECONOMICS & SOCIOLOGY

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
Nil	4	4	50	50	100	W

ECONOMICS

Definition and scope of economics, the central problems of economics, microeconomics and macro economic decisions.Theory of production, factors of production, scale of production internal external economics, division of labour. Theory of Demand, Supply and demand, the market mechanism, imperfection of competition and economic role of Government, Theory of income, employment and money, National income (GNP and NNP) fiscal policy and inflation. Indian financial institutions. Problems of economic growth and development, characteristics of under developed economics, balanced growth and industrialization, technological change and innovations long term economic plans, economics of urbanization.

UNIT I

Introduction to Urban and Regional Economics

Nature of urban areas; scale of economies; agglomeration economies; 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. Indicators of economic development used by World Bank & UNDP and their interpretations.

UNIT II

Modern Economic Planning in India

Planning Commission, National Five Year Plans, annual budgets, National Finance Commission, National Development Council, State Finance Commission, allocation of resources, State Plans and budgets (particular emphasis on Telangana) etc.; basic structure and interpretations, income groups, definition of poverty, poverty lines, introduction to poverty alleviation programmes, income distribution, inequalities and regional disparities, national income (GNP and NNP) fiscal policy and inflation, Indian financial institutions- Study of relevant documents.

UNIT III

Land Economics

Economic concept of land; basic principles of land economics relevance for spatial planning, economic rent market mechanism, land use pattern and land values; location economics.Land and real estate market, private ownership and social control of land, Economics and Town Planning decisions, effects of legislation on land development and urban land economics. Land development charges and betterment levy; land use restriction, compensation and requisition, taxation of capital gain on land versus public ownership's, economic aspects of land policies at various levels of decision making.

UNIT V

URBAN SOCIOLOGY

Introduction

Definition and scope of sociology; relationship between sociology and town planning.Introduction to the sociological concepts of Marx, Talcot Parsons, Weber, Durkheim, Riesman, Jane Jacobs, Gans, Castells, David Harvey, etc.

UNIT VI

Sociology of India

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

UNIT VII

World Urbanization and Urbanization in India

Urbanrevolution; its preconditions brief history of urbanization in the world leading to the industrial cities, related problems, concepts of urbanism and urbanization; brief history of urbanization in India; Mughal and British influences of Indian cities; post independence urbanization; urbanization process as influences by socio cultural, political, economic and administrative factors.

UNIT VIII

Urban and Industrial Sociology

Urbanizationand urbanism; social aspects of urban rural migration; concepts of industrial society; social aspects of industrialization; social problems of urban community crime delinquency and violence.The Chicago school of sociological thought, sociation, social organization and space in the city urban space and segregation, labour markets and housing markets, suburbanization and gentrification, changing inequalities.

Perspectives on Urban Culture

Louis Wirth and the urban way of life, Simmel and metropolitan culture, the culture of modernity, the social construction of urban meaning, urban culture and post modernity.

Expected Outputs& Assignment

The internal assessment to be in the form of term papers and presentations on above mentioned aspects focusing on their applications to current planning issues.

References:

Irwin McGraw Hill: Urban Economics

Mill & Hamilton: Urban Economic

Evans: Urban Economics

B.L. Mathur: Economic Planning & Development Theory & Practice

Adams Sydie: Sociological Theory

Note:

- Both in internal assessment & external Examination weightage of marks shall be 50% for Economics & 50% for Sociology.
- External examination paper shall have part A & part B testing the knowledge of students in Economics & Sociology separately giving equal weightage.

PL17B2.6C : SURVEYING

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
Nil	4	2	100	0	100	-

UNIT I

Basic Principles and Chain Surveying

Definitions, scales 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, field notes, instruments, obstacles in chaining, plotting chain survey with practical examples, introduction to total station survey.

UNIT II

Compass Surveying and Plain tables surveying

Definition of compass surveying, traversing, types of traversing, applications, advantages and disadvantages, principles and instruments used in compass surveying; Concept of bearings, meridian and angles, designation of bearing, fore bearing and back bearing, local attraction;

Definition, application, advantages and disadvantages of plane table survey; instruments used, working operation, methods of plane table survey; Preparation of map of a small area with plane table survey.

UNIT III

Automated Surveying

Introduction to use of digital surveying – instruments such as distomat – total station, electronic theodlite – temporary adjustments – traversing - Measurement of horizontal and vertical angle, GPRS Technology.

UNIT IV

Computation of Areas and Leveling

Computation of areas; from field notes and from plan with examples, leveling; instruments used, definitions, principles, reduction of levels, classifications of leveling, errors in leveling, contouring; characteristics of contour lines, interpolation and interpretation of contours, uses of contour lines.

Expected Outputs& Assignment

Internal assessment shall be in the form of practical by taking of small unit of urban or rural area Tutorials and tests to be conducted for surveying and photogrammetry taking any field problems.

Part field exercises:

Exercises using Automated surveying tools have to be given assignments. Exercises to be given in Total station and GPRS Technology.

References:

R. Agor: Surveying and Leveling

Kanetkar: Surveying and Leveling

B.C. Punmia: Surveying and Leveling

GN17B2.1A : COMMUNICATION SKILLS

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
Nil	2	2	50	50	100	P

Course Overview: To prepare students to acquire understanding and fluency in English for professional work

Objectives of the Course: To provide an adequate mastery of technical and communicative English Language training primarily, reading and writing skills, and also listening and speaking skills.

Expected Skills / Knowledge Transferred: To prepare students for participation in seminars, group discussions, paper presentation and general personal interaction at the professional level.

Unit I

Communication: Importance of Communication; Elements of good individual communication; organizing oneself; different types of communication; Barriers in the path of Communication

Unit II

Listening skills: Listening to conversation and speeches (Formal and Informal)

Reading: Techniques of reading, skimming, Scanning, SQ3R technique

Unit III

Creative Writing: Scope of creative writing; Writing skills Signposting, Outlines, Rephrasing

Writing a report/ format of the report; Paragraph, Letter Writing, Essay writing, Memo, Circular, Notice, Cover Letter, Resume, Writing with a thesis, Summary, Précis, Product description – Description of projects and features

Oral Report; Periodical Report; Progress Report; Field Report

Preparation of minutes; Video conference; Tele conference / Virtual meeting

Unit IV

Speaking: How to converse with people, How to communicate effectively; Language and grammar skills; Pronunciation drills, Phonetics, vowels, Diphthongs, consonants, Stress, Rhythm and intonation, Conversational skills

Features of effective speech- practice in speaking fluently –role play – telephone skills – etiquette.

Short Extempore speeches – facing audience – paper presentation – getting over nervousness – Interview techniques – preparing for interviews – Mock Interview – Body Language.

Unit V

Impact of internet on communication; communication through computers;

voice mail; broadcast messages; e-mail auto response; etc.

Reference books:

1. Krishna Mohan &Meera Banerji: Developing Communication Skills Macmillan India
2. C S Rayudu: Principles of Public Relations, Himalaya Publishing House
3. K. Ashwathappa: Organizational Behavior, Himalaya PublishingHouse
4. Daniel Colman: Emotional Intelligence,

GN17B2.2A : VALUE EDUCATION

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
Nil	2	2	50	0	50	-

Course Overview: To provide guiding principles and tools for the development of the whole person, recognizing that the individual is comprised of Physical, Intellectual, Emotional and Spiritual dimensions.

Knowledge Transfer /Expected Skills:

To help individuals think about and reflect on different values.

To deepen understanding, motivation and responsibility with regard to making personal and social choices and the practical implications in relation to themselves and others, the community and the world at large to inspire individuals to choose their own personal, social, moral and spiritual values and be aware of practical methods for developing and deepening them.

Unit I

Value Education—Introduction – Definition of values – Why values? – Need for Inculcation of values – Object of Value Education – Sources of Values – Types of Values: i) Personal values ii) Social values iii) Professional values iv) Moral and spiritual value Behavioral (common) values

Unit II

Personal values – Definition of person – Self confidence – Relative and absolute confidence, being self-determined, swatantrata (loosely equivalent to freedom).

Self discipline – Self Assessment – Self restraint –Self motivation – Determination – Ambition – Contentment Self-respectand respect to others; expression of respect

Unit III

Social values – Units of Society - Individual, family, different groups – Community

– Social consciousness – Equality and Brotherhood – Dialogue – Tolerance – Sharing – Honesty-Responsibility – Cooperation; Freedom – Repentance and Magnanimity.

Peer Pressure – Ragging - examples - making one's own choices

Unit IV

Professional values-Definition-Competence-Confidence-Devotion to duty-Efficiency-Accountability.

– Respect for learning /learned – Willingness to learn-Open and balanced mind – Team spirit – Professional

Ethics – Willingness for Discussion; Difference between understanding and assuming.

Time Management: Issues of planning, as well as concentration (and aligning with self goals) Expectations from yourself. Excellence and competition, coping with stress, Identifying one's interests as well as strengths.

Unit V

Behavioural values – Individual values and group values. Anger: Investigation of reasons, watching one's own anger; Understanding anger as: a sign of power or helplessness, distinction between response and reaction.

Right utilization of physical facilities. Determining one's needs, needs of the self and of the body, cycle of nature.

Relationship with teachers. Inside the class, and outside the class, interacting with teachers.

Unit VI

Complimentary nature of skills and values. Distinction between information & knowledge

Goals: Short term goals and long term goals; How to set goals; How to handle responsibilities which have to be fulfilled while working for goals.

Reference Books

1. Ramancharla Pradeep Kumar. Compiled Reading Material IIIT Hyderabad
2. Dr. S. Ignacimuthu S. J.,Values for life, Better yourself Books, Bandra Mumbai- 600 050 (1999).
3. Values (Collection of Essays)., Published by : Sri Ramakrishna Math., Chennai—(1996)
4. Prof. R.P.Dhokalia., Eternal Human ValuesNCRT –Campus Sri Aurobindo Marg., New Delhi
5. Swami Vivekananda.,Education., Sri Ramakrishna Math., Chennai-4(1957)

SEMESTER III

PL17B3.1C : SITE PLANNING & BUILT ENVIRONMENT

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
PL17 B2.1C	12	12	100	100	200	S/J

Case study: Detail case study of a residence, study of variousrooms (living, dining, kitchen, bedroom, toilets etc) including furniture and generating measured drawings of the same.

Climatology: Introduction to effects of micro and macro climates on built forms, orientation, and ventilation, protection from excessive sun, rain, dust and insects. Students in groups of 3-4 shall study effects of climate on buildings, open spaces, vegetation and draft a report on protecting buildings from climatic variations of a local campus.

Site Appraisal and Analysis: Site analysis and user analysis including environment and quality of life. Inventory of existing features of a selected site (minimum 10 acres) understanding contours. Cut and fill vs geomorphic approach to site development, principles of geomorphic layout, types of soils, slopes, natural drainage pattern, types vegetation and their implications on the development of the site. Students in groups of 3-4 have to survey a selected site and study the natural features. The study shall relate to layout level regulation modules of GRIHA, LEED and HMDA Guidelines on Environment and National Building Codes

Expected outcome:

Site appraisal and analysis of a existing project - site appraisal and analysis sheets are to be prepared.

Site plans need to assessed based on LEED, GRIHA layout stipulations/ building regulations and submitted in the form of report

Landscape aspects in Site Planning:Study of development as a response to constraints and opportunities offered by the site, grading in relation to existing contours, plinth levels, road alignment and storm water drainage. Role of landscape, its environmental benefits, functional requirements, aesthetic considerations, and principles of organizing outdoor spaces need to be emphasized. Community layouts containing 20-30 houses have to be analyzed.

Site planning:

One Minor studio exercise emphasizing on relationship between built form and outdoor areas and site planning issues for any one of the areas such as institutional campus plans, residential layouts or IT parks layouts. Exercise on understanding and modifying land form Examples- Surface Parking Plan, Road layouts (grading and alignment) layouts of small communities etc;

The distribution of marks in the studio subject may be as follows:

40% for individual assignment

60% for group work

References:

R Gene Brook: Site planning, environment, process and development TSS, NBC

Kevin Lynch: Site Planning

Premier on Problem Seeking

Michael Laurie: An introduction to landscape architecture

Tom Turner: Landscape Planning

S. K. Bhattarcharjee: Landscape Gardening & Design with Plants

Landscape and Land use Planning by lovJoy

PL17B3.2C : TRAFFIC & TRANSPORTATION PLANNING

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
Nil	4	4	50	50	100	W

UNIT I

Transport and Road Development

Transport systems and their types, urban road hierarchy, Characteristics and role of various forms of transport, Historical perspective of road development in India;

criteria for road and junction improvements, arterial improvement techniques, Economic, political and social significance and transport development, Transport policies and programmes in India before and after independence, Scope and content of Nagpur, Mumbai and Lucknow road development plans; Schemes for Road development in Urban and rural areas and industries, Road development Plan by Indian Roads Congress 2021.

UNIT II

Regional Transport Systems

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

UNIT III

Surveys and Studies

Demand and supply surveys and studies; traffic volume count, traffic density, traffic flow, Origin-Destination, Speed and delay, parking and accidents surveys ,parking supply and demand, provision and layout of on street and off street parking – their need, design of proforma, methods of conducting surveys, analysis and interpretation, traffic regulatory measures for parking, pedestrian volume studies, pedestrian facilities, accidents surveys.

UNIT IV

Urban Transportation planning Process (UTPS or 4 Stage modeling)

Introduction to transport planning process; trip generation, trip distribution, modal split, trip assignment, land use transportation models. Existing organizational and legal framework, urban transport policy planning; transport planning in developing countries.

UNIT V

Geometric Design and Road design

Components of geometric design – Horizontal and vertical alignment, sight distance, cross section, alignment check lateral and vertical clearance, control of axis, design guidelines for transport infrastructure

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

UNIT VI

Urbanization Transport Problemand Traffic Management

Traffic characteristics and problems at National, regional and urban level; Public and Intermediate Transport systems-Rationale, criteria, choices. Objectives, principles and approach for traffic management; traffic signs and signals; type's signs, signs standards, location and maintenance; traffic

signals- types, advantages and disadvantages. Review of the existing traffic management schemes in case cities

UNIT VII

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,

traffic and environmental management techniques; transport planning for target groups children adults, handicapped and women, norms and guidelines for highway landscape; street lighting types, standards and design considerations.

UNIT VIII

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, National urban transport policies (2006, 2014), Transport policies in developing countries.

Expected Outputs & Assignment

The internal assessment to be in the form of term papers/tests and presentations on above mentioned aspects focusing on their applications to current planning issues.

References:

Khanna& Justo: Highway Engineering

L.R. Kadiyali: Traffic and Transportation Planning Vazirani and Chandola Transportation Engineering, New Delhi

Road Development Plan of India 2021 – Indian Road Congress

GV Rao: Principles of Transportation and Highway Engineering

VS Mahajan: Transport Planning, Policy and development

John W. Dickey: Metropolitan Transportation Planning, Tat McGrawhill Publishing Company Ltd.

S. K. Roy: Transportation Planning for developing Countries, Prentice – Hat India, New Delhi.

Hutchison .B.G: Principles of Urban Transport Systems Planning, McGraw Hill Book Company

Bruton M.J: Introduction to Transportation Planning, Hutchison & Company London

PL17B3.3C : PLANNING TECHNIQUES

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
Nil	4	4	50	50	100	W

UNIT I

Spatial Standards

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

UNIT II

Demographic Analysis

Sources 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; martial status, cast region,

literacy level, etc; life table techniques; techniques in preparing life tables, abridged; basic cohorts survival model, inter regional cohorts survival model.

UNIT III

Population projection

Simplex population forecasting models – The linear model, Exponential curves, modified exponential, Gompertz growth curve, comparative method and ratio method. Composition population forecasting models – the cohort survival model, Migration model.

UNIT IV

Regional Survey

Techniques for conducting regional surveys; data requirements for various types of regional plans; direct level plans, metropolitan region plans, backward regions, resource regions etc; regional delineation techniques, rationalization cluster and factor analysis, input output techniques.

UNIT V

Economic Analysis

Multipliers, Input Output Analysis, Brief introduction to projection techniques like ratio and econometric methods, Analysis of labour force; sectoral shifts and employment.

UNIT VI

Spatial Analysis

Comparative analysis techniques – Specialization, Concentration and Independence Systems approach to planning, Understanding structure of urban areas density patterns, locational decisions forces of concentration, and dispersal association Gini coefficients and Lorenz curves, Spatial distribution analysis using cartography techniques, Rent and Gradient models, Location equilibrium of the firm transport and labour orientation, Market and supply area analysis and thresholds. Pure gravity models, Reilly's law and mapping of trade areas constrained and unconstrained gravity model methods for parameter estimation.

UNIT VII

Plan Preparation Techniques

Methods of identifying urban and regional problems, Setting of goals, objectives priorities. 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 redevelopment.

Expected Outputs& Assignment

The internal assessment to be in the form of term papers and tutorials on above mentioned aspects. Students shall take up any one example area at any level and apply above analysis techniques.

References:

Martin Cadwallader: Analytical urban Geography

Lewis Keble: Principles and Practice of Town and Country Planning

Peter Hall: Urban and Regional Planning

Leslie J King: City, Space and Behaviour, the elements of Urban Geography

C. Lee: Models in Planning

A. G. Wilson: Urban and Regional Models in Geography and Planning.

PL17B3.4C:HOUSING & COMMUNITY PLANNING

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
Nil	2	2	50	50	100	W

UNIT I

Introduction

Significance of housing in National Development Goals; Equity and efficiency parameters of housing; current issues in housing.Housing as a Basic Human Necessity and a major land use component and integral sector of urban and regional development.

UNIT II

Assessing Housing

Existing Housing Statistics; definitions; urban and rural housing statistics; introduction to concepts of Housing Shortage, Housing Need, quantitative and qualitative aspects of housing; Housing Demand – Understanding current methods of demand assessment; knowledge of data sources and their use and interpretation; census, NSSO and other data; Limitations of existing methods of assessments.

UNIT III

Housing Development Process

Understanding of factors affecting residential location, theoretical knowledge of ecological, neo-classical, institutional approach to housing; Housing subsystems and their characteristics; formal and non-formal housing; Process of Public and private sector housing development process; policy context, actors and their interrelationships; Inner city housing, Slums, Squatter housing, Unauthorized Housing; Role of different institutions in housing; International agencies, NGOs, State, Financing Organizations, Private developers, Cooperatives.

UNIT IV

Housing Standards and Design

Factors determining residential densities; Densities, costs and development control regulations; Housing design parameters and their relationship to costs; Housing design and climate; Housing for disaster prone areas.

UNIT V

Housing Policy Analysis

Understanding and evaluation of Housing Policy and programmes in India; five year plans, Central government policy; Policy frame work for urban and rural housing; Comparative policy analysis; Housing for the low income groups; Co-operative housing, objectives and principles; management and financing of housing projects; investment in housing in public and private sectors.

UNIT VI

Housing typologies in various contexts

Brief review of the historical development of housing typologies in various contexts the pre urban house, Transient dwellings, Temporary dwellings, Semi permanent and permanent dwellings, the oriental urban house. (Mesopotamia, The Indus., Egypt, China, The Greek and the Romans).

Evolution of housing the urban house history of modern housing typologies. (The age of the Renaissance, The industrial revolution, Current practices various design approaches].

Expected Outputs& Assignment

Apart from tests and assignments each student shall present a written paper and a seminar at the end of the semester for internal assessment on a topic to be finalized in consultation with the concerned faculty. This shall be based on extensive literature reviews, site visits (wherever possible) and interviews with experts.

The distribution of marks for the subject may be as follows:

40% for individual assignment/tests

60% for written paper and seminar

PL17B3.5C : CAD APPLICATIONS IN PLANNING

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
Nil	6	6	100	100	200	P

UNIT I

Starting AutoCAD

Introduction to the menu, starting drawings from scratch, Creating and using templates starting drawings with setup wizards. Saving and closing a file.

UNIT II

Using co ordinate system

The UCS, Working with Cartesian and polar co ordinate systems, using displays with key shortcuts.

UNIT III

Setting up the drawing environment

Setting the paper size, Setting units, Setting grid limits, drawing limits, Snap controls, Use of paper space and model space.

UNIT IV

Basic 2d drawing and editing commands

Basic commands dealing with drawing properties, Layer control, change properties, line weight control, etc.

Inquiry methods

Using database information for objects, calculating distance and angle, areas.

UNIT V

Blocks

Creating and working with blocks, creating symbols, use of blocks in creating a layout of a residential area one exercise to be done as lab assignment.

2D & 3D conversion, perspective view, walk through of layout.

UNIT VI

Digital cartography

Use of AutoCAD Map in creating and editing maps.Scanning the primary source/ map, importing / scanned maps/ images / drawings into AutoCAD, digitizing / vector sing and editing, creating a layout / map and printing one exercise to be done as lab assignment.

Expected Outputs& Assignment

Students shall prepare a basemap using CAD for any given area. Practicals shall be conducted from time to time for internal assessment.

References :

- Mastering Auto CAD-2011 and Auto CAD LT 2011.
  Auto Desk official training guide.
  -Wiley publishing Inc.
  By George Omura.
- Learning Auto CAD-2010
  Auto desk official training guide

PL17B3.6C : COMMUNICATION SKILLS FOR PLANNING

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
Nil	2	2	100	0	100	-

UNIT I Effective Written Skills

Types & classification of reports, difference between technical, scientific, legal and other types of communication; Format and elements of reports, structuring of preamble, contents, chapterization bibliography, footnotes, appendices and references.

Technical Writing:

(a) Business Letters, Format of Business letters and Business letter writing

(b) E-mail writing

(c) Reports, Types of Reports and Format of Formal Reports

(d) Press Report Writing

UNIT II Formal Letters & Specifications

Business and official letters, styles and format, requests for specifications and other types of business enquirer, conduct of meetings responsibilities of the chairman and secretaries; agendas and minutes of meeting official records.

UNIT III Literature Survey

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

UNIT VI Use of Multimedia in Communication

Computer adaptive presentations slide shows, using the overhead projector, etc. Style and format for the presentation of the seminar papers, technical reports, and dissertations.

Expected Outputs& Assignment

Each student shall present a written paper and a seminar at the end of the semester for final assessment on a topic to be finalized in consultation with the concerned faculty. Internal assessment to be in the form of book reviews, exercises in writing comprehensions and group discussions on any relevant topics.

References:

Roach Peter. English Phonetics and Phonology.

A.S. Hornby's. Oxford Advanced Learners Dictionary of Current English, 7th Edition

Prasad, P. The Functional Aspects of Communication Skills, Delhi.

Sen, Leena. Communication Skills, Prentice Hall of India, New Delhi.

SEMESTER IV

PL17B4.1C : NEIGHBOURHOOD & AREA PLANNING

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
PL17 B3.1C	8	8	100	100	200	J

The course is oriented towards study of a neighborhood involving location, salient features, spatial characteristics, facilities and amenities, road circulation patterns, spatial and non-spatial linkages to surrounding areas, Comparison with standards, building byelaws, Zoning regulations and NBC codes also shall be undertaken to understand implications of byelaws and regulations.

Surveys: Students in groups shall study about techniques of conducting surveys for land use, building use, land utilization and physical features of the land. Also Questionnaire design, sampling techniques and types of socio economic surveys need to be studied. Survey of a locality consists of

a. Identify the area/locality on map of city, study the area for its relation to surrounding land uses

b. Prepare broad based questionnaire under heads of Land use type, building condition, aesthetics, socio economic character and infrastructure etc ; Also identify sample unit and type to be used

c. Field visit to study land use types, activities, boundaries of the area, circulation, open spaces, drainage, building types, water requirement, and sanitation

d. Identify problem areas in physical, visual and environmental areas

e. Prepare land use and other maps

f. Compile socio economic data, identify planning issues, problems and potentials of the area

Expected outcome: Presentation of data and a report with all case study details and survey results to be submitted

Techniques of Presenting and Analysing Data:Land use classification, coding and analysis; residential and non residential density patterns and analysis, tabulation of data;

Expected outcome: Group presentations on Analysis of data

Role of Landscape Planning: Landscape elements like plant materials, surface materials, outdoor fittings and structures; Role of vegetation, Environmental benefits, functional requirements, aesthetic consideration; typical situations and criteria for design with plants and selection of species in planning.

Expected outcome: Presentation on uses of landscape for functional, aesthetic purposes, Street/roadside planting and Principles of organization of outdoor spaces

Group Housing Design: Students shall plan individually a residential housing layout for a selected site, accommodating at least 5000 people. Students also have to plan and prepare alternate layouts for different residential densities and their variations, typology of housing (row housing, Cluster housing, Apartments, low rise vs high rise, incremental housing, neighborhood unit etc)taking into account building bylaws, zoning regulations GRIHA, LEED rating etc. The proposals shall address issues of Sustainability, environment, and infrastructure.

Expected outcome:

Site layout alternates, site sections showing contour differences and block heights, circulation, patterns, basic infrastructure, block level layout, working drawings of layout, a block model of the layout in selected medium.

- The distribution of marks in the studio subject may be as follows:

  40% for individual assignment

  60% for group work

PL17B4.2C : PLANNING PRINCIPLES

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
Nil	4	4	50	50	100	W

UNIT I

Introduction

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

UNIT II

Planning Elements and Dimensions: The concept of scale, element of settlement planning space form and structure, the technological aspects of form through the ages. Concepts of time as dimensions of the built form; concept of space and scale as followed through different cultures; the elements of the town, the house, the street, the chowk; social and cultural criteria of location of towns and activities within it.

UNIT IV

The Meaning of Planning

Definitions, planning as a hierarchical process, systems concept, systematic planning, planning as a problem solving process, philosophy and purpose of planning, justification of planning, normative planning, positive planning and ameliorative planning, ecological 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 V

Physical Planning

Origin of physical planning; 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 to economic and social development, planning in transition; dimensions of change, future directions. Process of Planning: Definition and meaning of values, norms, goals and objectives; methodology of goal formulation; development plans; structure plans, local plans, district plans, action area plans, public participation, people and plans; regional planning.

UNIT VI

The Modern City

Technological advances and their effect on the town; utopian thinking and movements about urban improvement and planning; the concept of neighborhood planning; planning concept and city structure in typical new town design, foreign examples; planning concept of Chandigarh. Synthesis: The concept of ring towns and satellite towns; Delhi Master Plan and the concept of NCR, disorientation of contemporary towns from their cultural context.

UNIT VII

Planning Practice in India

Town planning schemes, comprehensive development plans for towns and cities, regional plans, metropolitan planning and metropolitan region development plans; scope and content of planning practice today; role of central, state and local governments in urban and regional planning and development; evolution of local governments, development authorities and other planning and development agencies and their role in planning and planning administration.

UNIT VIII

Rationale of Land Use Planning: Concepts of land, location attributes and land uses, determinants of land use and relationship to the Planning Process, Approach to land use planning. Land use and transportation planning. Transport Network classification and standards, elements, etc., planning principles, land use planning information system,

Activity systems and choice of space qualities; Systems approach and physical planning.Plan Preparation and Implementation Agencies: Central, state and local government agencies; management structures of agencies; development control; regulations; importance of town and country planning acts in India.

Expected Outcomes & Assignment

Students in-group shall carry out documentation of model cities based on above

concepts and may culminate as seminar on the same. The internal assessment to be in the form of term papers and presentations on above mentioned aspects of physical planning.Internal assessment also to be in the form of tutorials on theories mentioned.

PL17B4.3C : INFRASTRUCTURE PLANNING

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
Nil	4	4	50	50	100	W

UNIT I

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.

UNIT II

Planning for Physical Infrastructure

Basic need approach, Planning standards, spatial standards,

Water Supply System

Various sources of water supply, water requirement for different land uses, factors affecting water demand, per capita requirement and its relationship with population sizes, variation of water consumption, Planning of water supply system, organizations and their jurisdictions, basic design guideline and layout of water supply distribution system; Financing water supply system, public and private partnership of providing water; Legal aspects and government policy for urban and rural water supply.

Sanitation and Sewer System

Methods of sanitations, on site and off site sanitation, low cost appropriate technologies for sanitation.

Quantity of sewage, standards for Indian cities; Sanitary sewer system, network and layout, data needs and procedure of planning; and septic tanks. Sewage disposal methods and their advantages and disadvantages, location criteria and capacity.

Storm Water System

Significance of interpretation and presentation of rain fall data; Surface water run off, hydrograph, method for estimating run off, unit hydrograph and its application, definition of watershed; flood frequencies, flood protection measures in urban areas.

Layout and design of storm water system; general considerations, inlets, self-cleaning velocity, non scouring velocity, physical layout-design principles, data requirement

Solid Waste Management

Solid waste management for Indian cities, issues and data base, Methods of solid waste management, collection and transportation, disposal of solid waste; Land filling and composting, pre and post treatment - Area requirements, location and cost aspects of different methods of solid waste disposal systems; Community participation and NGOs, involvement in solid waster management.

UNIT III

Planning for Social Infrastructure

Basic need approach, Health, Education, Religion, Recreation, Cultural, planning for fire protection Planning standards, spatial standards, Hierarchy of provision different types of units and scales, critical issues in public and private development, ownership, management and maintenance of the same, UIDSSMT.

UNIT IV

Other aspects of Urban Infrastructure

Integrated Infrastructure Planning, socio-cultural aspects, Decentralization, community participation in the delivery of services and networks, problems of operation and maintenance; Environmental issues related to quality and level of network and services, impacts of choice of technology, system design, costs benefits to the urban community, Effects of land use and density, City Development Strategy.

UNIT V

Infrastructure and Regional Development

Telecommunication, cable T.V., Wireless communications, digital communications Internet and intranet, regional poverty and basic needs; regional infrastructure network systems, Physical (roads, irrigation system, water supply, sanitation, drainage, watershed management, fire services, telecommunication, energy, electricity, solid waste disposal etc), Social (Health and education) & Economics (banking, marketing and public distribution systems), Environmental, social and economic impacts of infrastructure network system, Role of District Planning Committee, Case Studies in District and Regional Planning.

Expected Outcomes & Assignment

The internal assessment to be in the form of term papers and presentations on above mentioned aspects. The class and assignment work to be supplemented with appropriate site visits.

References:

Arora K.R: Irrigation, Water Power and water Resource Engineering, Standard Publishers distributors, New Delhi

Gurcharansingh: Water supply and Sanitary Engineering-, Standard Publishers, Distributors, New Delhi.

AK. Chaterjee: Water Supply, Waste Disposal and Environmental Poll. Engineering – Khanna publishers

Garge S.K: Hydrology and Water Resource Engineering, Standard Publishers

G.S. Birdie: Water supply and Sanitary Engineering

Reports and research studies by HSMI

Reader volumes by ITPI

PL17B4.4C : PLANNING FOR INFORMAL SECTOR

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
Nil	2	2	50	50	100	W

UNIT I

Informality and Poverty

Characteristics of informal economic activities, other types of informality; informal sector vis-à-vis poverty;Dimensions of urban poverty, magnitude of problem, urban poverty alleviation programs; impact of macro economic structural adjustment policies on poor urban households.

UNIT II

Informality in the commercial sector

Formal and informal economy at the local scale; types and categories of informal sector service providers; advantages and disadvantages in the Indian context; statistics related to employment and turnover of informal sector market; examples of integration between formal and informal sector market entities; dependency factors of local economy on formal sector.

UNIT III

Slums

Slums – definitions, legislation, dimensions, causative factors, determinants, location characteristics ofsettlements; Informal sector- growth, characteristics, functions, linkages with formal sector.

UNIT IV

Basic Needs and Alternative Approaches for delivery of Basic Services to the Urban Poor

Development of the concept of basic needs; identification of basic needs and their provision for various target groups and informal sectors; standards for basic needs, NGOs and voluntary organizations associated with provision of basic needs, Alternative Approaches for Delivery of Basic Services to the Urban Poor-

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

UNIT V

Migratory Impulses and Impact on/of Informal Sector

Development of informal sector concept, Characteristics of migrants and their association with growth of informal sector; socio-economic deprivation and informal sector; role of informal sector in housing stock, economy, commercial activities, impact on Urban Development; implications in physical planning.

UNIT VI

Consequences of spontaneous Growth

Study of major aspects; spontaneous living and working, their characteristics and functions in urban context, consequences of spontaneous growth on various aspects of urban planning and management (land use, development control, densities, water supply, drainage, sanitation, traffic, etc).

UNIT VII

Management of Informal Sector - Case Studies

Actions for improvement, appraisal of the role of 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.

UNIT VIII

Inclusive Urban Planning

Definitions and Components, Stakeholders- their role, Planning interventions- Inclusive zoning, development and building regulations, slum development, Plans, Policies and Programmes, Legislation- Related Acts, Five year plans, policies and programmes at various levels. The RAY program and the AP MEPMA - Guidelines, standards, processes and progress in 'Slum Free City Planning'.

Expected Outputs& Assignment

The internal assessment to be in the form of term papers, tests and presentations on above mentioned aspects of physical planning.

References:

Ravinder Singh: Sustainable Human Settlements – The Asian Experiences, SandhuRawat publication

Penelope J. Brooke: Infrastructure for poor people – Public policy for private Participation

UN- Habitat, The challenge of slums, London, Earthscan, 2003

Jain, A.K., Inclusive planning and social infrastructure , New Delhi, Wiley Eastern, 2010

Housing and Urban Development Corporation, HUDCO 2001 and housing the

urban poor of India

M.S. Ramanujam Employment promotion on the Urban Informal Sector - New age international publishers

SatishTiwari: Urban Development, Anmol Publications, and New Delhi

Amitabh Kundu: On the name of Urban poor – Access to Basic Amenities, Sage Publications.

PL17B4.5C : RURAL DEVELOPMENT

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
Nil	4	4	50	50	100	W

UNIT I

Introduction

Village as an organic entity; physical, social and economic structure of village; village problems related 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 II

Village Planning: Concepts and Institutional Framework

Trans-humane, accessibility of villages, inter village communication, delivery of social services, improvement of rural sanitation, hygiene and drainage

UNIT III

Roots of Rural Development in India

Rural reconstruction and Sarvodayaprogramme before independence; Impact of voluntary effort and Sarvodaya Movement on rural development; Constitutional direction, directive principles; Panchayati Raj – beginning of planning and community development; National extension services.

UNIT IV

Post Independence rural Development

Balwant Raj Mehta Committee – three tier system of rural local Government; Need and scope for people's participation and Panchayati Raj; Ashok Mehta Committee – linkage between Panchayati Raj, participation and rural development.

UNIT V

Rural Planning in Relation to National and Regional PoliciesNorms, principle and strategies for rural development; Five year Plans and Rural development, Planning process at National, State, Regional and District levels; afforestation, soil

conservation and wild life preservation; planning for sustainable agriculture; rural development programs.

UNIT VI

Resources Planning Development and Management

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

UNIT VII

Community Development and Participation

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

UNIT VIII

Post 73rd Amendment Scenario

73rd Constitution (Amendment) Act – XI schedule, devolution of powers, functions and finance, Panchayati Raj institutions – organizational linkages; Recent charges in rural local planning; Gram Sabha – revitalized Panchayati Raj Institutionalization; resource mapping, resource mobilization including social mobilization; Information Technology and rural planning; Need for further amendments-PURA Concept.

Expected Outputs& Assignment

Internal assessment is based on seminar presentation by individual students on a selected topic. This shall be based on extensive literature reviews, site visits (wherever possible) and interviews with experts.

The distribution of marks for the subject may be as follows:

40% for individual assignment/tests

60% for written paper and seminar

References:

SatishTiwan: Rural Development

Ashok Kumar: New Approaches is Rural Development

D. Robins, W Tansly& K G Wills: Rural Resources Development

Vivender Singh K: Socio – Economic Planning for Rural Development

PL17B4.6C : GEOGRAPHICAL INFORMATION SYSTEMS

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
Nil	5	5	100	100	200	P/J

Unit 1 : Introducing to GIS

Definition ,concepts, components and their functions ,input and output elements, data types , vector and raster data structures, spatial data creation, linking of attribute data.

Unit 2 : GIS based Master plan preparation

Government Initiatives: National Urban Information System (NUIS), Atal Mission for Rejuvenation and Urban Transformation (AMRUT), Study of Design and Standards , Smart city Mission , Urban and Regional Development Plan Formulation and Implementation (URDPFI) guidelines , BHUVAN services, e-governance mechanism and applications.

Geo-spatial Data Base Creation : Demarcation of planning and mapping area, data generation through primary , secondary and GPS/DGPS Survey, data analysis, value addition , quality check and vetting , etc.

Base Map Generation : Urban base map creation using National Design and Standards. Formulation of master plan of cities as per State Town and Country Planning Act which includes attribute collection, vetting of maps primary and secondary survey , sector-wise data analysis ,demand assessment , identification of issues , development strategies ,etc.

Unit 3: Urban Development and Management

RS and GIS in spatial planning : Urban sprawl and urban growth , modeling of urban growth, land use change analysis , space use survey , identification of squatters and assessment.

RS and GIS in infrastructure planning: Municipal GIS and its applications in infrastructure and utility mapping , solid waste management.

RS and GIS in Disaster Management: Applications of GIS in pre-disaster planning, prevention and preparedness (environmental sensitivity analysis, vulnerability analysis ,urban hazard Mapping , seismic risk assessment , flood zoning assessment, etc.,), post disaster damage assessment , early warning systems .

Unit 4: Applications of GIS and Remote sensing in housing

Detialed understanding of flag-ship programs like pradhan manthri awas yojana urban(PMAY-U), slum free city plan if action(SFCPoA), Rajiv Awas Yojana(RAY), Indra Awas Yojana(IAY) and Real Estate Regulatory Act(RERA), Swatch Bharat,Hriday etc.

Expected Outputs& Assignment

Satellite data interpretation, Interpretation of Survey of India toposheets of the district Theme wise map preparation through satellite data, from toposheets, Identification of secondary data, Mapping of other developed/ undeveloped villages in district, Identification of resource utilization and future scenario. Students shall also have to undertake a Group Project in GIS emphasizing on applications in various sectors such as Watershed Management, District Development Plan, Urban Sustenance Decision Support System, Environmental Monitoring and Urbanization Process A case study of A.P. State.

References:

Roger Tomlinson: Thinking about GIS; Stephen Wise: GIS Basics

Tor Bernhardsen: Geographic Information Systems (An Introduction)

Keith C. Clarke: Getting Started with Geographic Information Systems

MapInfo Corp., Troy, New York, MapInfo Professional

MapInfo Corp., Troy, New York, MapInfo Professional (Users Guide)

Keith C. Clarke, Bradley O Parks, and Michael P Crane, Geographic Information Systems & Environmental Modeling: Andy Mitchell, the ESRI Guide to GIS Analysis

Bob Booth: Getting Started with Arc Info – GIS by ESRI

Bruce Ellsworth Davis, Bruce Davis: GIS_ A Visual Approach

David Martin: Geographic Information Systems (Socio Economic Applications)

Open Elective - 1

Note: Subjects can be chosen across the Departments of the university. The subject lists will be available with the Departments from where the students can choose the Elective.

SEMESTER- V

PL17B5.1C : RURAL AREA PLANNING STUDIO

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
PL17 B4.1C	7	7	100	100	200	S/J

Survey: The academic objective of this exercise is to get a firsthand experience about the lifestyle of the rural people. The students are required to undertake the study of a cluster of village ora village with a population of around 10,000s and conduct a detailed primary survey. The villages selected should be outside the zone of influence of any metropolis. The primary survey is also expected to give them an exposure to research methodology and techniques of data collection. The students will have to visit and stay at the villages for a few days to conduct the survey. Primary survey shall be conducted for adequate households for detailed study. As part of the secondary survey, the Provision of Urban Amenities in Rural Areas (PURA) Regulations, a PPP Scheme of the Ministry of Rural Development (Govt. of India) under the XII Five Year Plan are also required to be studied. Village level information shall be collected from the Panchayat Office, Census handbook and other secondary sources.

Expected outcome: Detail primary survey and secondary survey results and questionnaire format along with a report.

Analysis: The students are required to study various issues like demography, employment and asset structure, agriculture and allied activities, social and cultural issues, livelihood patterns, community development and participation, institutions, government programmes, village level amenities and linkage, energy utilization pattern, resource profile and natural resources planning; and recent changes and development in the villages and the surrounding areas.

Expected outcome: SWOT analysis of available resources and funds.

Plan preparation: The output of the studio exercise shall be in the form of preparation of a strategy plan for the overall short and long-term development of the village.

Expected outcome:

Strategy plan report along with maps, plans, photographs and charts.

- The distribution of marks in the studio subject may be as follows:

  40% for individual assignment

  60% for group work

PL17B5.2C : URBAN DESIGN AND CONSERVATION

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
Nil	4	4	50	50	100	W

UNIT I

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 II

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, skyline, etc; urban transportation.

UNIT III

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 IV

UrbanLandscape

Characteristics and components of open space, patterns in towns and cities (traditional and contemporary) basic types: streets, squares, ghats and maidan, plazas, different concepts of gardens with examples, hierarchy of open spaces at various planning level, public parks at district, local and neighbourhood levels; national parks, landscape design related to land use, circulation networks and activity; street furniture and vegetation as a component of urban landscape.

UNIT V

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 techniques of urban conservation.

UNIT VI

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.

Expected Outputs& Assignment

The internal assessment to be in the form of term papers and presentations on above mentioned aspects of physical planning. Students shall carry out documentation of any significant area emphasizing on its urban design and heritage conservation aspects.

References:

Edmond Beckons: Design of cities

Rob Krier: Urban space

Kevin Lynch: Image of City

Geoffery Broadbent: Emerging Concepts in Urban Space Design

Planning for Conservation

Bernard Fielden: Technical Manual for Conservation of Buildings

A.K. Singh: Origin and Growth of Town

PL17B5.3C : PLANNING & MANAGEMENT FOR DISASTERS

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
Nil	2	2	50	50	100	W

UNIT I

Basic concepts, classification and definitions

Hazard, Risk, Vulnerability, Disaster and Disaster Management. Types of disasters; Hazard and vulnerability profile of India.

UNIT II

Disaster Risk, Vulnerability and Capacity Assessment (concepts and methodology)

Relevance of Disaster Risk, Vulnerability & Capacity Assessment in Planning, Concept of Hazard Assessment, Vulnerability Assessment, Risk Assessment and Capacity Assessment, Hazard Identification and Analysis.

UNIT III

Disaster Management and Planning

Four elements of comprehensive disaster management (Preparedness, Response, Recovery and Mitigation), Concept of Mitigation and its importance (Structural and non-structural mitigation measures, identification of mitigation measures relating to different types of hazards and implementing strategies).Land-use Management tools for disaster risk reduction. (Building codes, GDCR, zoning ordinances, land acquisition, transfer of development rights, recovery and reconstruction plan).

UNIT IV

Introduction to various Hazard Safety Legislations

National Disaster Management Act, Various state Disaster Management Acts (Gujarat, Uttar Pradesh, Uttaranchal, Bihar) and state disaster management policies (eg: Orissa, Gujarat, Uttaranchal, Tamil Nadu, Delhi, Uttar Pradesh).

Relevance of Rehabilitation and Resettlement Policy in recovery and reconstruction phase of disaster management- planning process.

Coastal zoning regulation notification for construction and reconstruction phase in the coastal areas.

UNIT V

Understanding the role of various stakeholders and Community based Disaster Risk Management

Role of Government/Civil Society/ International Organizations/ Communities And Approaches to Community Based Disaster Risk Management and Planning. (Local coping mechanisms, Importance of mock drills and onsite volunteer management in Community level disaster preparedness activities).

Expected Outputs& Assignment

Students shall carry out case studies in groups from state and undertake (a). Zonal mapping highlighting the disaster prone/sensitive areas. (b) Indicate possibilities of integrating Disaster management and Development planning (c) Linking up of community development planning with community based disaster management. (d). Formulation of hazard Mitigation Plan/Disaster management plan, The internal assessment to be in the form of term papers and presentations on above mentioned aspects focusing on their applications.

References:

B K Prasad: Sustainable Rural Development for disaster mitigation

PL17B5.4C : DEVELOPMENT PLANNING

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
Nil	4	4	50	50	100	W

UNIT I

Introduction

Major concepts in political economy and types of economies capitalism, socialism, communism, etc.

UNIT II

Developed, Developing and Under Developed Economics

Concepts and definition of development.Indicators of development.Factors influencing development.Efficiency versus equality.Broad introduction to main stream, classical and market theories of development and under development. 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.

Regional disparities in development.Surplus generation of primary sector and its influence on development.Investment, public policy and development. Development as defined and implied in Indian planning and related development programmes. Development planning as distinct from other types of planning.

UNIT III

Classical Theories of Development

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

UNIT IV

Modern Theories of Development

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

UNIT V

Models of Development

Balanced vs. unbalanced dualistic approach in development; derived development; Lewis model; Harrod Domar model; Sean's model, etc; development models in Indian planning first to tenth five year plan; effectiveness of the models in Indian planning. Theories of development (Trickle down, Bottoms up) Settlements systems / secondary cities.Sectoral shifts- spatial implications of economic change.

UNIT VI

Issues in Growth and Development

Conditionsfor economic growth. 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, sectional priorities and development; structural reform and its impact on growth; financing five year plans. Introduction to Marxist theories of development.

UNIT VII

Regional Development Theories

Export base theory, Neo classical theory, Cumulative causative theory of Myrdal

Kaldor, Econometric model, Input output model, Multisector development planning model. Location theory agglomeration economics – transport sector -growth poles cities and regional growth.Overview of regional development in India through history.

UNIT VIII

Liberalization and Globalization

Aspects of structural adjustments in economic policies; impacts of free trade, foreign direct investment, capital flows, migration, technology transfer on socio-economic factors and development in the 'third world' (specially in India); concepts of global cities, hierarchy of networked global cities.

Expected Outcomes & Assignment

The internal assessment to be in the form of term papers and presentations on above mentioned aspects.

References:

S.L.Goel& S.S. Dhaliwal: Urban Development & Management

ShriBhagwanDahiya: Theoretical Foundations of Development Planning

PL17B5.5C : PLANNING WORKSHOP- I (TRAFFIC STUDIES)

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
Nil	3	3	100	100	200	J

This course is designed to expose students to hands - on, primary involvement with those typical problems/projects existing within a neighborhood/area level that require interaction with experts and implementing authorities/line departments in a focused way. The main objective of this course is to enhance learning through a combination of lectures, demonstrations and interactive practical exercise session on topics such as traffic junctions, rotary junctions, landscape developments, architectural & planning documentations, signage design within a neighborhood/ area level.

Following surveys related to Transportation aspects should be conducted: Traffic volume survey, speed and delay studies, parking studies, pedestrian studies, road geometrics and road components, rotaries and signalized intersections.

Preparation of area traffic circulation plan by studying the existing land use, existing circulation pattern, level of service and other criteria if any.

Expected outcome:

Students either in small groups or individually have to arrive at comprehensive traffic management plan/ traffic circulation plan for a selected locality and a detailed element level design and DPR

PL17B5.6C :PLANNING THEORY AND URBAN POLICY

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
Nil	4	4	50	50	100	W

PLANNING THEORY

Introductionto basicandtraditionaltheoreticalframeworksestablishingtherationaleof planningasa profession,theroleofplanners,andtheprocessofplanning.

UNIT I

Introduction to planning theory

Understanding the concept of theory in general; differentiating between theories of planning and theories in planning and theories about planning; significance of planning theory; definitions of planning and their critical evaluation; understanding a paradigm and its stages of development.

Understanding rationality in planning in general; introduction to categories of rationality and associated paradigms; introduction to synoptic, incremental, transactive, advocacy and radical theories of planning, relating them with purpose and process of planning; reasoning and its various forms in planning -space, place and location.

UNIT II

Process of planning: instrumentality and communicative

Instrumental rationality and its associated schools of planning processes; means-ends planning; systems theory of planning; the emergence of communicative rationality and its associated schools of planning processes; participatory planning and action planning; deductive and inductive methods; prescriptive vs inclusive planning

UNIT III

Theories of urban growth, sustainability

Forms of cities in the developed and developing world; compact cities, global cities, hierarchy in global cities; agglomerations of scale, economies of scale and urban agglomeration; location theories, concentric zone theory, bid rent theory, sector theory; cross border regions (CBRs).

Sustainable urban development – evolution of the concept, components and processes; weak and strong sustainability; millennium development goals; equity in planning; globalisation and cities; networked cities.

UNIT IV

Systems approach to planning and other alternatives

Understanding systems theory in general; main characteristics of Rational

Comprehensive Planning; components of systems based planning; understanding systematic change; key disadvantages with systems view of planning.

Introduction to alternative development paradigms; incremental planning and disjointed incrementalism; transactive planning and mixed scanning; main components and features of advocacy planning; ladders of citizens' participation and the art of muddling through; radical planning approaches – equity, socialmobilisation and social change.

UNIT V

Participatory planning

Public interest and its forms, history and significance of public participation; the role of market in planning; the hurdles in systems theory of planning; conditions of effective communication and discourse for planning; public participation and empowerment; fundamentals of communicative rationality in planning; models of communicative and collaborative planning.

UNIT VI

Uncertainty in planning; New Public Management (NPM) theories

Matrix of uncertainity; agreed goals and known tools; disagreed goals and unknown tools; leapfrogged decision making – premature programming and premature consensus; implications of uncertainity; risk reduction; role of planners.

Role of market in development; economic planning vs physical planning; models of NPM; efficiency and efficacy in planning, transparency, accountability, collaboration and innovation.

URBAN POLICY

UNIT VII

Introduction to urban policy analysis

Tools for issue and policy analysis and alternate models of decision making in urban management

The four overlapping fields of urban policy analysis: Political leadership; leaders and political cultures, elite theories, group theory and pluralism, neo-Marxist work, network analysis, coalition theory, NGOs and civil society. Theory of change, Adaptive leadership, negotiation and conflict resolution. Political decision making citizen preferences, participation, and policy options; populist spatial theories, budget snapshots, policy responsiveness bureaucratic process and service delivery - bureaucratic theories; incrementalism, dynamic bureau head, professionalism and reform, population and economic location; small firms, impacts of public policy

UNIT VIII

Policies, institutions and change

The relationship between capitalism, democracy, and civil society; effecting community change through leadership intervention- raising consciousness or

building support around an issue, implementing a program, or any initiative that requires the mobilization of multiple stakeholders, advocacy methods, leverage points, and resources for change.

The nature of power in its various forms (electoral power, issue framing, financial, citizen mobilization, public opinion) Case studies exploring how power and resources can be acquired, evaluated, mobilized, and deployed in the service of promoting a policy agenda, leverage points for achieving social change, the studies should promote familiarity with legislative processes, the budget cycle, the electoral arena, the regulatory system, public interest law, labor relations,procurement, and the various paths to influencing public opinion and decision makers. Comprehensive strategy for conducting a campaign for issue advocacy or political change.

Expected outcome:

Internal assessment should include at least one report on urban policy:

Students are required to complete a professional, applied research and analytical report written for a specific client, usually a policy maker or a non-profit organization manager and shall be presented as written paper and seminar.

- The distribution of marks in the studio subject may be as follows:

  40% for individual assignment/Test.

  60% for seminar and Written paper and seminar.

Reference;

Modern growth theory by DipankarDasgupa

George Chadwick, ASystem view of Planning

M.Fagance,Citizen participation in Planning

Andreas Faluda,Reader in Planning Theory

Andreas Faluda, Planning Theory

Lichfield,N,….,Evaluation Planning Porcess

Ed.ElizabathA.Strom&John H.Mollenkopf.The Urban Politics Reader

Ed.Devid.T.Beito and others ,tThe voluntary City: Markets Community and Urban Planning

PL17B5.xE : ELECTIVE 1 : I. REAL ESTATE DEVELOPMENT

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
Nil	4	3	50	50	100	-

UNIT I

Land

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 II

Development of Land and Real Property

Process, cost of development, source of finance, and financial calculation for real estate developer.

UNIT III

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 IV

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; Techniques of cost benefit analysis of urban development programme.

Case studies

Case studies of real estate development in public, private, partnership sectors, Real estate as facilitator of development; Development of real estate as a tool for controlling land and property prices; Transaction and renting of real estate, Lease deeds/ sale deeds, sale documents, registration; Mortgage and pledging.

Expected Outcomes & Assignment

The internal assessment to be in the form of term papers and presentations on above mentioned aspects.

References:

Irwin McGraw Hill: Urban Economics

Mill & Hamilton: Urban Economics

Evans: Urban Economics

B.L. Mathur: Economic Planning & Development Theory & Practice

R.L. Nelson: Real Estate & City Planning

PL17B5.xE : ELECTIVE 1 : II. AFFORDABLE HOUSING

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
Nil	3	3	50	50	100	-

UNIT I

Introduction to Affordable Housing

Urbanisation & housing shortage in India, Introduction and definition of "Affordable Housing" in India, difference between affordable and low income housing, income levels and housing affordability , Socio – economic implications of affordable housing, Demand drivers and supply constraints for affordable housing in India

Unit II

Policy framework & regulations for affordable housing & Government's Role in Affordable Housing

Central level & state level schemes, state sponsored initiatives, Government's role in determining what is "affordable", Advantages & disadvantages of government regulation in affordable housing, Review of affordable housing Programs of Government, Pros and cons of government-built affordable housing vs. privately developed multi-family housing. Discussion of government as developer (public housing), as facilitator, and as lender to public housing

Public approaches towards affordable housing globally - Strategies and policies, subsidies, incentives and administrative streamlining, planning support

Unit III

Role of PPP in Affordable Housing & Issues in development of affordable housing

Effective use of available Government land, Land Banking, FSI, Cross Subsidization, Redevelopment / Rehabilitation, housing finance companies, Lack of availability of land, lack of access to home finance, rising cost of construction, entry of private players in affordable housing segment – push & pull factors, institutional approach to affordable housing

Unit IV

Affordable housing - a case study

Project level discussion - how does an affordable housing development begin? Basic steps and feasibility analysis, beginning with finding land, developing a concept, through application for funds and identification of financial partners.

PL17B5.xE : ELECTIVE 1 : III. URBAN SANITATION

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
Nil	3	3	50	50	100	-

UNIT I

Urban Sanitation, Urban Sanitation Challenges, Status of urban sanitation in Indian Cities, Impacts of Poor Sanitation.

Unit II

Urban Sanitation Planning and Development, Guiding principles for better sanitation planning, City Sanitation Plans, National, State and City Level Support for Sanitation, NGO and CBO Roles in Service Delivery, Swatch Bharat Mission for Sanitation.

Unit III

Sanitation in Developing Cities, Sustainability Criteria for Urban Sanitation, Planning ofSustainable Sanitation for Cities, Sanitation and Sustainable Urban Development, Innovations in Sanitation Planning, Technology Options for Urban Sanitation in India.

Expected Outcomes & Assignment

The internal assessment to be in the form of term papers and presentations on above mentioned aspects. The class and assignment work to be supplemented with appropriate site visits.

References

Globalisation, Urban Reforms & Metropolitan Response: India, Darshini Mahadevia

Housing and Urbanisation: A Study of India, Cedric Pugh, SAGE Publications, 1990

Affordable Housing in the Urban Global South: Seeking Sustainable Solutions, Jan Bredenoord, Paul Van Lindert, Peer Smets.The Affordable Housing Reader edited by Rosie Tighe, Elizabeth Mueller

Open Elective - 2

Note: Subjects can be chosen across the Departments of the university. The subject lists will be available with the Departments from where the students can choose the Elective.

SEMESTER VI

PL17B6.1C: URBAN PLANNING STUDIO

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
PL17 B5.1C	8	8	100	100	200	S/J

The objective of this studio program is to expose the student to study and establish appropriate planning standards, techniques of population projection, Identification of the data to be collected and the sources thereof, organizing surveys and collecting socio economic, traffic and other data, Using selected computer software to analyze the data, Projecting the future with different scenarios and identification of Action Areas (i.e., specific problems related with housing, services, circulation, etc.).

The output of this studio exercise shall be the preparation of a Comprehensive Development Plan of a medium/small city and the proposals may include a focus on planning for tourism or energy conservation or heritage conservation, etc. The plan process to be evolved in terms of the following stages.

Understanding Legal Framework Review of legal framework (Urban Development Acts) Review of Development Plans, Identification of Urban Developmental Planning Issues Review of literature.

Selection of City for Plan Preparation Based on the geographical location, population size, Functional category, rate of growth four cities are to be identified and methodology for data collection is to be evolved.

A ten day visit to each of the cities by group of students visit the selected cities, prepare existing land use (broad), collect necessary secondary information, discuss/survey public about the problems, vision etc.

Plan preparation of a strategy plan for the overall short and long-term development of the village

Plan preparation: Two minor exercises in Population projections, City Sanitation Plan, CDM, Transportation plan or Environmental impacts of urbanization.Major exercise identifies Long-term and short term goals, Objectives identified and quantified within two time five year time frame.Converting actions into physical plan &Projectization of the plan proposals.

Expected outcome: A report along with base maps, survey results, physical planning proposals and recommendations has to be submitted at the end of the semester. Also students should present their work on sheets to the external jury.

The distribution of marks in the studio subject may be as follows:

40% for individual assignment

60% for group work

PL17B6.2C:REGIONAL PLANNING

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
Nil	4	3	50	50	100	W

UNIT I

Introduction

Definition, scope and content of Regional Planning, need for Regional planning and basis, concepts of spatial organization and region;

The nature of a region – functional regions and formal regions, regional specialization, development and growth of regions; regionalization - inter-regional trade and factor movements; settlements, pattern, hierarchy; rural and urban, role of cities in regional development.

UNIT II

Regional Economics

Individual location decisions, transfer costs, locational patterns, markets, existence, conditions and size, market locations and regional development – inter and intra regional economic analysis

UNIT III

Regional Analysis

Techniques of delineation of regions; centrographic analysis; input-output analysis – income and expenditure multipliers; inter and intra regional economic analysis - multivariate analysis of industrial groupings – principal components and factor analysis – sectoral shift analysis – rank size rule. Disparities – use of development indicators, composite development index

UNIT IV

Regions in India

Types of regions, methods and purpose of regionalization – Delineation of regions in India; Population growth, distribution, resource base, migration in India, causes; Urbanization, spatial variations – reasons, factors and implications in planning, IDSMT and metro regional approaches

UNIT V

Regional Growth Processes

Some approaches of Rostow, Hirschman, Myrdal, Concept of core and periphery, Growth centers, growth poles, service center and agropolitan district and their approaches in India and other countries; Spatial growth process, theories of Christaller, Losch – Rank size rule, primary spatial innovation, diffusion etc

UNIT VI

Regional Planning and Development

Regional development; balanced and unbalanced development; under development; models of regional development; regional planning processes; identification of plan objectives; collection, classification and analysis of data; norms and standards for regional planning; Planning Commision's Manual of Integrated District Planning, role of district planning committees (DPC) and metropolitan planning committees (MPC); settlement pattern, population and resource allocation/ distribution; infrastructure; environmental concerns and protection; alternative strategies; implementation and financing strategies.

Regional basis of decentralized and multi-level planning in India, National level, state level, district planning, block level planning.

UNIT VII

Case studies

Case studies of district plans in India (Kollam, Chandrapur, etc); Case studies of Damodar valley Corporation, National Capital Region, Narmada Command Area Development Plan, Mumbai Metropolitan Region Development Plan, etc.

UNIT VIII

Reducing disparities and optimizing resources

Disparities and imbalances in India and its impact; Sectoral basis- integrated rural energy planning, watershed management with respect to common property resources, community based resource management, traditional knowledge and institutional systems; Backward area development

References:

Mahesh Chand, Vinay Kumar Puri - Regional planning in India

PL17B6.3C:PROJECT FORMULATION, APPRAISAL & MANAGEMENT

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
Nil	4	3	50	50	100	W

UNIT I

Introduction to Project Formulation & Appraisal

The Concept of projects, Importance of project formulation, project identification and formulation, detailed project report, and feasibility studies; techniques of financial appraisal, pay back period, IRR, DCF, NPV, CBR. Project formulation; definition, objectives; Stages of project formulation their significance; input analysis, financial cost-benefit analysis, social-cost benefit analysis; Project appraisal and report.

UNIT II

Introduction to Project Management

Definitions and meanings; importance of project management, Reasons or shortfall in its performance, scientific management, life cycle of project.

UNIT III

Project Management

Planning and control, Human aspects, Development of project network, Critical path, PERT & CPM, Project organization, Contracting, Procurement and Recruitment budget and fund flow statement, stabilization and finish. Organization of project; matrix organization, task forces, project teams; monitor and control of project. Project Management Strategies: Tools and Techniques for project management, classical persuasive and non persuasive strategies and techniques. New techniques of management by objectives (MBO). Integrated reporting system, flow diagrams, bar, charts, milestone, charts, CPM and PERT, LOB. Techniques of monitoring of development works standard oriented costs control, turnkey system, vertical production method, inventory cost control techniques, and unified status, index techniques. Tecno economic analysis of the project

UNIT IV

Techniques of Project Appraisal

Technical/Financial/Organizational criteria, Appraisal Criteria (NPV/B/C. Ratio/ I.R.R. Financial Analysis Capital Costs, Financing plans, Operation costs, Projections of costs and revenues, Financial viability, Debt servicing, Tariff and revenues, Income and expenditure statements, Project balance sheets, Rate of returns. Social Cost Benefits Analysis Rationale for SCBA, UNIDO Approach.

Expected Outputs& Assignment

The internal assessment to be in the form of term papers and presentations on above mentioned aspects focusing on their applications to current projects related to physical planning.

References:

Dr. B.C. Punmia, K.K. Khadelwal: Laxmi Publications (P) Ltd: Project Planning and Control with PERT & CPML.S. Srinath: PERT and CPM Principles and Applications, Affiliated East-West Press Pvt. LTd.Dr. A.N. Sachithanandan: Reading Material on Project Formulation and Appraisal, Institute of Town Planners, India, New Delhi.

PL17B6.4C: PLANNING LEGISLATION

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
Nil	4	4	50	50	100	W

UNIT I

Concept of Law

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

UNIT II

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; Legislative competence of State & Central Government to enact town planning legislation; model town planning laws (Model Urban & Regional Planning Acts, Model Municipal Corporation Act, UDPFI, Model Municipal Law etc).

UNIT III

Laws, Acts and Regulations for Planning and Development

Introduction, scope and relevance of various laws and acts relevant to planning; Model Town and Country Planning Acts, Development Authorities Act, 73rd and 74th Constitution (Amendment) Acts (confirming legislation of various states, hurdles to implementation; Municipal Acts, Environmental and Pollution control Acts, Rent control legislation, housing co-operative related legislation, slum related legislation, legislation related to Conservation & Restoration, Repeal of Urban Land Ceiling Act (status in various states) etc., Case studies.

Objectives, contents, procedures for preparation and implementation of master plans, ILUPs, town planning schemes & Regional Plans; Concept of arbitration, betterment levy, development changes & Public Participation in statutory planning process, concept of alternatives to master plan, regulations, transfer of development rights, other legal tools.

UNIT IV

Land Acquisition Act

Introduction to Land Acquisition Act, 1984, Historical background, need, advantages, limitations; Relevance in today's context; Case studies highlighting nature of contention, parties in dispute and the decisions in specific planning dispute.

UNIT V

Organisations for plan Implementation

Special purpose bodies for plan implementation such urban/ metropolitan development authorities, improvements trusts, water and sewerage boards, housing boards, slum improvement/clearance boards, transport undertakings; regional development boards, implementation agencies at state & district level.

Expected Outcomes & Assignment

The internal assessment to be in the form of term papers,tests and presentations on above mentioned aspects.

References:

ITPI Reader Volume

UDPFI Guidelines

Master Plan Approach: Efficacy & Alternatives

PL17B6.5C: PLANNING WORKSHOP II (INFRASTRUCTURE STUDIES)

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
Nil	3	3	100	100	200	J

The course begins with a review of infrastructure systems, how they work, and the role of planners in the provision of these services. The course then discusses how infrastructure planning might be the best approach to managing growth, offering a potentially more effective means of directing the timing and intensity of development in a community.

For the purposes of the planning workshop, the following areas need to be covered:

1) Solid waste management

2) Domestic water supply

3) Sanitation and storm water drainage

4) Electrical services

5) Roads and circulation pattern

Benchmark service level parameters against standards, develop small proposals for improvement

This is individual exercise where each student will choose one city/town and look at all parameters for services like SWM, water supply, sanitation & storm water drainage, roads and compare against standards to analysis the shortfalls in service levels and finally suggest small proposals for improvements. During this study students document the best practices if any within the specified sectors in city/town selected. Exercise in this may be followed bySustainable Area Development Plan

Sustainable Area Development Plan

Students will be divided into small groups and each group will choose one infrastructure system to study all aspects of sustainability of that infrastructure system and come up with proposal/recommendations for making the area self sustainable.

Aspects of sustainability like sewerage treatment plan recycle and reuse of waste water, rain water harvesting, SWM (vermi composting, waste to energy, etc.), parking & predestination and electrical sub stations.

Expected outcome

Expected outcome: Students either in small groups or individually have to deal the above aspects and arrive at infrastructure planning proposals for the selected ares.

At least two studio exercises have to be dealt.

PL17B6.6C: ENVIRONMENTAL PLANNING AND MANAGEMENT

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
Nil	4	4	50	50	100	W

UNIT I

Human Population and the Environment

Population growth, variation among nations, Population explosion – Family Welfare Programme, Environment and human health, Human Rights, Value Education, HIV/ AIDS, Women and Child Welfare, Role of Information Technology in Environment and human health- Case Studies.

UNIT II

Resources Planningand Conservation

Definition of Resource, Resource characteristics –key factor links with the settlement systems at broader perspective; settlement dependencies on resources; Concepts, theories related to conservation & management of resources, resource conservation in settlement planning, concept of common pool resources & their management, Role of an individual in conservation of natural resources, Equitable use of resources for sustainable lifestyles. Data needs and type of analysis required to evolve ecological parameters for urban development.

UNIT III

Biodiversity Conservation and Management

Concept and definitions of Biodiversity - genetic, species and ecosystem diversity. Significance of systems diversity; Bio-geographical classification of India, Valuing biodiversity- consumptive use, productive use, social, ethical, aesthetic and option

values; Biodiversity at global, National and local levels, Significance of Urban Biodiversity in planning process, Hot-spots of biodiversity, Issues in Biodiversity management, Threats to biodiversity : habitat loss, poaching of wildlife, man-wildlife conflicts, Endangered and endemic species of India, JFM & biodiversity conservation in tribal areas, In-situ and Ex-situ conservation of biodiversity; Broad views of various national and international policies and instruments of biodiversity, Biodiversity Convention, Biodiversity Act etc.

UNIT IV

Environmental Policies and Awareness

Environment Protection Act, Air (Prevention and Control of Pollution) Act, Water (Prevention and control of Pollution) Act, Wildlife Protection Act, Forest Conservation Act, Issues involved in enforcement of environmental legislation, Public awareness. Global and national policies on environment; Conventions, treaties and protocols on environment, RAMSAR convention, Convention on Climate Change, Rio Earth Summit, Stockholm conference, Kyoto Protocol, etc; Environmental awareness and movements in India; Agencies involved in environment protection, Public participation, case studies.

UNIT V

Sustainable Development & Environmental Economics

Concept and principles of sustainability, Sustainability versus Development, Role of local knowledge systems in sustainable development; Issues in Sustainable Development, sustainable development in developed and developing nations, Gender and livelihood, Economic versus Environmental sustenance; concepts of environmental economics, environmental accounting, resource pricing, green house gases and implications on global trade etc.

UNIT VI

Environmental Impact studies

EIA – meaning, significance and framework; Methodologies – checklist, matrices, network and social cost-benefit analysis; sources and acquisition of environmental information; Environmental land use classification; Environment impact studies of development projects.

Field work- Visit to a local area to document environmental assets river/forest/ grassland/hill/mountain; Visit to a local polluted site-Urban/Rural/Industrial/ Agricultural; Study of common plants, insects, birds; Study of simple ecosystems-pond, river, hill slopes, etc.

PL17B6.7C: Seminar (Emerging Planning Contexts, Issues and Alternatives)

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
Nil	2	2	50	50	100	-

UNIT I:

Infrastructure

Public private partnerships, capacity building, integrated infrastructure, community participation, land acquisition, public distribution systems and solid waste managemen

UNIT II:

Transportation

Logistic hubs, CNG vehicles, trams, BRTS, MRTS, LRTS, MMTS, bus bays, road safety, transportation for target groups – children, adults, handicapped and women, pricing and funding of transport systems

UNIT III:

Environment

Carbon footprints, eco-housing, eco-city, ECOSAN, green buildings, renewable energies, sustainability, green cities, carbon credits, utilization and conservation of natural resources

UNIT IV:

Disaster Management

Vulnerability and capacity assessment, land use management, community based disaster risk management, rehabilitation and resettlement

UNIT V:

Rural Development

Sustainable agriculture, waste land management, rural industrialization and use of non-conventional energy, information technology, self help groups and non government organizations, PURA, village clusters concept.

UNIT VI:

Information Systems

Management information systems, municipal information systems, land information systems, intelligent transport systems, geographic information systems and passenger information systems

Expected Outputs& Assignment

Each student shall present a written paper and a seminar at the end of the semester for final assessment on a topic to be finalized in consultation with the concerned

faculty. This shall be based on extensive literature reviews, site visits (wherever possible) and interviews with experts.

PL17B6.8C:PRACTICAL TRAINING-I

Practical training for four calendar weeks shall be undertaken by the student during the summer vacation.

PL17B6.xE: ELECTIVE 2 : I. SEMINAR ON ETHICS, VALUES, PHILOSOPHY

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
Nil	4	3	100	0	100	-

Unit I

The value-crisis in the contemporary Indian Society; The nature of values: the value spectrum for a good life; The Indian system of values.

UNIT II

Material development and its values; the challenge of science and technology; Values in planning profession, research and education.

UNIT III

Psychological values; integrated personality; mental health; Societal values: the modern search for a good society; justice, democracy, rule of law, values in the Indian constitution; Aesthetic values: perception and enjoyment of beauty; Moral and ethical values; nature of moral judgement; Spiritual values; different concepts; secular spirituality; Relative and absolute values; humanism and human values; human rights; human values as freedom, creativity, love and wisdom

UNIT IV

Canons of ethics; ethics of virtue; ethics of duty; ethics of responsibility; Work ethics; Professional ethics; Ethics in planning profession.

Management by values: professional excellence; inter-personal relationships at work place; leadership and team building; conflict resolution and stress management, management of power

UNIT V

Philosophy as differentiated from science definitions of Philosophy, methods.

Major philosophical thinkers of the world and of India and their ideas from Socrates to Mahatma Gandhi and S. Radhakrishna exploratory studies in relating these ideas to planning, particularly planning contexts, utopian ideals, values, process, goals, social forces, ethics and management, etc.

UNIT VI

Epistemology and its ideas as related to planning doctrine of innate ideas, empiricism, rationalism, critical theory of knowledge, skepticism, evolutionary theory of knowledge, genetic theory of knowledge, intuitionism, logical empiricism, the dialectic method.

UNIT VII

Tests of truth realism, pragmatism and idealism causation idea of causality and finality – contingency.

Naturalism, mechanism, organism views teleology creationism and other theories.

Ontology materialism and dialectic materialism.

Theories of the mind, self and freedom of the will.

Theories of value and reality.

UNIT VIII

Review of the basic tenets of the various schools of Indian philosophy and isms and explorations of their possible relation to planning in the Indian contexts the Vedas, Brahmanas, Upanishads, Sankya, Yoga, Nyaya, Vyseshika, Mimamsa, Saiva Siddhanta, Tantra, Vedanta, Buddhism, Jainism, etc. Gandhi's philosophy of Ahimsa, Satyagraha, Swarajya and rural development as alternative paradigms to planning in India.

Expected Outputs & Assignment

Each student shall present a written paper and a seminar at the end of the semester for final assessment on a topic to be finalized in consultation with the concerned faculty. This shall be based on extensive literature reviews, site visits (wherever possible) and interviews with experts.

PL17B6.xE: ELECTIVE 2 : II. SEMINAR ON CHANGING CONTEXT FOR PLANNING IN RELATION WITH OTHER DISCIPLINES.

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
Nil	4	3	100	0	100	-

Current Management Studies and Practices, Financing Projects and Project Formulation which is being encroached by other Disciplines. Where the weightage of a Planner as a Technical expert is facing a threat to the Profession of Planning. The challenges faced by a planner as a practioner and to cope up with the competition across other disciplines.

SEMESTER VII

PL17B7.1C: METROPOLITAN AND REGIONAL PLANNING STUDIO

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
PL17 B6.1C	8	8	100	100	200	S/J

Understanding the role and relevance of regional planning, critical appraisal of district/sub-district plans, District planning in context of 73rd and 74th amendment acts. The emphasis will be on exposing students to special regions like hill, tribal, industrial, agro, resource, coastal, eco-sensitive, backward or city regions etc.

Study of Development Indices/Indicators:

The students should be introduced to two small exercises based on the literature survey on Metro/Regional Planning/District Planning, Study of Development Indices/Indicators, legislative framework for the concerned study areas selected (metro regions, districts) which will be based on secondary data sources. This is to create and understanding about the process of metro/regional/district planning amongst the students.

Data collection and Surveys:The students will be divided into two or three groups and take up the district selected based on the development criteria . The groups will have to formulate goals, objectives, methodology, and identification of data source, analysis of data available, survey and preparation of schedules for the study area selected.

Fieldwork: Visit to the field study area; conducting surveys, collection of data from secondary sources, sectoral and block/mandal wise will be undertaken.

Data Analysis and Proposals:Detailed data analysis, identification of potential thrust areas and development issues both sectoral and block/mandal wise. Appropriate alternate strategy planning, settlement development strategy and programs.

Pre-Project Report:

Student shall submit a formal report on any topic and this shall be based on extensive literature survey, data collection.

The Pre-project report will form the preliminary work on which the students planning project (VIII Semester) could be based.

Expected Outputs

Study of towns resulting in: Formulation of sectoral prioritization and financial allocation (mandal wise): final recommendations for a district/sub district/mandal development plan-projectization.

Note: The students are expected to work on the Pre-Project report parallel to the main studio exercise.

The distribution marks in the studio subject may be as follows

- 40% for individual assignment
- 60% for group work

PL17B7.2C: IMPLEMENTATION AND FINANCING OF URBAN PROJECTS

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
Nil	4	4	50	50	100	W

UNIT I

Identifying urban projects for implementation & Municipal finance

Process of identifying various urban sector projects with scope for funding and implementation, indentifying the risk mitigation during project development & implementation

Municipal Finance

Nature and composition of income and expenditure, limitations and need for revenue enhancements through municipal internal resource mobilization i.e, Municipal taxes (advertisement, entertainment and stamp duty etc); Land based taxes (vacant land tax, change of land use, development charges); user charges (parks, playgrounds, water supply, sanitation, SWM, parking), property tax. Expenditure control methods and mechanisms – privatization of O&M of municipal civic services.

UNIT II

Policy support and budgetary allocations for implementation & financing of urban projects

13th finance commission recommendations and 11th five year plan; budgetary allocations from central and state government for urban development; grants and funding under various government schemes. Assistance from foreign donors and multi national agencies (external aids form world bank , ADB)

UNIT III

Additional Funding Sources

FDIs, Institutional finance – HUDCO, NHB, LIC, ILFC(infrastructure lease finance corporation), etc; PPP mechanisms - India infrastructure project development fund by MoUD, GoI, Pooled finance development fund, National urban infrastructure fund, scheme for financing viable infrastructure projects through SPV (Special purpose vehicle) – India infrastructure finance company Ltd,.

UNIT IV

Resources based on achievement of urban reforms

Role of state government and ULBs; City's challenge fund; urban reform implication on resources, initiative fund and state level funds related to reforms.

UNIT V

Implementation of urban projects

Internal capacity building of ULBs to new concepts of financing urban projects; role of various agencies (Urban Development Authority, ULB, Water board, etc.) in implementation of municipal projects, challenges and opportunities for PPP in implementation of urban projects, Creating enabling environment for implementation of urban projects through PPP – PPP projects process management, scheme for financial support to PPPs in infrastructure, viability gap funding (VGF) – Government support, approval process, appraisal & monitoring, disbursement of grant.

UNIT VI

Institutional capacity enhancement

Better finance management, management process – accounting and budgeting, asset management, receivables management, cost center approach, computerization as tool for resource enhancement; role of management information systems.

UNIT VII

Issues on privatization

Debates and issues on privatization Vs equity and social development – problems of equity and impact on social development due to privatization, critics against external and internal funding agencies for the urban projects

UNIT VIII

Plan forms and indices

Financial operating plan, city corporate plan, development of urban indicators, infrastructure pricing and financing, impact fee, subsidies

References

Muncipal finance in India:Gokulananda Dash

Uraban Governance and Management: PSN Rao

UrabnInfrasturcture Development in Small and medium Towns:SSDhaliwal.

Urabn Development and Manageament:SLGoel. & SS Dhaliwal.

Local Government Finance and Bond Markets;Yun-HwanKim,ADB.

Uraban Property tax reform:Guidline and recomondation:WilliamR.Dillinger.

India Infrastructure reports

International Handbook on Public Private Partnerships:GraevneA.Hodge, CarstenGreve,AnthonyE.Boardman.

PL17B7.3C:URBAN GOVERNANCE & MANAGEMENT

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
Nil	4	4	50	50	100	W

UNIT I

Introduction to Urban Governance and Development

Meaning: governance and government; Concepts, scope of governance, evolution of concept of governance; Theories of local government; History of urban local bodies in India, evolution of modern urban local governments during British rule; Decentralization of local governments; Recommendations of various committees; Politics and progress of decentralization.

Urban development in India; problems and issues, policies, programmes and provisions in the national five year plans; processes of decision making for urban development at national, regional, state, district and local levels.

UNIT II

Urban Management & Local governance

Definition, objectives and scope of management; Role of management in developing economy; scope of development management at National, state & local levels.

Determinants and indicators of good governance; citizen charter, right to information and other instruments, stake holders, their perception and role in urban management, local governance.

UNIT III

Urbanization & Public-Private Sector

Process of urbanization, developmental conflicts, resource constraints, system deficiencies, urban poverty and exclusion from development process.

Urban development bodies; urban development authorities, background, function, powers, organization structure and resources; Case Studies, role of NGOs and private organizations in Urban Development.Urban Reforms and its implications on Urban Development

UNIT IV

Governance in post 74th Amendment Scenario

74th Constitutional Amendment-XII schedule, decentralization of powers and functions; Local and participatory planning, bottom up, decentralized and integrated planning processes; Planning, governance and spatial strategy; Best practices of planning and quality of governance.

UNIT V

Political Systems, Leadership, Decision-making, & Conflicts

Importance of effective communication and soft skills in management, introduction to theories of decision making; rational theory, incremental theory, systems theory, game theory, conflict theory, Planner's functions as a leader, urban development manager & role in the decision making process, Democracy and planning, Nature and mode of resolution of conflicts; public participation in planning as an aid to better understanding planning and implementation.

Expected Outcomes & Assignment

The internal assessment to be in the form of term papers and presentations on above mentioned aspects.

References:

Urban Development and Management: S.L. Goel, S.S. Dhaliwal: Deep and Deep Publications Pvt. Ltd.

Urban Infrastructure Development in Small and Medium towns: Dr. S. S. Dhaliwal; Deep and Deep Publications Pvt. Ltd.

Urban Development, SatishTiwari; Anmol Publications Pvt Ltd, New Delhi

Reading Material on Development Management: N S Saini Institute of Town Planners, India New Delhi.

Decentralized Governance and Planning: Acompartitve study in three south Indian statyes @2001 by Abdul Aziz,Macmillan publication.

PL17B7.4C: PROFESSIONAL PRACTICE

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
Nil	2	2	50	50	100	W

UNIT I:

Scope of Professional practice

Scope of services for different scales of planning like Master plan for a city, Zonal/ District plan, sector/neighbourhood plan, layout or group housing schemes, commercial centres, industrial estates; consultancy chares, nature of engagements, agreements and safeguards, completion and copyrights.

UNIT II

Organization, 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/neighborhood; layout, group housing schemes, commercial centers, industrial estates etc; constancy agreements, and safeguards; fees and scales of professional charges, competitions and copyrights.

UNIT III

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

UNIT IV

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. Purpose of valuation for wealth tax, income tax, capital gains tax, property tax, gift tax , etc.

UNIT V

Methods of Real Property Valuation Income capitalization methods, land and building method and other methods of valuation.

UNIT VI

Contract Documents and Project Formulation-Tenders, contracts, arbitration, schedule of rates for construction; materials labor and equipment for land development, units and mode of measurements, rate analysis; formulations of project proposals and outline; preparation of and response to Notice Inviting Tenders, Expression of Interest, Terms of Reference, penalty clauses,etc.

PL17B7.5C: PLANNING COLLOQUIUM

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
Nil	4	4	100	0	100	-

UNIT I: Practical Training

Each student will be required to undertake minimum four weeks of compulsory training in an approved social services / civil society organization during the summer vacation.

Individuals to present the work/project done as a part of their practical training in a civil society organization during the summer break after sixth semester. Students shall also present an organization analysis of the NGO where they worked. Each project and civil society is to be understood and critically appraised on terms of their role and significance in the contexts of a region's development. This unit will comprise minimum of 40% weight age of the overall marks in the subject.

UNIT II :Colloquim

The subject essentially aims to introduce the students to the issues related to planning as seen colloquially by the stake holders, decision makers, urban managers and advocates all of whom may not necessarily be professionally trained in planning.

The students will be exposed to colloquial arguments and issues raised by NGOs, citizens, user groups, advocates, other technocrats, urbanisms, etc. Interviews with the stakeholders have to be presented in the form of a report and presentation

The discussion will be organized on a fortnightly basis with the intervening week to be used for a debate / seminar by the students to clarify and extend the arguments and stances raised in the previous colloquium and also by making use of related press reports / articles.

The students shall participate in organizing the colloquiums, organizing background material, identifying potential participant and recording the minutes. Evaluation will be wholly based on internal marks given on the basis of the participation of the students in the colloquiums and in the internal seminars / debates and the reports submitted by the students on the colloquiums.

Expected outcome:

A report with the copy of the presentation in a CD has to be submitted at the end of the semester enclosing the minutes of the final meeting.

PL17B7.6C: PRE –THESIS

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
Nil	2	2	50	50	100	W

In Pre-thesis, the student is expected to finalize the synopsis comprising of the aims & objectives, scope & limitations and methodology. The pre-thesis work should focus on the theoretical approaches to the topic based on extensive literature review and secondary data collection. Pre-thesis would become the preliminary work on which the students planning project in the next semester would be based. Students will have to submit a detailed proposal on the chosen topic. The topic has to be approved by the committee and supervisor. Periodic reviews will be held to facilitate exchange of ideas, clarify the issues of concern and pave the way for further study in the planning project. Emphasis will be placed on clear understanding of the topic so that the student can work independently on the terminal project subsequently.

Each student shall present a formal report and a seminar for final assessments. Internal marks will be equally awarded by the subject teacher and the allotted Supervisor.

PL17B7.xE- ELECTIVE 3 : I. PLANNING WORKSHOP III (REDEVELOPMENT)

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
Nil	3	3	50	50	100	-

This course is designed to expose students to hands - on, primary involvement with those typical problems/projects existing within a Settlement (Urban/Rural) that require interaction with experts and implementing authorities/line departments in a focused way. The main objective of this course is to enhance learning through a combination of lectures, demonstrations and interactive practical exercise session on topics such as Redevelopment, Conservative Surgery, Repair, Restoration, Conservation, Conservative Up-gradation, Inner city improvement, Urban renewal, Rehabilitation, Civilisational Characteristics Retention, Traditional and Cultural built forms Conservation as a tool/product of Urban renewal, Historic landscape developments, Heritage (Natural/Cultural) Area developments, Archaeological Areas Interface to the existing modern developments, Designated Traditional area architectural & planning documentations, signage and Infrastructure design within an existing Settlement (Urban / Rural/ Region).

Following surveys related to a Settlement (Urban/Rural) aspects should be conducted: Listing, Cultural geography, Traditional/ Historical/Old/Rural settlement Morphology including networks and people (Population), People, Time/Tradition/ Heritage, Place link identification and listing , usability, reuse, sensitive use, diversion, low impact creating developments, past and present needs of the location studies, Characteristic features like Road width, Built form to Plot relationships, volume of streets for retaining the old / traditional/ Heritage character, studies relating to laws of protection for Heritage (Natural/ Cultural).

Preparation of Area redevelopment Plan/any such related plans as stated above by studying the existing land use, existing circulation pattern, level of service etc.

Expected outcome:

Students either in small groups or individually have to arrive at comprehensive Area redevelopment Plan/any such related plans as stated above for a selected locality.

At least two studio exercises have to be dealt.

PL17B7.xE- ELECTIVE 3 : II. PLANNING WORKSHOP III (INDUSTRIAL AREA PLANNING)

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
Nil	3	3	50	50	100	-

Course Objective – The objective of the course is to familiarize the students to the spatial and environmental factors that should be consideredin planning of industrial areas.

Introduction to Industrial areas planning

Introduction to the Industrial Plans and Policies at the state and national level; understanding of the relevant regulations under other allied public institutions such as Environment, Town planning or Urban Municipalities; Classification of industry types (Red, Orange, Green etc.)

Introduction to green industrial area ratings such as IGBC etc.; understanding ofEnvironmental Impact assessment (EIA) and Environmental Management Plans (EMP); significance of landscape in abatement of ill effects of industries, conventional and emerging technologies and techniques for treatment of industrial wastes.

Appraisal and analysis of Industrial area/brownfield

The students in groups are expected to select an existing industrial area or a brownfield in the region and carry out a spatial and environmental analysis of the site. This may include (but not limited to) – siting of the industrial area; spatial linkages;evaluation of existing land uses and transportation network; EIA;air, water, noise and land pollution;waste management; benchmarking of service infrastructure;impact of industries on the health of the employees and residents etc.

Expected Outcomes

Based on the findings from the analysis, students will propose strategies to enhance the quality of natural environment and minimize the negative externalities of the selected industrial area/brownfield. The proposals should aim tointroduce green and sustainable best practices. The final outcome may be in the form of an Environmental Management Plan (EMP) or Industrial area revitalization plan for the chosen site.

SEMESTER VIII

PL17B8.1C: PLANNING THESIS

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
PL17 B6.1C	-	12	200	200	400	S/J

Each student of B.Tech Planning is required to prepare a dissertation / project on a subject concerning urban, rural or regional development under a guide/adviser as approved by the Head of the Department. The dissertation / project will provide aid, opportunity to the student to synthesize the knowledge and skills acquired through the learning of various theories and practices during the course.

The particulars of schedule, content, presentation, format, etc., as decided by the department from time to time, shall be strictly followed. The course work is generally divided into four stages namely Introduction/need for the study, Data collection/ literature review, case study and analysis of data and recommendations/ proposals.

At the end of the semester, each student is expected to submit all original drawings prepared as per the department's specifications, copies of the report in the specified format and in a soft copy and a physical or digital / virtual model should be submitted to the department after obtaining the approval of the respective guide/ adviser.

The department shall schedule the final viva voce, at its convenience, only after the receipt of the thesis submission by a student.

PL17B8.2C: PROJECT DOCUMENTATION

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
Nil	2	2	100	0	100	-

UNIT I

Types and classification of reports

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

UNIT II

Formats of project documentation

Introduction to different components of a project documentation; format and elements of – notice inviting expression of interests (EoI), quotation documents, expression of interest (EoI) reporting, tendering process, technical and financial tender documents, evaluation of bids, request for detailed proposals (RFPs), terms of references (ToRs), detailed feasibility reports, compliance reports; inception reports, closure documents, etc.

UNIT III

Making of a project document

Assignment to make a project document; introducing styles and formats of official communication and letters; request for specifications and quotations; bidding process; recording or minutes and agenda notes for official records.

PL17B8.3C: PRACTICAL TRAINING

(Six weeks including summer vacation)

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
Nil	-	10	50	P/F	50	J

Each student will be required to undertake minimum ten weeks of compulsory training in an approved private or public planning office (the Chief Planner in the office should be a member of the Institute of Town Planners, India and have a minimum of five years of practical/professional experience after her/his post graduation) during the semester. The place of training is to be determined in consultation with the training supervisor (internal faculty-in-charge).

Students are expected to maintain a weekly log book of tasks undertaken and get feedback from training supervisor within one week of start of training.

The students are expected to submit a report highlighting the profile of the planning office, its organization, key work areas, etc, tasks undertaken based on a weekly log during the training and details of methods employed.

The students will submit relevant drawing/visuals and a report on the training. The students will also make presentation to the External Jury.

A jury will evaluate this report at a viva voce. After submission of the report the department at its convenience will arrange for the conduct of the viva voce examination.

PL17B8.xE- ELECTIVE 4 - I. CLIMATE CHANGE AND PLANNING

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
Nil	4	3	50	50	100	-

UNIT I

Introduction to climate change

Climate and weather, concept of climate change, global warming, Ozone Depletion, global wind systems, Green house gases/emissions, Global energy balance, surface energy balance, hydrological cycle, atmosphere and oceanic general circulation as related to climate, changes in global mean sea level, natural and

anthropogenic variability change, Changing perspectives in man-environment relationship, Eco-city approach.

UNIT II

Climate Change and Related Sectoral Issues

Agriculture, Health, Water and sanitation, food security, eco-system, Poverty and shelter, Disaster,

UNIT III

Urban Climate Change

Population, Landuse planning, Urban Heat Islands, Local climatic changes

UNIT IV

Climate Change Impact Assessment

Policy issues- Key Socio-economic Impact Issues, Impacts of changing climate, Vulnerability and coping with impacts, Environmental Impact and Strategic Environmental Assessment, Ecological Footprint Analysis for cities, Sustainable Lifestyle Assessment, Ecological Footprint Analysis for cities

UNIT V

Mitigation and Adaptation To Climate Change

Mechanisms and measures for mitigation and adaptation to climate change at various levels- Carbon emissions trading, Ecological Footprints

UNIT VI

Climate Change and Governance/ Legislation

Institutional Mechanism, Plans, Policies and adaptation strategies.

UNIT VII

Climate Change And Related Case Studies

Planning in Resilient cities, sustainable spatial planning (city based exercise)

References-

- UN- Habitat, Cities and Climate Change: Global Report on Human Settlements 2011
- UN-Habitat, Planning for Climate Change , A STRATEGIC, VALUES-BASED APPROACH FOR URBAN PLANNERS
- UN-Habitat, Local Leadership for Climate Change Action
- UNEP, Mainstreaming Climate Change Adaptation into Development Planning: A Guide for Practitioner.

PL17B8.xE : ELECTIVE 4 - II. TECHNOLOGY IN MANAGING CITIES

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
Nil	3	3	50	50	100	-

Unit 1: Introduction to Planning and Technology

Trends of Urbanization and symbiotic relationship between Technology and Urban Growth, Development of new urban technologies and spatial planning, Past, Present and Future of Cities, Planning cities and local technologies, emerging conflicts within the historical and technological context of urban policy and planning in the present century.

Unit 2: Technology in Urban Infrastructure

Water, sanitation and technology, energy efficient technology for home, street, neighbourhoods and city, Transportation and technology, Telecommunication – health and education – security and safety for buildings and people in cities.

Unit 3: Smart cities

Smart cities: an emerging field, Defining smart cities, Smart cities framework, Digital cities, virtual cities, technology parks– smart planning and development– planning and Communication system – socio-economic and environmental impact of Smart Cities, Risks of Intelligent Cities: Exclusion, Resilience, Security etc.

Unit 4: Technology and Local Government

Local Government and the changing role of Technology, Other Stakeholders and communities in building smart communities, participatory planning and the role of technology.

Unit5: Case Studies

Case Studies from India and around the World.

Suggested Readings-

1. ARUP, “Smart Cities: transforming the 21st century city via the creative use of technology”, 2010.
2. Brkovic, M.B.(2004) Planning in the Information Age: Opportunities and Challenges of E-Planning, CORP.
3. Komakech, D (2005) Achieving more intelligent cities, Municipal Engineer.
4. Getting Smart about Smart Cities, Institute for Sustainable communities, USDN Resource Guide. (Sustainable Communities Leadership Academy).

OPEN ELECTIVE - 3

Note: Subjects can be chosen across the Departments of the university. The subject lists will be available with the Departments from where the students can choose the Elective.