FACULTY OF ARCHITECTURE, URBAN & TOWN PLANNING
DEPARTMENT OF ARCHITECTURE

Deenbandhu Chhotu Ram University of Science and Technology, Murthal (Sonepat)

BACHELOR OF ARCHITECTURE
FIVE YEARS

ORDINANCE
SCHEME OF EXAMINATION & SYLLABUS
w.e.f. 2013-14
MAY 2013
1. Introduction

1.1 This ordinance shall apply to the Under Graduate programme, Bachelor of Architecture in the University.

<table>
<thead>
<tr>
<th>Course</th>
<th>Normal duration</th>
<th>Extended duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>B. Arch.</td>
<td>Full time</td>
<td>Five years (10 semesters)</td>
</tr>
</tbody>
</table>

(a) An academic year shall consist of two semesters (odd & even) of approximately 20 weeks duration inclusive of the period of examination and semester break. The eligibility criteria for admission to the programme, fee structure, academic calendar, scheme of studies and examinations, examination schedule, sports calendar and cultural activity calendar etc. for the academic year shall be published in the University prospectus.

2. Ordinance: Bachelor of Architecture

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

2.1 Eligibility Criteria for Admission to B. Arch

(a) 10+2 or equivalent from a recognised Board/University with Mathematics as a subject of examination with at least 50% aggregate marks.

OR

(b) 10+2 or equivalent from a recognised Board/University with Mathematics as a subject of examination with at least 50% aggregate marks.

OR

(c) Before accepting the admission, the candidate must also ensure that she/he fulfills the minimum eligibility conditions as laid down herein and by the University for admission to the programme.

(d) The reservation would be according to the Haryana Government/University norms notified in the admission brochure.

(e) The admission brochure.

(f) Only those candidates who present themselves personally on the specified date and time along with the originals of all the documents will be considered for admission.

(g) The admitted candidates will be required to deposit semester fees (non-refundable), securities (refundable) etc. of amount as decided by the University in cash/ D.D. on the spot at the time of admission.
2.2. The Bachelor of Architecture Degree courses shall extend over a minimum period of five academic years. Teaching in each academic year shall be divided into two semesters, each semester extending to 20 weeks including practical/portfolio, semester examination and semester break. Teaching for odd semesters will normally be from August to December and for even semesters from January to May.

2.3. At the end of each semester, there shall be an examination wherein candidates shall be examined in the courses studied by them in that semester. Each semester examination shall be designated as First Semester Examination, Second Semester Examination, and Third Semester Examination and so on.

2.4. The Examination for all odd semesters will normally be held in December/January and for all even semesters in May/June on such dates as may be fixed by the Controller of Examinations as per the Schedule provided by the University. The date(s) of commencement of examination as well as the last date(s) for the receipt of examination forms and fees shall also be notified by the Controller of Examinations to the concerned University Teaching Departments.

2.5. The courses of study and the subjects of examinations shall be as approved by the Academic Council from time to time. The medium of instruction and examination shall ordinarily be English except otherwise decided by the Academic Council. The question paper will be set in English, except otherwise decided by the Board of Under Graduate Studies, Department of Architecture and approved by the Academic Council. Every candidate shall be examined in the subjects as laid down in the syllabus approved by the Academic Council from time to time. The credits for each subject as also the contact hours per week will be mentioned in the scheme of studies approved by the Academic Council.

2.6. The Chairperson of the department shall appoint a faculty member as B. Arch. coordinator; who shall have the full responsibility for coordinating the minor tests, evaluation work, awarding of grades and attendance compilation etc. The Chairperson of the department shall also appoint a faculty member as B.Arch. thesis coordinator (one for a batch of 40 students); who shall have the full responsibility for coordinating the thesis.

2.7. Evaluation Process

2.7.1. Sessionals:
Sessional work shall be evaluated by the teachers of the various subjects based on the work done during semester on the basis of the following weightage:

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Components of Minors</th>
<th>Weightage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A)</td>
<td>Theory Courses</td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>Minor Test – I</td>
<td>20%</td>
</tr>
<tr>
<td>2.</td>
<td>Minor Test – II</td>
<td>20%</td>
</tr>
<tr>
<td>3.</td>
<td>Assignment / Mini Project / Term paper</td>
<td>30%</td>
</tr>
<tr>
<td>4.</td>
<td>Quiz/Tutorial/Class Test</td>
<td>30%</td>
</tr>
<tr>
<td>B)</td>
<td>Architectural Design Studio Courses</td>
<td></td>
</tr>
<tr>
<td>I and II semesters</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>Minor Test – I</td>
<td>10%</td>
</tr>
<tr>
<td>2.</td>
<td>Minor Test – II</td>
<td>10%</td>
</tr>
<tr>
<td>3.</td>
<td>Design exercises</td>
<td>60%</td>
</tr>
<tr>
<td>4.</td>
<td>Portfolio exercise(s) (part evaluation)</td>
<td>20%</td>
</tr>
<tr>
<td>III, IV, V, and VI semesters</td>
<td>VIII &amp; IX semesters</td>
<td></td>
</tr>
<tr>
<td>-----------------------------</td>
<td>---------------------</td>
<td></td>
</tr>
<tr>
<td>1. Minor Test</td>
<td>1. Minor Test</td>
<td></td>
</tr>
<tr>
<td>2. Design exercise</td>
<td>2. Programme formulation (site, case &amp; literature studies)</td>
<td></td>
</tr>
<tr>
<td>3. Portfolio exercise (part evaluation)</td>
<td>3. Concept</td>
<td></td>
</tr>
<tr>
<td>4. Preliminary Design</td>
<td>4. Preliminary Design</td>
<td></td>
</tr>
</tbody>
</table>

**C) Practical Training**

**D) Dissertation**

| 1. Synopsis | 1. Synopsis |
| 2. Mid term submission | 2. Programme formulation |
| 3. Preliminary submission | 3. Concept |

**E) Thesis**

| 1. Synopsis | 1. Synopsis |
| 2. Programme formulation | 2. Programme formulation |
| 3. Concept | 3. Concept |
| 4. Preliminary Design | 4. Preliminary Design |

**F) General Proficiency**

| 2. Presentation/Viva – Voce | 2. Presentation/Viva – Voce |
| 3. Faculty Counselor Assignment | 3. Faculty Counselor Assignment |

(a) Theory courses:

Every student has to appear in both the minor tests. If a student does not take a minor test, he/she shall be awarded zero marks in that test.

(b) Dissertation:

The evaluation of Dissertation will be through presentation and digital and print submissions.

(c) Thesis:

The evaluation of Thesis will be through presentation and digital and print submissions. It will be done by a jury constituted by the Chairperson of the Department. The jury will comprise of B. Arch. thesis coordinator, thesis guide and one external examiner.

The marks obtained in sessionals of theory/design studio/ dissertation/thesis courses are to be submitted to the Examination Branch duly signed by the Chairperson/B. Arch. coordinator of the department before the close of semester examination or a date fixed by the Controller of Examination. The examination branch shall convert the marks in to equivalent grades as per the grading procedure.

If a candidate, after attending the classes for the course of studies in the Department, but has failed in sessionals of one or more courses of studies, she or he can appear for such sessionals
at subsequent semesters without attending a fresh course of studies for that semester. Such a candidate may, in the meantime, pursue her or his studies for the next semester(s) and appear in the examination(s) for the same along with the examination for the lower semester(s) subject clause 2.11.

d) General Proficiency:

In case of University this course will be evaluated by the following committee

i) Chairperson of the Department Chairman

ii) Senior most faculty counselor Member

iii) Vice-Chancellor’s nominee Member

A faculty Counsellor will be attached to group of students which will remain associated with him/her during the entire period of the degree programme in the University. Each faculty member will serve as a faculty counselor. They will act like a local guardian for the students associated with him/her and will help them in terms of career guidance, personal difficulties.

In case of affiliated institutions, this course will be evaluated by the following committee

i) Director/Principal Chairman

ii) Head of the Department/ Member

Senior faculty

iii) External Examiner to be Member

appointed by the University

The rate of remuneration of University appointed External Examiner in this case shall be same as that of Practical Examiner of U.G. Examiner.

2.7.2 End semester Examinations

(a) Theory examination:

The theory papers shall be set by external/internal paper setters selected by the Vice-Chancellor from a panel of paper setters and examiners supplied by the Chairperson of the department and duly approved by the Board of Under Graduate Studies of the Department. The evaluation of theory papers will be done by examiner(s) as per the University norm and notified by the Controller of Examinations. If there is more than one examiner in a course, the grading will be done through mutual consultation among the examiners to maintain uniformity of grades.

There shall be a different set of external examiners for each subject every year having Bachelor or Masters or equivalent degree in Architecture or relevant disciplines. If a different set of external examiners for each subject every year is not available, alternate set of examiners may be selected by the Vice Chancellor from a panel of paper setters and examiners supplied by the Chairperson of the Department and duly approved by Board of Under Graduate Studies.

An external examiner for any subject of examination shall have a minimum of 5 years of teaching / professional experience in his / her specific field of study.

(b) Architectural Design Studio Examination:

Portfolio evaluation in Architectural Design Studio shall be through viva-voce and digital and print submissions (A1 or A0 Size panels not more than five numbers along with a detailed model). It shall be conducted jointly by the external and internal examiners. If an external examiner is not available to come, alternate examiner (including those of the same University
department) may be appointed by the Chairperson of the concerned department with the intimation to the Controller of Examinations in the following preferential order:

i) From outside ii) From DCRUST Murthal.

(c) Practical Training Examination:
Portfolio Evaluation of Practical Training will be through viva voce and digital and print submission; it shall be conducted by a jury comprising of the Training Coordinator(s) and an External examiner.

(d) Dissertation Examination:
Portfolio evaluation of Dissertation will be through viva voce and digital and print submissions; it shall be conducted by a jury comprising of the external and internal examiners. If an external examiner is unable to come, alternate examiner (including those of the same University department) may be appointed by the Chairperson of the concerned department with the intimation to the Controller of Examinations in the following preferential order:

i) From outside ii) From DCRUST Murthal

(d) Thesis:
Portfolio evaluation of thesis will be through viva voce and digital and print submissions. It shall be conducted by a jury comprising of two external examiners, thesis guide and Chairperson. Two external examiners shall be selected by the Vice-Chancellor from a panel of examiners supplied by the Chairperson of the Department and duly approved by the Board of Under Graduate Studies of the Department. Both the examiners shall be called by the Department to conduct the thesis viva voce and in case of her/his refusal, the Vice-Chancellor, on the recommendation of the Chairperson of the Department shall appoint, another set of external examiners from the panel.

2.8 Dissertation

(a) The dissertation shall be based on empirical study, field work, and textual analysis in the field of architecture. It should demonstrate candidate’s capacity for analysis and judgment as also her/his ability to carry out independent viewpoint in interpretation.

(b) The dissertation shall present an orderly & critical exposition of existing knowledge of the subject or shall embody results of original interpretation and analysis & demonstrate the capacity of the candidate to do independent project work. While writing the dissertation, the candidate shall lay out clearly the work done by her/him independently and the sources from which she/he has obtained other information.

(c) The dissertation shall be prepared as per guidelines given in the dissertation manual. Nevertheless, the typing shall be done on both sides of the paper, the font size should be 12 point Times New Roman in 1.5 (one and a half) space but the reference and bibliography should be typed in single space in Harvard style. The paper to be used should be A-4 size and orientation should be portrait.

2.9. Thesis

(a) A candidate shall prepare her/his thesis under the supervision of a faculty of the Department. The guide shall be appointed by the Chairperson of the department in consultation with the faculty members. B.Arch. thesis coordinator and the Chairperson will not act as guide for any student. The topic of thesis wherever applicable, will be approved by a committee (Thesis Monitoring Committee) headed by the Chairperson of the department consisting of a Professor (Associate Professor, if professor is not available in the department) and guide(s) of the candidate.
(b) Any joint guide (Intra-departmental, Inter-departmental, External Institution or Industry), may also be associated in supervision, if desirable, but the reasons for recommendation of joint guide will be recorded in the Thesis Allotment proceedings. The inter-departmental or external guide can be appointed only as a joint guide and her/his prior written consent shall be submitted by the candidate to the Department.

(c) B. Arch. thesis coordinator will coordinate all the internal stages in consultation with the Chairperson of the Department.

(d) No part of the thesis work should have been submitted elsewhere for the award of any other degree. The candidate should submit a certificate of originality with the thesis.

(e) A candidate shall submit her/his thesis at the end of the X semester. The result of Thesis shall be declared only after the candidate has passed all the courses. In case a candidate’s Thesis is rejected or she or he is unable to complete it within the prescribed period for her/his category, she or he may be allowed extension by the Vice-Chancellor on the recommendation of the chairperson, up to the limits prescribed for completion of degree by a candidate. However, she or he has to register each semester depositing continuation fee as decided by the University.

(f) The candidate shall be required to submit three hard bound copies of thesis as and when specified in the Scheme of Studies to the department.

(g) The thesis shall be prepared as per guidelines given in the thesis manual. Nevertheless, the typing shall be done on both sides of the paper, the font size should be 12 point Times New Roman in 1.5 (one and a half) space but the reference and bibliography should be typed in single space in Harvard style. The paper to be used should be A-4 size and orientation should be portrait.

(h) The student will present her/his thesis work before the jury and the jury will award the marks. A student scoring ‘F’ grade in the viva voce exam shall have to resubmit her/his thesis after making all corrections/improvements & this thesis shall be evaluated as above in subsequent semester.

2.10. Eligibility for appearing in end semester examination

(a) A candidate has attended regularly the prescribed courses of studies for the relevant semester examination in the department recognized by the University for the degree of Bachelor of Architecture.

(b) A candidate has passed with 40% marks in the sessional of the prescribed courses of studies for the relevant semester examination in the department recognized by the University for the degree of Bachelor of Architecture.

(c) A candidate has his/her name submitted to the Controller of Examinations by the Chairperson of the department.

(d) A candidate has a good moral character (certificate be issued by the chairperson of the department concern if required).

(e) A candidate has attended not less than 75% of the total classes held in each theory/studio/seminar/ dissertation/thesis etc. This requirement shall be fulfilled separately for each subject of study. A deficiency up to 10% may be condoned by the Chairperson of the department. A further condonation of 5% in attendance may be allowed in severe/compassionate circumstances by the Vice-Chancellor. However it may not be treated as a matter of right by the students. (In case a student fails to fulfill the necessary requirement of the attendance in any subject(s) in any semester, he/ she shall not be promoted to next
semester and will have to repeat that academic semester in the next academic session along with regular students.)

(f) A candidate whose result declaration is delayed for no fault of her/his or has applied for revaluation may attend classes of the next higher semester provisionally at her/his own risk and responsibility subject to her/his passing the concerned semester examination. Such a candidate shall also be governed by the clause 2.10. In case the candidate fails to pass the concerned Semester Examination, her/his attendance and studies in the next higher semester in which she or he was allowed to attend classes provisionally, shall stand cancelled.

If a candidate, after attending the classes for the course of studies in the Department either not appeared or having appeared in any semester examination has failed in one or more paper(s) for that examination, he/she can appear for such paper(s) at subsequent examinations without attending a fresh course of studies for that semester. Such a candidate may, in the meantime, prosecute his/her studies for the next semester(s) and appear in the examination(s) for the same along with the examination for the lower semester(s) (provided his/her sessionals are clear/passed in the particular subject).

2.11. Reappear

(a) The examinations for reappear in any subject(s) in the subsequent semester.

(b) If a candidate, after attending the classes for the course of studies in the Department has either not appeared or having appeared in any semester examination has failed in one or more paper(s) for that examination, she or he can appear for such paper(s) at subsequent examinations without attending a fresh course of studies for that semester. Such a candidate may, in the meantime, pursue her or his studies for the next semester(s) and appear in the examination(s) for the same along with the examination for the lower semester(s).

(c) The examinations for reappear in any subject(s) in the odd semester and that of in the even semester shall be held in the respective semesters along with the regular students. However a special reappear examination may be conducted.

(d) The student will be automatically eligible for promotion to the next semester provided he/she fulfills the other essential criterion for promotion as mentioned in the ordinance. However, a candidate is required to complete the first 3 academic years / 6 semesters within 5 years of admission to the course.

A candidate who has paid dues for the higher class and is dropped for want of fulfillment of any of the above conditions shall not be required to pay his dues again on re-admission after fulfillment of above conditions.

2.12. Fees

The amount of Exam/Reappear/ Re-evaluation/ Improvement fee to be paid by the candidates shall be as prescribed by the University from time to time. A candidate who has paid dues for the higher class and is dropped for want of fulfillment of any of the above conditions shall not be required to pay his dues again on re-admission after fulfillment of above conditions.

2.13. Re-evaluation

Re-evaluation is permitted only for end semester examination (Theory and studio courses) as per University rules. There will be no revaluation for portfolio examination.

A candidate, who is unable to pass the Bachelor of Architecture courses within a maximum of eight consecutive academic years from the date of his/her admission shall lose the right to pursue the degree programme. In exceptional cases, mercy chance can be given by the Vice-
Chancellor to a candidate if he/she applies provided he/she completes the first 3 academic years / 6 semesters within 5 years of admission to the course.

2.14. The minimum passing marks/grade for passing any semester Examination shall be:
i. 40% in each theory paper.
ii. 40% in each sessional
iii. 40% in each Portfolio Examination/Viva-Voce Examination
iv. Grade D in General Proficiency
vi. SGPA of 4.0

A candidate who fails to obtain the requisite marks/grade in 2.14 i., 2.14.ii, 2.14 iv mentioned above shall be required to appear in the concerned subject in the subsequent examination(s) subject to clause 2.11. However if a candidate fails to obtain requisite grade as per 2.14 iii in any of the subjects, he/she shall not be allowed to appear in Theory or Portfolio Examination of that particular subject. He/she shall again have to repeat the sessionals in the subsequent semesters and obtain 40% marks to appear in Theory or portfolio Examination in the concerned subject.

2.15. The result of a student at the end of each semester Examination and after completion of course shall be declared on the basis of the SGPA & CGPA (cumulative grade point average) obtained by the student.

2.16. At the end of each semester examination, the Controller of Examination shall publish the result, provided that in a case where candidate who was permitted to take examination for higher semester but has not cleared the lower semester examination his result for the higher semester examination will be declared provisionally. Each successful candidate shall be issued a copy of the result card on having passed the semester examination.

2.17. If a candidate has completed his/her degree with a CGPA ≤ 6.5 and she/he wants to improve her/his grade, she/he may be allowed to improve by depositing the requisite fee as per the University Rules. She/he is allowed to appear in at the most half of the theory papers only of a semester along with the regular candidates of that semester and the sessional part will be retained. Such opportunity may be given only twice in succession, subject to the condition that she/he have to complete the degree within 8 consecutive years of her/his registration for candidate. If the improved CGPA is less than the original, then the original will be retained.

2.18. Notwithstanding the integrated nature of the course wherever it is spread over more than one academic year, the Ordinance in force at the time a student joins the course shall hold good only for the examination held during or at the end of the semester and nothing in this Ordinance shall be deemed to debar the University from amending the Ordinance and the amended Ordinance, if any, shall apply to all students whether old or new.

3. Scholarship

Scholarship may be awarded to students as per the terms and conditions stipulated by the funding agencies. However, it should be mentioned in the prospectus.

4. The Credit System

Each Academic Program has a certain number of credits which describe its weightage. A student’s performance is measured by the number of credits that he/she has completed satisfactorily. A minimum grade point average is required to be maintained for satisfactory progress as per clause 2.14.
Each subject (component) has a certain number of credits which reflect its weightage and is normally decided on the basis of effective contacts hours. It is mentioned in the scheme of studies and examinations.

4.1. The semester examination for the odd semesters shall ordinarily be held in the month of December/January and for the even semesters in the month of May/June, on such dates as may be fixed by University authority. The concerned teacher/ B. Arch. coordinator should ensure that 100% syllabus is covered in each subject before the Semester Examination.

4.2. The sessional marks/grade awarded to a student in any particular subject will be based on the performance of the student evaluated throughout the semester. The syllabus of the minor tests will be what is covered in that particular term. The Semester Examination will be based on the entire syllabus.

4.3. The marks/grades will be displayed on the notice board of the department by concerned teacher/B. Arch. coordinator with the approval of the Chairperson before forwarding it to the Examination Branch.

4.4. The Chairperson of the department shall forward the sessional awards to the Examination Branch within a week after the semester ends and examination process starts. The evaluated answer sheets of minor tests are to be kept by the concerned teacher/B. Arch. coordinator for at least one year. The Examination Branch will keep the evaluated answer sheets of the semester examination for at least one year.

5. Grading Systems

For the award of grades in a subject, all component-wise evaluation shall be done in marks. The marks would be converted to grades as per the guidelines given below:

5.1. Award of Grades Based on Absolute Marks

The University will follow system of grading for all (irrespective of no. of students) based on absolute marks (after applying moderation if any) as given below:

<table>
<thead>
<tr>
<th>Range of Marks (%)</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>90 to 100</td>
<td>A+</td>
</tr>
<tr>
<td>80 to 89</td>
<td>A</td>
</tr>
<tr>
<td>70 to 79</td>
<td>B+</td>
</tr>
<tr>
<td>62 to 69</td>
<td>B</td>
</tr>
<tr>
<td>55 to 61</td>
<td>C+</td>
</tr>
<tr>
<td>46 to 54</td>
<td>C</td>
</tr>
<tr>
<td>40 to 45</td>
<td>D</td>
</tr>
<tr>
<td>Less than 40</td>
<td>F</td>
</tr>
</tbody>
</table>

Note:
(i) The awards/grades shall be submitted by the teacher concerned through B. Arch. coordinator to the Chairperson of the department. The awards/grades should be finalized within 7 days of the semester examination.
(ii) In case of any difficulty/issue related to courses/conduct/moderation of awards/grades/reconduct of paper, the matter will be referred to a departmental monitoring committee comprising of Chairperson, senior most teachers by rotation, B. Arch. coordinator and faculty nominee of the Dean. The committee will be headed by the chairperson. The committee, on receipt of complaint either from the student or from the teacher, shall meet at the earliest and will give its decision within one week. The decision of the committee shall be final subject to approval of the Vice Chancellor.
5.2. Grade Points

The grading point of academic performance will be as under:

<table>
<thead>
<tr>
<th>Academic Performance</th>
<th>Grades</th>
<th>Grade Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outstanding</td>
<td>A+</td>
<td>10</td>
</tr>
<tr>
<td>Excellent</td>
<td>A</td>
<td>9</td>
</tr>
<tr>
<td>Very Good</td>
<td>B+</td>
<td>8</td>
</tr>
<tr>
<td>Good</td>
<td>B</td>
<td>7</td>
</tr>
<tr>
<td>Average</td>
<td>C+</td>
<td>6</td>
</tr>
<tr>
<td>Below Average</td>
<td>C</td>
<td>5</td>
</tr>
<tr>
<td>Marginal</td>
<td>D</td>
<td>4</td>
</tr>
<tr>
<td>Very Poor</td>
<td>F</td>
<td>0</td>
</tr>
<tr>
<td>Absent</td>
<td>G</td>
<td>-</td>
</tr>
<tr>
<td>Audit Pass</td>
<td>AP</td>
<td>-</td>
</tr>
<tr>
<td>Audit Fail</td>
<td>AF</td>
<td>-</td>
</tr>
<tr>
<td>Incomplete Dissertation</td>
<td>X</td>
<td>-</td>
</tr>
</tbody>
</table>

Note:

1. Pass Grade is Grade D and higher grades
2. Grades F is Fail grade

‘F’ Grade

The F grades denote poor performance, i.e. failing a subject (or subject component). A student has to repeat all those components of a subject(s), in which she/he obtains ‘F’ grades, until a passing grade is obtained, within the stipulated time of completion of that programme as mentioned in clause 1(a).

‘G’ Grade

If a student, who is otherwise eligible for appearing in the semester examination as per the ordinance, but cannot appear in the semester examination then s/he will be awarded ‘G’ grade. The candidate will be allowed to take up the examination next time along with regular students and he/she will be awarded the grade as per grade system explained above.

AP/AF Grade

These grades are awarded to qualifying/Non-Credit subject(s) (as per scheme supplied by the concerned departments). The candidate will not be eligible for award of degree without qualifying these courses.

Continuous Absence

If a student is continuously absent from the Department for more than four weeks without intimation to the Chairperson of Department, her/his name will be struck off from the roll of the department. The re-admission shall not be allowed to the candidate during the same academic session.

‘X’ Grade

This grade is awarded for incomplete Thesis work as per guidelines given below and will be converted to a regular grade on the completion of the Thesis work and its evaluation.

A student who is unable to complete her/his Thesis may be awarded an ‘X’ grade by the Chairman/Chairperson on the recommendation of his/her guide.
A student who has been awarded ‘X’ grade shall be required to formally register for the next semester and pay the requisite fee.

‘X’ grade will be awarded in exceptional circumstances beyond student’s/supervisor’s control. Normally, the following grounds may be considered for the award of ‘X’ grade:

(i) Technical reasons/grounds such as Guide/equipment not being available.

(ii) Any other reason to the satisfaction of guide.

5.3. Evaluation of Performance

The performance of a student will be evaluated in terms of Cumulative Grade Point Average (CGPA) which is the Grade Point Average for all the completed semesters at any point of time.

The CGPA is calculated on the basis of all pass grades, except audit courses, obtained in all completed semesters.

\[
CGPA = \frac{\sum_{sem}(Course \ credits \times Grade \ point) \text{ for courses with pass grade except audit courses}}{\sum_{sem}(Course \ credits) \text{ of courses with pass grade except audit courses}}
\]

An example of these calculations is given below:

**I Semester**

<table>
<thead>
<tr>
<th>Course No.</th>
<th>Course Credits (2)</th>
<th>Grade Awarded (3)</th>
<th>Earned Credits (4)</th>
<th>Grade Points (5)</th>
<th>Point Secured (6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MALXXX</td>
<td>5</td>
<td>C+</td>
<td>5</td>
<td>6</td>
<td>30</td>
</tr>
<tr>
<td>CSLXXX</td>
<td>4</td>
<td>C</td>
<td>4</td>
<td>5</td>
<td>20</td>
</tr>
<tr>
<td>PHLXXX</td>
<td>4</td>
<td>A+</td>
<td>4</td>
<td>10</td>
<td>40</td>
</tr>
<tr>
<td>PHPXXX</td>
<td>1.5</td>
<td>B+</td>
<td>1.5</td>
<td>8</td>
<td>12</td>
</tr>
<tr>
<td>MELXXX</td>
<td>4</td>
<td>F</td>
<td>0</td>
<td>0</td>
<td>00</td>
</tr>
<tr>
<td>AMLXXX</td>
<td>4</td>
<td>B</td>
<td>4</td>
<td>7</td>
<td>28</td>
</tr>
</tbody>
</table>

Credits registered in the semester (total of column 2) = 22.5

Earned Credits in the semester

Total of column 4 (total of column 2 excluding F grade) = 18.5

Point secured in this semester in passed courses = 130

\[
SGPA/CGPA = \frac{Points \ secured \ in \ passed \ courses}{Credits \ earned} = \frac{130}{18.5} = 7.027
\]

**II Semester**

<table>
<thead>
<tr>
<th>Course No.</th>
<th>Course Credits (2)</th>
<th>Grade Awarded (3)</th>
<th>Earned Credits (4)</th>
<th>Grade Points (5)</th>
<th>Point Secured (6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MALXXX</td>
<td>5</td>
<td>C</td>
<td>5</td>
<td>4</td>
<td>20</td>
</tr>
<tr>
<td>EELXXX</td>
<td>5</td>
<td>F</td>
<td>0</td>
<td>0</td>
<td>00</td>
</tr>
<tr>
<td>CYLXXX</td>
<td>4</td>
<td>B</td>
<td>4</td>
<td>7</td>
<td>28</td>
</tr>
<tr>
<td>CYPXXX</td>
<td>1.5</td>
<td>C+</td>
<td>1.5</td>
<td>6</td>
<td>09</td>
</tr>
<tr>
<td>MELXXX</td>
<td>4</td>
<td>A</td>
<td>4</td>
<td>9</td>
<td>36</td>
</tr>
<tr>
<td>HULXXX</td>
<td>2</td>
<td>AP</td>
<td>2</td>
<td>N.A.</td>
<td>00</td>
</tr>
</tbody>
</table>
Credits registered in the semester (total of column 2) = 21.5

Earned Credits in the semester
Total of column 4 (total of column 2 excluding F&AP grades) = 14.5
Cumulative Earned Credits (earned credits in previous semesters and current semester) = 18.5 + 14.5 = 33.0

Points Secured in this semester in passed courses = 93
Cumulative points secured (total of point secured in previous semesters and current semester) = 130 + 93 = 223

\[ \text{CGPA} = \frac{\text{Cumulative points secured in all passed courses}}{\text{Cumulative earned credits, excluding audit courses}} = \frac{130 + 93}{18.5 + 14.5} = 6.757 \]

Each successful candidate shall be issued a copy of the result card on having passed the semester examination.

Conversion of CGPA into Marks
The CGPA if multiplied by 9.5 will give the equivalent marks in percentage.
Candidates who pass all the prescribed subjects for all the semesters, but obtained:

(i) Less than CGPA of 5.26 Pass class
(ii) 5.26 ≤ CGPA < 6.32 2\textsuperscript{nd} Division
(iii) 6.32 ≤ CGPA < 7.9 1\textsuperscript{st} Division
(iv) CGPA of 7.9 or more 1\textsuperscript{st} Division with Distinction provided that they have passed all the semester examinations in single sitting within the normal period of course and without reappear in any paper throughout the programme, will be awarded aforesaid division.
SCHEME OF STUDIES
BACHELOR OF ARCHITECTURE
## SCHEME OF STUDIES & EXAMINATIONS

**B.Arch. I-Year**  
**SEMESTER – I**  
Credit based scheme w.e.f. 2013-14

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Course No.</th>
<th>Course Title</th>
<th>Teaching Schedule</th>
<th>Marks of Class work</th>
<th>Exam Marks</th>
<th>Total marks</th>
<th>Credit</th>
<th>Duration of Exam</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AR101-B</td>
<td>Architectural Design -I</td>
<td>-</td>
<td>100</td>
<td>-</td>
<td>200</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>AR103-B</td>
<td>Building Construction &amp; Materials-I</td>
<td>4</td>
<td>75</td>
<td>75</td>
<td>150</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>AR105-B</td>
<td>Structural Design – I</td>
<td>2</td>
<td>50</td>
<td>50</td>
<td>100</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>AR107-B</td>
<td>Architectural Drawing-I</td>
<td>6</td>
<td>75</td>
<td>75</td>
<td>150</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>5</td>
<td>AR109-B</td>
<td>Graphics – I</td>
<td>4</td>
<td>75</td>
<td>75</td>
<td>150</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>6</td>
<td>AR111-B</td>
<td>History of Architecture –I</td>
<td>2</td>
<td>50</td>
<td>50</td>
<td>100</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>7</td>
<td>AR113-B</td>
<td>Architectural Design Theory-I</td>
<td>2</td>
<td>50</td>
<td>50</td>
<td>100</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>8</td>
<td>AR115-B</td>
<td>Workshop-I</td>
<td>4</td>
<td>100</td>
<td>-</td>
<td>100</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>GEN 101B</td>
<td>Moral Values &amp; Ethics</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td></td>
<td>7</td>
<td>24</td>
<td>575</td>
<td>375</td>
<td>100</td>
<td>1050</td>
</tr>
</tbody>
</table>

### Note:

1. Theory exam shall be conducted for the studio subjects of Building Construction & Materials-I (AR103-B), Architectural Drawing-I (AR107-B) and Graphics -I (AR109-B) in the drawing hall having the provisions of drawing boards.

2. Following stationary shall be required for the conduct of above mentioned exams for each candidate:
   a. Cartridge sheet – 4 nos.
   b. Graph paper (large) – 1 no.
   c. Tracing sheets – 2 nos.

3. Portfolio examination (as Practical exam) shall be conducted through viva-voce in the subject of Architectural Design-I (AR101-B) by an external and internal examiner.
## SCHEME OF STUDIES & EXAMINATIONS

**B.Arch. I-Year**  
**SEMESTER – II**  
Credit based scheme w.e.f. 2013-14

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Course No.</th>
<th>Course Title</th>
<th>Teaching Schedule</th>
<th>Marks of Class work</th>
<th>Exam Marks</th>
<th>Total marks</th>
<th>Credit Duration of Exam</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AR102-B</td>
<td>Architectural Design-II</td>
<td>6</td>
<td>100</td>
<td></td>
<td>100</td>
<td>200</td>
</tr>
<tr>
<td>2</td>
<td>AR104-B</td>
<td>Building Construction &amp; Materials-II</td>
<td>-</td>
<td>6</td>
<td>75</td>
<td>75</td>
<td>150</td>
</tr>
<tr>
<td>3</td>
<td>AR106-B</td>
<td>Structural Design – II</td>
<td>2</td>
<td>-</td>
<td>50</td>
<td>50</td>
<td>100</td>
</tr>
<tr>
<td>4</td>
<td>AR108-B</td>
<td>Architectural Drawing-II</td>
<td>-</td>
<td>6</td>
<td>75</td>
<td>75</td>
<td>150</td>
</tr>
<tr>
<td>5</td>
<td>AR110-B</td>
<td>Building Services – II</td>
<td>2</td>
<td>-</td>
<td>50</td>
<td>50</td>
<td>100</td>
</tr>
<tr>
<td>6</td>
<td>AR112-B</td>
<td>Graphics – II</td>
<td>4</td>
<td>75</td>
<td>-</td>
<td>75</td>
<td>150</td>
</tr>
<tr>
<td>7</td>
<td>AR114-B</td>
<td>Architectural Design Theory-II</td>
<td>2</td>
<td>-</td>
<td>50</td>
<td>50</td>
<td>100</td>
</tr>
<tr>
<td>8</td>
<td>AR116-B</td>
<td>Surveying – II</td>
<td>2</td>
<td>-</td>
<td>50</td>
<td>50</td>
<td>100</td>
</tr>
<tr>
<td>9</td>
<td>AR 118-B</td>
<td>Educational tour</td>
<td>-</td>
<td>-</td>
<td>50</td>
<td>-</td>
<td>50</td>
</tr>
<tr>
<td>10</td>
<td>AR 120-B</td>
<td>General Proficiency</td>
<td>-</td>
<td>-</td>
<td>50</td>
<td>-</td>
<td>50</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td>8</td>
<td>22</td>
<td>625</td>
<td>425</td>
<td>1150</td>
</tr>
</tbody>
</table>

**Note:**

1. Theory exam shall be conducted for the studio subjects of Building Construction & Materials-II (AR104-B), Architectural Drawing-II (AR108-B) and Graphics II (AR112-B) in the drawing hall having the provisions of drawing boards.

2. Following stationary shall be required for the conduct of above mentioned exams for each candidate:
   a. Cartridge sheet – 4 nos.
   b. Graph paper (large) – 1 no.
   c. Tracing sheets – 2 nos.

3. Portfolio examination (as Practical exam) shall be conducted through viva-voce in the subject of Architectural Design-II (AR102) by an external and internal examiner.
### SCHEME OF STUDIES & EXAMINATIONS

**B.Arch. II-YEAR**

**SEMESTER – III**

Credit based scheme w.e.f. 2013-14

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Course No.</th>
<th>Course Title</th>
<th>Teaching Schedule</th>
<th>Marks of Class work</th>
<th>Exam Marks</th>
<th>Total marks</th>
<th>Credit</th>
<th>Duration of Exam</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AR201-B</td>
<td>Architectural Design-III</td>
<td>-</td>
<td>6</td>
<td>100</td>
<td>100</td>
<td>200</td>
<td>6</td>
</tr>
<tr>
<td>2</td>
<td>AR203-B</td>
<td>Building Construction &amp; Materials –III</td>
<td>-</td>
<td>6</td>
<td>75</td>
<td>75</td>
<td>150</td>
<td>6</td>
</tr>
<tr>
<td>3</td>
<td>AR205-B</td>
<td>Structural Design – III</td>
<td>2</td>
<td></td>
<td>50</td>
<td></td>
<td>100</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>AR207-B</td>
<td>Architectural Drawing -III</td>
<td>-</td>
<td>6</td>
<td>75</td>
<td>75</td>
<td>150</td>
<td>6</td>
</tr>
<tr>
<td>5</td>
<td>AR209-B</td>
<td>Building Services –III</td>
<td>2</td>
<td></td>
<td>50</td>
<td></td>
<td>100</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>AR211-B</td>
<td>Graphics – III</td>
<td>-</td>
<td>4</td>
<td>75</td>
<td>75</td>
<td>150</td>
<td>4</td>
</tr>
<tr>
<td>7</td>
<td>AR213-B</td>
<td>History of Architecture-III</td>
<td>2</td>
<td></td>
<td>50</td>
<td></td>
<td>100</td>
<td>2</td>
</tr>
<tr>
<td>8</td>
<td>AR215-B</td>
<td>Workshop – III</td>
<td>-</td>
<td>4</td>
<td>100</td>
<td></td>
<td>100</td>
<td>4</td>
</tr>
<tr>
<td>9</td>
<td>GEN 201B</td>
<td>Moral Values &amp; Ethics (Common for all branches)</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

**Total**: 7 26 575 375 100 1050 32 -

**Note:**

1. Theory Exam shall be conducted for the studio subjects of Building Construction & Materials-III (AR203-B), Architectural Drawing-III (AR207-B) and Graphics-III (AR211-B) in the drawing hall having the provision of drawing boards.

2. Following stationery shall be required for the conduct of above mentioned exams, for each candidate:
   a. Cartridge sheet – 4 nos.
   b. Graph paper (large) – 1 no.
   c. Tracing sheets – 2 nos.

3. Portfolio exam (as Practical exam) shall be conducted through viva-voce in the subject of Architectural Design-III (AR201-B) by an External and an Internal Examiner.
### SCHEME OF STUDIES & EXAMINATIONS
#### B.Arch. II-YEAR
#### SEMESTER – IV
Credit based scheme w.e.f. 2013-14

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Course No.</th>
<th>Course Title</th>
<th>Teaching Schedule</th>
<th>Marks of Class work</th>
<th>Exam Marks</th>
<th>Total marks</th>
<th>Credit</th>
<th>Duration of Exam</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AR202-B</td>
<td>Architectural Design -IV</td>
<td>-</td>
<td>6</td>
<td>100</td>
<td>100</td>
<td>200</td>
<td>6</td>
</tr>
<tr>
<td>2</td>
<td>AR204-B</td>
<td>Building Construction &amp; Materials –IV</td>
<td>-</td>
<td>6</td>
<td>75</td>
<td>75</td>
<td>150</td>
<td>6</td>
</tr>
<tr>
<td>3</td>
<td>AR206-B</td>
<td>Structural Design – IV</td>
<td>2</td>
<td>-</td>
<td>50</td>
<td>50</td>
<td>100</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>AR208-B</td>
<td>Computer in Architecture-IV</td>
<td>-</td>
<td>4</td>
<td>100</td>
<td>-</td>
<td>150</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>AR210-B</td>
<td>Building Services – IV</td>
<td>2</td>
<td>-</td>
<td>50</td>
<td>50</td>
<td>100</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>AR212-B</td>
<td>Architectural Design Theory – IV</td>
<td>2</td>
<td>-</td>
<td>50</td>
<td>50</td>
<td>100</td>
<td>2</td>
</tr>
<tr>
<td>7</td>
<td>AR214-B</td>
<td>Communication Skills-IV</td>
<td>2</td>
<td>-</td>
<td>50</td>
<td>50</td>
<td>100</td>
<td>2</td>
</tr>
<tr>
<td>8</td>
<td>AR216-B</td>
<td>Theory of Landscape Design – IV</td>
<td>2</td>
<td>-</td>
<td>50</td>
<td>50</td>
<td>100</td>
<td>2</td>
</tr>
<tr>
<td>9</td>
<td>AR218-B</td>
<td>Educational Tour</td>
<td>-</td>
<td>-</td>
<td>50</td>
<td>-</td>
<td>50</td>
<td>-</td>
</tr>
<tr>
<td>10</td>
<td>AR220-B</td>
<td>General Proficiency</td>
<td>-</td>
<td>-</td>
<td>50</td>
<td>-</td>
<td>50</td>
<td>-</td>
</tr>
<tr>
<td>11</td>
<td>GES201B</td>
<td>Environmental Science (Common for all branches)</td>
<td>-</td>
<td>-</td>
<td>75</td>
<td>-</td>
<td>75</td>
<td>-</td>
</tr>
<tr>
<td>12</td>
<td>GES203B</td>
<td>Environmental Science-field work (Common for all branches)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>25</td>
<td>25</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td></td>
<td>10</td>
<td>16</td>
<td>625</td>
<td>400</td>
<td>125</td>
<td>1200</td>
</tr>
</tbody>
</table>

**Note:**

1. The subjects of Environmental Science (GES 201-B & GES-203B) are compulsory and qualifying course.
2. Theory Exam. shall be conducted for the studio subjects of Building Construction & Materials-IV (AR204-B) in the drawing hall having the provision of drawing boards.
3. Following stationery shall be required for the conduct of exams of Building Construction & Materials-IV (AR204-B) for each candidate:
   a. Cartridge sheet – 4 nos.
   b. Tracing sheets – 2 nos.
4. Portfolio exam (as Practical exam) shall be conducted through viva-voce in the subject of Architectural Design-IV (AR202-B) by an External and an Internal Examiner.
# SCHEME OF STUDIES & EXAMINATIONS

**B.Arch. III YEAR**  
**SEMESTER – V**  
Credit based scheme w.e.f. 2013-14

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Course No.</th>
<th>Course Title</th>
<th>Teaching Schedule</th>
<th>Marks of Classwork</th>
<th>Exam Marks</th>
<th>Total marks</th>
<th>Credit</th>
<th>Durati of Exam</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Class</td>
<td></td>
<td>Mark</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>L Studio</td>
<td>Theory</td>
<td>Portfolio</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>AR301-B</td>
<td>Architectural Design -V</td>
<td>-</td>
<td>9</td>
<td>150</td>
<td>-</td>
<td>150</td>
<td>300</td>
</tr>
<tr>
<td>2</td>
<td>AR303-B</td>
<td>Building Construction &amp; Materials –V</td>
<td>-</td>
<td>6</td>
<td>75</td>
<td>75</td>
<td>-</td>
<td>150</td>
</tr>
<tr>
<td>3</td>
<td>AR305-B</td>
<td>Structural Design - V</td>
<td>2</td>
<td>-</td>
<td>50</td>
<td>50</td>
<td>-</td>
<td>100</td>
</tr>
<tr>
<td>4</td>
<td>AR307-B</td>
<td>Computer in Architecture-V</td>
<td>-</td>
<td>4</td>
<td>100</td>
<td>-</td>
<td>-</td>
<td>100</td>
</tr>
<tr>
<td>5</td>
<td>AR309-B</td>
<td>Building Services -V</td>
<td>2</td>
<td>-</td>
<td>50</td>
<td>50</td>
<td>-</td>
<td>100</td>
</tr>
<tr>
<td>6</td>
<td>AR311-B</td>
<td>History of Architecture--V</td>
<td>2</td>
<td>-</td>
<td>50</td>
<td>50</td>
<td>-</td>
<td>100</td>
</tr>
<tr>
<td>7</td>
<td>AR313-B</td>
<td>Estimating &amp; Costing –V</td>
<td>2</td>
<td>-</td>
<td>50</td>
<td>50</td>
<td>-</td>
<td>100</td>
</tr>
<tr>
<td>8</td>
<td>AR315-B</td>
<td>Building Byelaw and office Management-V</td>
<td>2</td>
<td>-</td>
<td>50</td>
<td>50</td>
<td>-</td>
<td>100</td>
</tr>
<tr>
<td>9</td>
<td>AR317-B</td>
<td>Human behaviour &amp; built environment</td>
<td>2</td>
<td>-</td>
<td>50</td>
<td>50</td>
<td>-</td>
<td>100</td>
</tr>
<tr>
<td>10</td>
<td>GEN 301B</td>
<td>MORAL VALUES &amp; ETHICS (Common for all branches)</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Total</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>625</td>
<td>375</td>
<td>150</td>
<td>1150</td>
<td>31</td>
</tr>
</tbody>
</table>

**Note:**

1. Theory Exam shall be conducted for the studio subject of Building Construction & Materials-V (AR303-B) in the drawing hall having the provision of drawing boards.

2. Following stationery shall be required for the conduct of above mentioned exams, for each candidate:
   a. Cartridge sheet – 4 nos.
   b. Tracing sheets – 2 nos.

3. Portfolio exam (as Practical exam) shall be conducted through viva-voce in the subject of Architectural Design-V (AR301-B) by an External and an Internal Examiner.
## SCHEME OF STUDIES & EXAMINATIONS

**B.Arch. III-YEAR**  
**SEMESTER –VI**  
Credit based scheme w.e.f. 2013-14

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Course No.</th>
<th>Course Title</th>
<th>Teaching Schedule</th>
<th>Marks of Class work</th>
<th>Exam Marks</th>
<th>Total marks</th>
<th>Credit</th>
<th>Duration of Exam</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AR302-B</td>
<td>Architectural Design -VI</td>
<td>-</td>
<td>9</td>
<td>150</td>
<td>-</td>
<td>150</td>
<td>300</td>
</tr>
<tr>
<td>1</td>
<td>AR304-B</td>
<td>Building Construction &amp; Materials –VI</td>
<td>-</td>
<td>6</td>
<td>75</td>
<td>75</td>
<td>-</td>
<td>150</td>
</tr>
<tr>
<td>2</td>
<td>AR306-B</td>
<td>Structural Design – VI</td>
<td>2</td>
<td>50</td>
<td>50</td>
<td>-</td>
<td>-</td>
<td>100</td>
</tr>
<tr>
<td>3</td>
<td>AR308-B</td>
<td>Computer Aided Design-VI</td>
<td>4</td>
<td>100</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>100</td>
</tr>
<tr>
<td>4</td>
<td>AR310-B</td>
<td>Building Services – VI</td>
<td>2</td>
<td>50</td>
<td>50</td>
<td>-</td>
<td>-</td>
<td>100</td>
</tr>
<tr>
<td>5</td>
<td>AR312-B</td>
<td>Graphics-VI</td>
<td>4</td>
<td>75</td>
<td>75</td>
<td>-</td>
<td>-</td>
<td>150</td>
</tr>
<tr>
<td>6</td>
<td>AR314-B</td>
<td>History of Architecture-VI</td>
<td>2</td>
<td>50</td>
<td>50</td>
<td>-</td>
<td>-</td>
<td>100</td>
</tr>
<tr>
<td>7</td>
<td>AR316-B</td>
<td>Specification – VI</td>
<td>2</td>
<td>50</td>
<td>50</td>
<td>-</td>
<td>-</td>
<td>100</td>
</tr>
<tr>
<td>8</td>
<td>AR318-B</td>
<td>Building Maintenance</td>
<td>2</td>
<td>50</td>
<td>50</td>
<td>-</td>
<td>-</td>
<td>100</td>
</tr>
<tr>
<td>9</td>
<td>AR320-B</td>
<td>General Proficiency</td>
<td>-</td>
<td>-</td>
<td>50</td>
<td>-</td>
<td>-</td>
<td>50</td>
</tr>
<tr>
<td>10</td>
<td>AR322-B</td>
<td>Educational Tour</td>
<td>-</td>
<td>-</td>
<td>50</td>
<td>-</td>
<td>-</td>
<td>50</td>
</tr>
<tr>
<td>11</td>
<td></td>
<td>Total</td>
<td>10</td>
<td>23</td>
<td>750</td>
<td>400</td>
<td>150</td>
<td>1300</td>
</tr>
</tbody>
</table>

**Note:**

1. Theory Exam. Shall be conducted for the studio subjects of Building Construction & Materials-VI (AR304-B) and Graphics-VI (AR312-B) in the drawing Hall having the provision of Drawing boards.

2. Following stationery shall be required for the conduct of above mentioned exams, for each candidate:
   a. Cartridge sheet – 4 nos.
   b. Graph paper (large) – 1 no.
   c. Tracing sheets – 2 nos.

3. Portfolio exam (as Practical exam) shall be conducted through viva-voce in the subject of Architectural Design-VI (AR302-B) by an External and an Internal Examiner.
SCHEME OF STUDIES & EXAMINATIONS
B.Arch. IV-YEAR
SEMESTER –VII
Credit based scheme w.e.f. 2013-14

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Course No.</th>
<th>Course Title</th>
<th>Teaching Schedule</th>
<th>Marks of Class work</th>
<th>Exam Marks</th>
<th>Total marks</th>
<th>Credit</th>
<th>Duration of Exam</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>AR401-B</td>
<td>Practical Training -VII</td>
<td>-</td>
<td>200</td>
<td>-</td>
<td>400</td>
<td>8</td>
<td>-</td>
</tr>
</tbody>
</table>

Note:
Evaluation for AR-401-B shall be done through a viva voce/presentation conducted by Chairperson Architecture/Practical Training Coordinator and an External Examiner.

SCHEME OF STUDIES & EXAMINATIONS
SEMESTER –VIII
Credit based scheme w.e.f. 2013-14

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Course No.</th>
<th>Course Title</th>
<th>Teaching Schedule</th>
<th>Marks of Class work</th>
<th>Exam Marks</th>
<th>Total marks</th>
<th>Credit</th>
<th>Duration of Exam</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>AR402-B</td>
<td>Architectural Design -VIII</td>
<td>-</td>
<td>150</td>
<td>-</td>
<td>300</td>
<td>9</td>
<td>-</td>
</tr>
<tr>
<td>2</td>
<td>AR404-B</td>
<td>Building Const. &amp; Materials – VIII</td>
<td>6</td>
<td>75</td>
<td>75</td>
<td>150</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>AR406-B</td>
<td>Research Techniques 4*</td>
<td>-</td>
<td>75</td>
<td>75</td>
<td>150</td>
<td>4</td>
<td>3</td>
</tr>
</tbody>
</table>

STUDENTS HAVE TO SELECT ANY FOUR OF THE FOLLOWING ELECTIVES

| 4     | AR408-B    | Urban Design-VIII | 4*                  | 75                  | 75         | 150         | 4      | 3                |
| 5     | AR410-B    | Interior Design-VIII | 4*                  | 75                  | 75         | 150         | 4      | 3                |
| 6     | AR412-B    | Housing-VIII      | 4*                  | 75                  | 75         | 150         | 4      | 3                |
| 7     | AR414-B    | Urban and Regional Planning-VIII | 4*                  | 75                  | 75         | 150         | 4      | 3                |
| 8     | AR416-B    | Conservation of Built Heritage-VIII | 4*                  | 75                  | 75         | 150         | 4      | 3                |
| 9     | AR420-B    | Indian Architecture -VIII | 4*                  | 75                  | 75         | 150         | 4      | 3                |
| 10    | AR424-B    | Energy Conscious Arch-VIII | 4*                  | 75                  | 75         | 150         | 4      | 3                |
| 11    | AR426-B    | Advanced Structural Design VIII | 4*                  | 75                  | 75         | 150         | 4      | 3                |
|       | Total      |                     | 20                  | 15                  | 600        | 450         | 150    | 1200            |

Note:
1. Theory Exam shall be conducted for the studio subjects of Building Construction & Materials-IX (AR404-B) in the drawing hall having the provision of drawing boards.
2. Following stationery shall be required for the conduct of above mentioned exams, for each candidate:
   a. Cartridge sheet – 4 nos.
   b. Tracing sheets – 2 nos.
3. Portfolio exam (as Practical exam) shall be conducted through viva-voce in the subject of Architectural Design-VIII (AR402-B) by an External and an Internal Examiner.

*Out of four periods three periods shall be usual lectures (to be shown in time table) & one period shall be beyond time table scheduled hrs/period and shall be exclusively devoted to site/case/net-specialized studies (this special arrangement is only for electives/subject at VIII IX and X semester level.)
### SCHEME OF STUDIES & EXAMINATIONS

**B.Arch. V-YEAR**

**SEMESTER – IX**

Credit based scheme w.e.f. 2013-14

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Course No.</th>
<th>Course Title</th>
<th>Teaching Schedule</th>
<th>Marks of Class work</th>
<th>Exam Marks</th>
<th>Total marks</th>
<th>Credit Durati of Exam</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>L</td>
<td>Studio</td>
<td>Theory</td>
<td>Portfolio</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>AR501-B</td>
<td>Architectural Design -IX</td>
<td>9</td>
<td>150</td>
<td></td>
<td></td>
<td>300</td>
</tr>
<tr>
<td>2</td>
<td>AR503-B</td>
<td>Building Construction &amp; Materials – IX</td>
<td>6</td>
<td>75</td>
<td>75</td>
<td></td>
<td>150</td>
</tr>
<tr>
<td>3</td>
<td>AR505-B</td>
<td>Dissertation</td>
<td>4*</td>
<td>-</td>
<td>75</td>
<td></td>
<td>150</td>
</tr>
<tr>
<td>4</td>
<td>GEN501B</td>
<td>Moral Values &amp; Ethics (Common for all branches)</td>
<td>1</td>
<td>-</td>
<td></td>
<td></td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STUDENTS HAVE TO SELECT ANY FOUR OF THE FOLLOWING ELECTIVES</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>AR507-B</td>
<td>Landscape Design –IX</td>
<td>4*</td>
<td>-</td>
<td>75</td>
<td></td>
<td>150</td>
</tr>
<tr>
<td>6</td>
<td>AR509-B</td>
<td>Traffic &amp; Transportation -IX</td>
<td>4*</td>
<td>-</td>
<td>75</td>
<td></td>
<td>150</td>
</tr>
<tr>
<td>7</td>
<td>AR511-B</td>
<td>Construction Management – IX</td>
<td>4*</td>
<td>-</td>
<td>75</td>
<td></td>
<td>150</td>
</tr>
<tr>
<td>8</td>
<td>AR513-B</td>
<td>Tall Building Design - IX</td>
<td>4*</td>
<td>-</td>
<td>75</td>
<td></td>
<td>150</td>
</tr>
<tr>
<td>9</td>
<td>AR515-B</td>
<td>Cost-effective Architecture-IX</td>
<td>4*</td>
<td>-</td>
<td>75</td>
<td></td>
<td>150</td>
</tr>
<tr>
<td>10</td>
<td>AR517-B</td>
<td>Sustainable Architecture-IX</td>
<td>4*</td>
<td>-</td>
<td>75</td>
<td></td>
<td>150</td>
</tr>
<tr>
<td>11</td>
<td>AR519-B</td>
<td>Architectural Journalism-IX</td>
<td>4*</td>
<td>-</td>
<td>75</td>
<td></td>
<td>150</td>
</tr>
<tr>
<td>12</td>
<td>AR521-B</td>
<td>Disaster Management in Architecture--IX</td>
<td>4*</td>
<td>-</td>
<td>75</td>
<td></td>
<td>150</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>19</td>
<td>15</td>
<td>600</td>
<td>375</td>
<td>1200</td>
</tr>
</tbody>
</table>

**Note:**

1. Theory Exam shall be conducted for the studio subjects of Building Construction & Materials-IX (AR503-B) in the drawing Hall having the provision of Drawing boards.

2. Following stationery shall be required for the conduct of Building Construction & Materials-IX (AR503-B) exams for each candidate:
   a. Cartridge sheet – 4 nos.  
   b. Tracing sheets – 2 nos.

3. Portfolio exam (as Practical exam) shall be conducted through viva-voce in the subject of Architectural Design-IX (AR501-B) by an External and an Internal Examiner.

### SCHEME OF STUDIES & EXAMINATIONS

**SEMESTER –X**

Credit based scheme w.e.f. 2013-14

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Course No.</th>
<th>Course Title</th>
<th>Teaching Schedule</th>
<th>Marks of Class work</th>
<th>Exam Marks</th>
<th>Total marks</th>
<th>Credit Durati of Exam</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>L</td>
<td>Studio</td>
<td>Theory</td>
<td>Portfolio</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>AR502-B</td>
<td>Architectural Thesis-X</td>
<td>6</td>
<td>500</td>
<td></td>
<td></td>
<td>1000</td>
</tr>
<tr>
<td>2</td>
<td>AR504-B</td>
<td>Professional Practice</td>
<td>4*</td>
<td>-</td>
<td>100</td>
<td></td>
<td>150</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>4</td>
<td>6</td>
<td>600</td>
<td>50</td>
<td>1150</td>
</tr>
</tbody>
</table>

*Out of four periods three periods shall be usual lectures (to be shown in time table) & one period shall be beyond time table scheduled hrs/period and shall be exclusively devoted to site/case/net-specialized studies (this special arrangement is only for electives/subject at VIII IX and X semester level.)
SYLLABUS
BACHELOR OF ARCHITECTURE
CONCEPTUAL BACKGROUND

Architecture is a subtle amalgam of extracts from Arts, Humanities, Technology and Sciences dealing with Man and his Habitat. Catering to the intangible sense of fulfillment of human aspirations and the need for meeting the intangible requirements of order and beauty and the manifestation of the civilization it caters to, architecture ends up as a complex study of interrelationships of Man, Space and Time. Our physical surroundings are an outcome of architectural inputs at all levels of the region, the city, the neighborhood, the individual plot, in all its various elemental divisions of landscape, urban design, roads, street furniture, buildings and all that we see around us.

The training of an architect, thus, requires an educational programme that covers the development of skills, the appreciation of techniques and the awareness of the intangibles that constitute and effect our spatial organizations. There is the need to first of all divert the mindsets of the students coming from the science background to the techno-aesthetic environment of architecture. Secondly, the training for the building of architects requires the inculcation of a high level sense of responsibility as the graduation programme permits the students to acquire a license to practice. The training programme also requires subtle balance of inputs from subject related to Arts, Humanities, Science and Technology. These considerations form the backdrop in the formulation of this syllabus for the Bachelor of Architecture Course.

COURSE STRUCTURE

The Bachelor of Architecture programme of ten semesters is divided into two tiers. The first tier comprising six semesters is a core course programme of compulsory subjects designed to train a student to act as an assistant in the office of a practicing architect in the seventh semester that comprises six months of practical training. The second tier comprising four semesters is a training programme constructed to cater to the building up of a decision making professional. In second tier, the first semester i.e. the seventh semester of programme is dedicated to practical training in which the students get training to approach offices for a six month placement and then acquire the information and knowledge of the practical world of architectural practice. The eighth and ninth semesters offer numerous electives to cater to the development these students’ self assessed professional caliber in different areas of architecture. The final, tenth semester is dedicated to a thesis project in which the students get an opportunity to explore and project their inherent capabilities and prove that they are capable of handling architectural projects individually. The students also learn nuances of professional practice in the tenth semester.
Teaching Schedule

<table>
<thead>
<tr>
<th>L</th>
<th>P</th>
<th>Theory</th>
<th>Portfolio</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td>6</td>
<td>100</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td>100</td>
<td>200</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>6</td>
</tr>
</tbody>
</table>

**Marks of Sessional work**

- Theory: 100
- Portfolio: 0

**Marks of Examination**

- Theory: 100
- Portfolio: 200
- Total: 200
- Credit: 6

**Duration of Examination (h):**

- L: 6
- P: -

**INTENT:**

Introduce into the mathematical mind set of the students from the science stream, aesthetic line of thinking.

Inculcating a sense of joy in ‘design’ and its process.

**CONTENTS:**

Potential of a line

Two dimensional compositions of simple geometric shapes (triangles, rectangles, circles) as lines and as cut and paste in monochromatic schemes and in color schemes.

Application of form and color in differing visual creative situation like design of a carpet, a sari border, a necktie, a Rangoli, a pavement pattern, curtain fabric etc.

3-D forms in different materials like Matchsticks, Clay, P.O.P etc.

Logo design, Poster making.

Volumetric study of Platonic solids like Cube, Cuboids, Cylinder, Pyramid, Sphere etc. in simple positions.

Introduction to Archimedean solids.

**NOTE:**

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

At least 10 problems are to be completed in the entire semester, covering the entire syllabus uniformly. 7 Problems can be included in the sessionals & 3 problems can be left for external portfolio exams.

**Sessional evaluation**

<table>
<thead>
<tr>
<th>I</th>
<th>Sessional evaluation</th>
<th>Weightage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Minor Test – I</td>
<td>10%</td>
</tr>
<tr>
<td></td>
<td>Minor Test – II</td>
<td>10%</td>
</tr>
<tr>
<td></td>
<td>Design Exercises (7)</td>
<td>60%</td>
</tr>
<tr>
<td></td>
<td>Portfolio exercises (part evaluation)</td>
<td>20%</td>
</tr>
</tbody>
</table>

**Portfolio evaluation**

<table>
<thead>
<tr>
<th>II</th>
<th>Portfolio evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Portfolio exercises (3)</td>
</tr>
</tbody>
</table>

**READING LIST:** (to be amplified by the subject teacher)

INTENT:
To introduce the students to the dynamics of the construction of buildings and an appreciation of the use of building materials in architecture as an integral component of the conversion of Architectural Concepts into tangible reality.

CONTENT:
UNIT I:
Basic components of a ‘building’.
Role of Construction in Architecture.
UNIT II:
Brick as a building material
Brick Masonry tools
UNIT III:
Brick bonding in walls and joints
Brick Jallies, Brick Arches
UNIT IV:
Stone as a building material
Stone Masonry tools
Stone walls, rubble work, ashlar work, masonry joints, Stone arches

NOTE:
Detailed teaching programme to be made before the commencement of the semester and circulated to the students at the commencement of the semester.
In each class teacher will deliver lecture on the subject to be followed by drawing.
Market survey/ site visits are to be conducted
Minimum 8-10 sheets must be prepared in the studio under supervision of the teacher.

INSTRUCTIONS TO QUESTION PAPER SETTER:
1. Exam. shall be conducted in the drawing hall/studio having provision of drawing boards.
2. Following Stationery shall be provided to each of the student
   a. Four Cartridge Sheet (White)
   b. Two tracing papers
3. Total FIVE questions are to be set, out of which FIRST question shall be compulsory (from the entire syllabus) of theory of 25 marks, (due consideration has to be given to building materials) and rest of the FOUR QUESTIONS shall be from four units (one question from each of the unit, candidate have to attempt any TWO questions (drawing based) out of four of 25 marks each.
4. Exam. shall be of 3 hours duration and of Maximum marks: 75. (minimum passing marks 30)

READING LIST: (to be amplified by the subject teacher)
8. Relevant IS codes
INTENT:
To inculcate the understanding of the basic principles of structural mechanics for understanding of Structural Systems and basic analysis of structures.

CONTENT:

BASIC STRUCTURAL MECHANICS & ANALYSIS OF STRUCTURES


UNIT II: Analysis of a perfect truss by method of joints and method of sections. Simple stress and strains, elastic constants, stress strain curves, relationship among elastic constants. Study of beams with different types of support conditions and different types of loadings. BIS 875 code for estimation of design loads in a building.

UNIT III: Shear force and shear force diagrams, Bending moment & Bending moment diagrams for determinate beams, Saggging and Hogging Bending Moments, Sign Convention, Point of contra-flexure and determination of its location. Flexural and shear stresses under bending, Determination of deflection in the beams (only formulae to be told, no derivation) Deflected shapes of the beams.


NOTE:
Detailed teaching programme to be made and circulated to the students at the commencement of the semester.

I Sessional evaluation Weightage
Minor Test – I 20%
Minor Test – II 20%
Assignment / Mini Project / Term paper 30%
Quiz/Tutorial/Class Test 30%
II Theory examination 100%

INSTRUCTIONS TO QUESTION PAPER SETTER:
1. Exam shall be of 3 hours duration and of maximum marks: 50. (minimum passing marks:20)
2. Total EIGHT questions are to be set (two questions from each unit), and candidate have to attempt any five questions selecting one from each unit, each question of 10 marks each.
3. The question paper should at least have one question with 3 subparts and three questions with 2 subparts.

READING LIST: (to be amplified by the subject teacher)
INTENT:
To develop the skill of hand drafting using conventional drafting instruments

CONTENT:

UNIT I:
Use of different drafting instruments
Drafting of lines

UNIT II:
Types of Orthographic projections
Orthographic projections – Lines, Planes

UNIT III:
Orthographic projections – Simple Solids
Representing simple solids, Drawing Scale

UNIT IV:
Lettering
Architectural Graphic Symbols, Measured drawing of a simple object

NOTE:
Detailed teaching programme to be made and circulated to the students at the commencement of the semester.
Minimum 8-10 sheets must be prepared in the studio under supervision of the teacher.

INSTRUCTIONS TO QUESTION PAPER SETTER:
1. Exam shall be of 3 hours duration and of maximum marks: 75. (minimum passing marks:30)
2. Exam shall be conducted in the drawing hall/studio having provision of drawing boards.
3. Following Stationery shall be provided to each of the student
   a) Four cartridge sheet (white)
   b) Two tracing papers
4. Total FIVE questions are to be set, out of which FIRST question shall be compulsory (from the entire syllabus) of theory of 25 marks and rest of the FOUR QUESTIONS shall be from four units (one question from each of the unit, candidate have to attempt any TWO questions (drawing based) out of four of 25 marks each.

READING LIST: (to be amplified by the subject teacher)
INTENT
To develop the skill of using the pencil in free hand drawing and rendering to support Architectural Design and Drawing

CONTENT
UNIT I:
Lines, Planes, Simple Solids
Shading / shadows of Simple Solids

UNIT II:
Scaled graphics of Foliage, Human Figures

UNIT III:
Quick sketching of simple objects like telephone, bottle, chair, table etc. in black pencil.

NOTE:
Detailed teaching programme to be made and circulated to the students at the commencement of the semester.
Minimum 8-10 sheets must be prepared in the studio under supervision of the teacher.
The medium includes use of Black / Color pencils.

<table>
<thead>
<tr>
<th>Sessional evaluation</th>
<th>Weightage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minor Test – I</td>
<td>20%</td>
</tr>
<tr>
<td>Minor Test – II</td>
<td>20%</td>
</tr>
<tr>
<td>Assignments</td>
<td>30%</td>
</tr>
<tr>
<td>Quiz/Tutorial/Class Test</td>
<td>30%</td>
</tr>
</tbody>
</table>

INSTRUCTIONS TO QUESTION PAPER SETTER:
1. Exam shall be of 3 hours duration and of maximum marks:75. (minimum passing marks:30)
2. Exam shall be conducted in the drawing hall/studio having provision of drawing boards.
3. Following Stationery shall be provided to each of the student
   a) Four cartridge sheet (white)
   b) Two tracing papers
4. Total THREE questions are to be set one from each unit out of which candidate has to attempt any TWO each of 37.5 marks.
INTENT:
To inculcate the appreciation of ‘History of Built Environment’ in the larger context of Time, Space, Man and Architecture; to develop a curiosity of a past era; to appreciate the glory of a past era through its Architecture.

CONTENT
UNIT I: Eastern World (Indian Subcontinent)
Indus valley civilization
Aryan/Vedic civilization
Buddhist and Jain civilization

UNIT II:
India Aryan Temple Architecture
Early and late Chalukyan architecture
Dravidian Temple Architecture

UNIT III: Western World
Ancient civilizations - Mesopotamian, Sumerian, Babylonian, Persian, Assyrian
Egyptian civilization
Classical Greek architecture
Roman architecture

UNIT IV:
Early Christian architecture
Romanesque architecture
Early Gothic architecture

NOTE:
Detailed teaching programme to be made and circulated to the students at the commencement of the semester.

I | Sessional evaluation | Weightage
---|---|---
Minor Test – I | 20%
Minor Test – II | 20%
Assignment / Mini Project / Term paper (stress on sketches) | 30%
Quiz/Tutorial/Class Test | 30%

II | Theory examination | 100%

INSTRUCTIONS TO QUESTION PAPER SETTER:
1. Exam shall be of 3 hours duration and of maximum marks: 50. (minimum passing marks:20)
2. Total EIGHT questions are to be set (two questions from each unit), and candidate have to attempt any five questions selecting one from each unit, each question of 10 marks each.
3. The question paper should at least have one question with 3 subparts and three questions with 2 subparts.

READING LIST:
AR113-B ARCHITECTURAL DESIGN THEORY - I

Teaching Schedule

<table>
<thead>
<tr>
<th>L</th>
<th>P</th>
<th>Sessional work</th>
<th>Theory</th>
<th>Portfolio</th>
<th>Total marks</th>
<th>Credits</th>
<th>Duration of Examination (h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td></td>
<td>50</td>
<td>50</td>
<td></td>
<td>100</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

INTENT:
To appreciate ‘design’, the background thinking in the design of art forms: the design of natural objects.

CONTENT

UNIT I:
Meaning of design
Appreciation of beautiful objects
Design in everyday life

UNIT II:
Logic in design
Geometry in design

UNIT III:
Elements of Design – Line, form, color texture
Principles of Design-Unity, variety, hierarchy

UNIT IV:
Scale and proportions
Balance, emphasis, focus, fashion, decoration
Introduction to theory of colour.

NOTE:
Detailed teaching programme to be made and circulated to the students at the commencement of the semester.

I Sessional evaluation
   Minor Test – I
   Minor Test – II
   Assignment / Mini Project / Term paper
   Quiz/Tutorial/Class Test

II Theory examination

Weightage

<table>
<thead>
<tr>
<th>I</th>
<th>Sessional evaluation</th>
<th>Weightage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Minor Test – I</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td>Minor Test – II</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td>Assignment / Mini Project / Term paper</td>
<td>30%</td>
</tr>
<tr>
<td></td>
<td>Quiz/Tutorial/Class Test</td>
<td>30%</td>
</tr>
<tr>
<td></td>
<td>Theory examination</td>
<td>100%</td>
</tr>
</tbody>
</table>

INSTRUCTIONS TO QUESTION PAPER SETTER:
1. Exam shall be of 3 hours duration and of maximum marks: 50. (minimum passing marks:20)
2. Total EIGHT questions are to be set (two questions from each unit), and candidate have to attempt any five questions selecting one from each unit, each question of 10 marks each.
3. The question paper should at least have one question with 3 subparts and three questions with 2 subparts.

READING LIST
INTENT:
To hone model making skills and hands on experience of building materials.

CONTENT:

UNIT I:
Brick masonry tools
Brick Masonry on building site

UNIT II:
Model Making materials

UNIT III:
Model making techniques for quick study models

UNIT IV:
Model making techniques for rendered models

NOTE:
Detailed teaching programme to be made and circulated to the students at the commencement of the semester. The classes to be conducted in the workshop and construction yard.

<table>
<thead>
<tr>
<th>I</th>
<th>Sessional evaluation</th>
<th>Weightage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Minor Test – I</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td>Minor Test – II</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td>Assignment / Mini Project /</td>
<td>30%</td>
</tr>
<tr>
<td></td>
<td>Quiz/Tutorial/Class Test</td>
<td>30%</td>
</tr>
</tbody>
</table>

READING LIST: (to be amplified by the subject teacher)
**AR 102-B**

### ARCHITECTURAL DESIGN–II

<table>
<thead>
<tr>
<th>Teaching Schedule</th>
<th>Marks of Sessional work</th>
<th>Marks of Examination</th>
<th>Total marks</th>
<th>Credits</th>
<th>Duration of Examination (h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>L, P</td>
<td>Theory, Portfolio</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-</td>
<td>6</td>
<td>100</td>
<td>-</td>
<td>100</td>
<td>200</td>
</tr>
</tbody>
</table>

**INTENT:**
To appreciate the process of design and the complexities involved in architectural design.

**CONTENT:**

Exercise of 3D composition of solids increased complexity (multiple solids in various positions like tilted, overlapping, superimposed, interpenetrating, etc.) and their representation in 2D

Exercises of composition of spaces and their representation in 2D

Basic anthropometrics-average measurements of human body in different postures-its proportion and graphic representation.

Basic human functions and their implications for spatial planning. Minimum and optimum areas for various functions. Activity space analysis of individual spaces like Bed room, Drawing room, Kitchen, Bath room etc. including, the furniture layout, circulation, clearances, lighting and ventilation, etc. of existing house and re-design of these spaces. Preparing user profile, bubble and circulation diagrams.

Visual analysis of built forms, noted for aesthetic delight; analysis of solid and void relations. Integration of form and function in the design of Design of mono cellular structure like florist kiosk, gift/souvenir shop, pavilions, bus shelter, milk booth, PCO, Guard cabin, cycle stand, entrance gate, traffic police kiosk, ATM centre etc.

**NOTE:**

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

At least **8** design exercises are to be completed in the entire semester, covering the entire syllabus uniformly. 2 exercises in 3-D composition followed up by **5** exercises in design. Total 7 exercises to be included in the sessionals & **one** design can be left for external portfolio exams.

Site visits and proto type study visits to be conducted.

<table>
<thead>
<tr>
<th>I</th>
<th>Sessional evaluation</th>
<th>Weightage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minor Test – I</td>
<td>10 %</td>
<td></td>
</tr>
<tr>
<td>Minor Test – II</td>
<td>10 %</td>
<td></td>
</tr>
<tr>
<td>Design Exercises</td>
<td>60%</td>
<td></td>
</tr>
<tr>
<td>Portfolio exercises (part evaluation)</td>
<td>20 %</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>II</th>
<th>Portfolio evaluation</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Portfolio exercises</td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>

**READING LIST:** (to be amplified by the subject teacher)

4. Itten, Johannes (1973) The art of colour, Van Nostrand Reinhold, NY
INTENT:
To familiarize the student with the various aspects of building construction with the basic material as wood.

CONTENT:

UNIT I:
Timber and bamboo as building materials
Plywood and Boards – types and qualities, Substitute wood products like Medium Density Fibreboard (MDF) etc, Veneers, Laminates etc.

UNIT II:
Doors: Definition of terms, types of wooden doors: ledged, ledged and braced, paneled, flush door. Hinged, single and double shutters, sliding, folding, sliding and folding, revolving, pivoted.

UNIT III:
Windows: types of wooden windows, casement, top and bottom hung, pivoted and sliding sash. Ventilators and their details
Hardware: fixtures, locks, hinges, fastenings for doors and windows; moldings, architrave

UNIT IV:
Types of Wooden Staircase and their details

NOTE:
- Detailed teaching programme to be made before the commencement of the semester and circulated to the students at the commencement of the semester.
- In each class teacher will deliver lecture on the subject to be followed by drawing.
- Market survey/site visits are to be conducted
- Minimum 8-10 sheets must be prepared in the studio under supervision of the teacher.

INSTRUCTIONS TO QUESTION PAPER SETTER:
1. Exam. shall be conducted in the drawing hall/studio having provision of drawing boards.
2. Following Stationery shall be provided to each of the student
   a. Four Cartridge Sheet (White)
   b. Two tracing papers
3. Total FIVE questions are to be set, out of which FIRST question shall be compulsory (from the entire syllabus) of theory of 25 marks, (due consideration has to be given to building materials) and rest of the FOUR QUESTIONS shall be from four units (one question from each of the unit, candidate have to attempt any TWO questions (drawing based) out of four of 25 marks each.
4. Exam. shall be of 3 hours duration and of Maximum marks: 75. (minimum passing marks 30)

READING LIST:
8. Relevant IS codes
INTENT:
To inculcate the understanding of the basis for the analysis and design of a structural component subjected to bending & Design of basic structural elements using timber & Brick Masonry.

CONTENT:
DESIGN OF TIMBER STRUCTURES & BRICK MASONRY

UNIT I: Stress, Strain and Modulus of elasticity; Stress diagram, Strain diagram, Bending Stresses and Shear Stresses.
Study of a section subjected to pure bending; Neutral Axis, Moment of Resistance and Section Modulus.


UNIT III: Analysis and Design of flexural members of timber.
Built up beams and flitched beams.
Analysis and Design of timber columns; Solid columns and Built up columns.
Design of members of a simple truss.

UNIT IV: Brick as a structural material, Design of a load bearing brick wall and wall footing.
Types of masonry used as structural system for building structures. Structural properties of brick masonry and analysis and design of low rise masonry buildings including masonry foundation.

NOTE:
Detailed teaching programme to be made and circulated to the students at the commencement of the semester. Appropriate Standards must be explained and used

INSTRUCTIONS TO QUESTION PAPER SETTER:
1. Exam shall be of 3 hours duration and of maximum marks: 50. (minimum passing marks:20)
2. Total EIGHT questions are to be set (two questions from each unit), and candidate have to attempt any five questions selecting one from each unit, each question of 10 marks each.
3. The question paper should at least have one question with 3 subparts and three questions with 2 subparts.

READING LIST: (to be amplified by the subject teacher)
INTENT:
To develop the capability of understanding and drawing three dimensional solids and their various complex sections as a basis of representing architectural design.

CONTENT
UNIT I:
Projection of simple solids in simple positions
Projection of group of solids in tilted positions

UNIT II:
Simple sections of solids

UNIT III:
Development of surface,
Inter penetration of solids

UNIT IV:
Isometric view of simple forms
Axonometric view and exploded axonometric view.

NOTE:
Detailed teaching programme to be made and circulated to the students at the commencement of the semester.
Minimum 8-10 sheets must be prepared in the studio under supervision of the teacher.

INSTRUCTIONS TO QUESTION PAPER SETTER:
1. Exam shall be of 3 hours duration and of maximum marks: 75. (minimum passing marks:30)
2. Exam shall be conducted in the drawing hall/studio having provision of drawing boards.
3. Following Stationery shall be provided to each of the student
   a) Four cartridge sheet (white)
   b) Two tracing papers
4. Total FIVE questions are to be set, out of which FIRST question shall be compulsory (from the entire syllabus) of theory of 25 marks and rest of the FOUR QUESTIONS shall be from four units (one question from each of the unit, candidate have to attempt any TWO questions (drawing based) out of four of 25 marks each.

READING LIST: (to be amplified by the subject teacher)
INTENT
Appreciating designing and layout of the water supply, plumbing, drainage and sanitation of simple buildings.

CONTENT
UNIT I:
Introduction to water supply and sanitation. Traditional sources of water supply, treatment of water, transportation and distribution at town level. Classification of water based on its usage. Rain water harvesting

UNIT II:
Water supply system: fittings, direct and indirect supply, layout and sizes of pipes, hot water supply, storage

UNIT III:
Sewerage system: systems, fittings and fixtures, sizes and layout, sewage collection, sewage treatment and disposal at town level.

UNIT IV:
Solid waste management, environment oriented waste water treatment
Rainwater (storm water) drainage

NOTE:
Detailed teaching programme to be made and circulated to the students at the commencement of the semester.

INSTRUCTIONS TO QUESTION PAPER SETTER:
1. Exam shall be of 3 hours duration and of maximum marks: 50. (minimum passing marks:20)
2. Total EIGHT questions are to be set (two questions from each unit), and candidate have to attempt any five questions selecting one from each unit, each question of 10 marks each.
3. The question paper should at least have one question with 3 subparts and three questions with 2 subparts.

READING LIST:
AR112-B       GRAPHICS-II

Teaching Schedule         Marks of Examination         Marks of Sessional work         Total marks         Credits         Duration of Examination (h)
L         Studio         Theory         Portfolio         -
4         75         75         -         150         4         3

INTENT
To make students experiment in different color mediums for the final application of rendering architectural drawings.

CONTENT
UNIT I:
Introduction to Architectural Rendering
Color wheel
Representing building material in color
Representing Architectural elements like Foliage, Automobile, Human Figures, Landscape etc.

UNIT II:
Use of ink for rendering
Rendering on different kinds of paper like Cartridge, Handmade, Ivory etc.

UNIT III:
Quick sketches of buildings in 3 dimension like kiosks, bus shelters, traffic booths, entrance gate, cycle stand etc.

NOTE:
Detailed teaching programme to be made and circulated to the students at the commencement of the semester. Minimum 8-10 sheets must be prepared in the studio under supervision of the teacher.
The medium includes use of water colours, poster colour, crayons, markers and ink.

I Sessional evaluation Weightage
Minor Test – I 20%
Minor Test – II 20%
Assignments 30%
Quiz/Tutorial/Class Test 30%

II Theory examination 100%

INSTRUCTIONS TO QUESTION PAPER SETTER:
1. Exam shall be of 3 hours duration and of maximum marks:75. (minimum passing marks:30)
2. Exam shall be conducted in the drawing hall/studio having provision of drawing boards.
3. Following Stationery shall be provided to each of the student
   a) Four cartridge sheet (white)
   b) Two tracing papers
4. Total THREE questions are to be set one from each unit out of which candidate has to attempt any TWO of 37.5 marks.

READING LIST: (to be amplified by the subject teacher)
AR114-B  ARCHITECTURAL DESIGN THEORY - II

<table>
<thead>
<tr>
<th>Teaching Schedule</th>
<th>Marks of Sessional work</th>
<th>Marks of Examination</th>
<th>Total marks</th>
<th>Credits</th>
<th>Duration of Examination (h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>P</td>
<td>Theory</td>
<td>Portfolio</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>-</td>
<td>50</td>
<td>50</td>
<td>-</td>
<td>100</td>
</tr>
</tbody>
</table>

**INTENT**
To generate and appreciation of background aspects of thinking required in architectural design.

**CONTENT**

**UNIT I:**
Basic Design and Architectural Design-Elemental Differentiation
Perception and Experience
Tangible and Intangible in Architecture
Colour Aesthetics

**UNIT II:**
Function, Structure and Form
Space, Space Usage and Interrelationship of spaces
Circulation within Spatial Units

**UNIT III:**
Horizontal Circulation
Vertical Circulation
Circulation and Spaces between Buildings

**UNIT IV:**
Relationship of Plan, Section and Elevation
Architectural Scale
Programming in Architectural Design

**NOTE:**
Detailed teaching programme to be made and circulated to the students at the commencement of the semester.

<table>
<thead>
<tr>
<th>I</th>
<th>Sessional evaluation</th>
<th>Weightage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Minor Test – I</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td>Minor Test – II</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td>Assignment / Mini Project / Term paper</td>
<td>30%</td>
</tr>
<tr>
<td></td>
<td>Quiz/Tutorial/Class Test</td>
<td>30%</td>
</tr>
<tr>
<td>II</td>
<td>Theory examination</td>
<td>100%</td>
</tr>
</tbody>
</table>

**INSTRUCTIONS TO QUESTION PAPER SETTER:**
1. Exam shall be of 3 hours duration and of maximum marks: 50. (minimum passing marks: 20)
2. Total EIGHT questions are to be set (two questions from each unit), and candidate have to attempt any five questions selecting one from each unit, each question of 10 marks each.
3. The question paper should at least have one question with 3 subparts and three questions with 2 subparts.

**READING LIST:**
<table>
<thead>
<tr>
<th>Teaching Schedule</th>
<th>Marks of Sessional work</th>
<th>Marks of Examination</th>
<th>Total marks</th>
<th>Credits</th>
<th>Duration of Examination (h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 L 5 P</td>
<td></td>
<td></td>
<td>100</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

**INTENT:**
Introduction of basic concepts of surveying, Photogrammetry, Remote sensing and Geographical Information System.

**CONTENT:**

**UNIT I:**
Introduction to surveying and its principles. Types of surveying, Map and Plan, its Scale and uses. Sources of errors in survey-linear measurement: accurate and approximate methods.

Chain Surveying.

**UNIT II:**
Compass Surveying, Leveling

**UNIT III**
Plane Table surveying, Contouring

**UNIT IV**
Basic concepts of Photogrammetry, Automated Surveying – Introduction to use of Digital Surveying – Instruments such as distomat – total station, Electronic Theodolite, G.P.S. Remote sensing, Geographical Information systems and their applications

**NOTE:**
Detailed teaching programme to be made and circulated to the students at the commencement of the semester.

Advance Survey instruments to be demonstrated.

Lectures to be supported with field exercises.

<table>
<thead>
<tr>
<th></th>
<th>Sessional evaluation</th>
<th>Weightage</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Minor Test – I</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td>Minor Test – II</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td>Assignment / Mini Project / Term paper (illustrated with visuals)</td>
<td>30%</td>
</tr>
<tr>
<td></td>
<td>Quiz/Tutorial/Class Test</td>
<td>30%</td>
</tr>
<tr>
<td>II</td>
<td>Theory examination</td>
<td>100%</td>
</tr>
</tbody>
</table>

**INSTRUCTIONS TO QUESTION PAPER SETTER:**

1. Exam shall be of 3 hours duration and of maximum marks: 50. (minimum passing marks:20)
2. Total EIGHT questions are to be set (two questions from each unit), and candidate have to attempt any five questions selecting one from each unit, each question of 10 marks each.
3. The question paper should at least have one question with 3 subparts and three questions with 2 subparts.

**READING LIST:** (to be amplified by the subject teacher)

INTENT:
Appreciation of the complexities and contradictions in the architectural design process.
To train student in design development of moderate complexity through understanding and appreciation of space and functional requirements such as circulation, facilitation and area analysis, with particular stress on techniques of graphic representation as an integrated process in architectural design.
To adhere to basics of technical drawings.

CONTENT:
Introduction of exercises interconnecting basic design and architectural design, understanding the arrangement of solids for aesthetic consideration to foster basic architectural qualities in design like composition and other human considerations like, privacy, convenience, comfort, etc.; understanding the significance of the factors in creating ideal environment; learning the design process;
Critical appraisal of spaces to which students are frequently exposed to like small residence, refectory, shops, clinic, etc. Factors like aesthetics – colour, texture, arrangement and profile of forms, functional analysis, behavior of users, circulation pattern, furniture arrangement, etc. Grids of various kinds, aggregation, site and climate analysis to be taken up.
Design of multi cellular structure like Artists Studio, Architect’s office, Small Residence, Refectory, Departmental store, Club, Clinic, Bank branch, Guest house, Post office, police station etc.
The students shall have scientific knowledge required to design climate responsive buildings, a clear understanding of the various climate elements - radiation, air temperature, humidity and wind speed as tools of design.
Due emphasis shall be given to sustainable building materials with appropriate building construction technique in design solution.

NOTE:
Detailed teaching programme to be made before the commencement of the semester and circulated to the students at the commencement of the semester.
Site visits and proto type study visits to be conducted.
The design shall be sensitive to the needs of disabled, aged people and children.
These shall be minimum of 2 exercises as a part of sessionals out of which, one will be a time problem. One exercise will be meant for portfolio evaluation.

<table>
<thead>
<tr>
<th>I Sessional evaluation</th>
<th>Weightage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minor Test</td>
<td>20 %</td>
</tr>
<tr>
<td>Design Exercises</td>
<td>60%</td>
</tr>
<tr>
<td>Portfolio exercises (part evaluation)</td>
<td>20 %</td>
</tr>
</tbody>
</table>

| II Portfolio evaluation | 100% |

READING LIST: (to be amplified by the subject teacher)
**INTENT:**
To understand the construction details used in 3-4 storied RC buildings

**CONTENT:**

**UNIT I:**
Introduction to RC, principles of design of RC, properties of ingredients, types of concrete, different grades of concrete, different tests, vicat's apparatus and slump cone test, visit to RMC plant
Principles of foundation design, types of soils, bearing capacity of soil, types of loads
Simple foundation (masonry), spread footing, types of PAD foundation, RC footings and shallow foundations

**UNIT II:**
Introduction to RC frame structures, types of RC foundations in frame structure
Details of beams and columns of RC frame structure with in-fills
Construction yard exercises

**UNIT III:**
RC stairs - types and construction details of RC cast-in situ stairs, pre-cast steps, fixing of handrails.
Detailed section through a multistorey RC frame structure

**UNIT IV:**
Various types of flooring (brick, IPC, terrazzo, stone, wood, others), skirting, dadoing with various finishes.
Industrial flooring, office building flooring and dado. Precast concrete units with in situ concrete toppings
Roof finishes (over concrete slabs) with weather proofing and thermal insulation over RC roof.
Market survey of various finishing materials

**NOTE:**
Detailed teaching programme to be made before the commencement of the semester and circulated to the students at the commencement of the semester.
In each class teacher will deliver lecture on the subject to be followed by drawing.
Market survey, industrial visits to manufacturing units and field visits are to be conducted
Minimum 10 sheets must be prepared in the studio under supervision of the teacher.

<table>
<thead>
<tr>
<th>I</th>
<th>Sessional evaluation</th>
<th>Weightage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minor Test – I</td>
<td>20%</td>
<td></td>
</tr>
<tr>
<td>Minor Test – II</td>
<td>20%</td>
<td></td>
</tr>
<tr>
<td>Assignments</td>
<td>30%</td>
<td></td>
</tr>
<tr>
<td>Quiz/Tutorial/Class Test</td>
<td>30%</td>
<td></td>
</tr>
</tbody>
</table>

**INSTRUCTIONS TO QUESTION PAPER SETTER:**
1. Exam. shall be conducted in the drawing hall/studio having provision of drawing boards.
2. Following Stationery shall be provided to each of the student
   a. Four Cartridge Sheet (White)
   b. Two tracing papers
3. Total FIVE questions are to be set, out of which FIRST question shall be compulsory (from the entire syllabus) of theory of 25 marks, (due consideration has to be given to building materials) and rest of the FOUR QUESTIONS shall be from four units (one question from each of the unit, candidate have to attempt any TWO questions (drawing based) out of four of 25 marks each.
4. Exam. shall be of 3 hours duration and of Maximum marks: 75. (minimum passing marks 30)

**READING LIST:** (to be amplified by the subject teacher)
7. Relevant IS codes
INTENT:
To inculcate the understanding of properties of concrete and steel and the basis for the design of RCC structural elements.

CONTENT:
CONCRETE TECHNOLOGY AND PRINCIPLES OF DESIGN OF RCC STRUCTURES
Section A: Structural Properties of the constituent materials of RCC:
UNIT I: Main constituent compounds of cement and their functions, Structural Properties and tests for cement; Initial and final setting times of cement, properties of fine and coarse aggregates, requirements of water, Abram's water-cement ratio law, Stress-strain curves and characteristic strengths of structural steel.
Section B: Basics of RCC design:
UNIT III: Concept of RC, Modular ratio and derivation of its formula, Permissible stresses in concrete and steel, Fundamental assumptions for the analysis and design of a singly reinforced RC beam, stress diagram & strain diagram for a singly reinforced rectangular section under flexure, Analysis of a given singly reinforced beam section under flexure. Design of a singly reinforced beam section under flexure (Design for simply supported beam and for cantilever beam), IS: 456-2000 recommendations in regard of singly reinforced beams. Under- Reinforced, Balanced and Over-Reinforced sections: Formulation, Analysis of a given section and determination of moment of resistance/load carrying capacity
UNIT IV: Design under shear, bond and development length, Analysis & Design of a doubly reinforced RC beam, Continuous and Cantilever Beams.

NOTE:
Detailed teaching programme to be made and circulated to the students at the commencement of the semester. Appropriate Standards must be explained and used

INSTRUCTIONS TO QUESTION PAPER SETTER:
1. Exam shall be of 3 hours duration and of maximum marks: 50. (minimum passing marks:20)
2. Total EIGHT questions are to be set (two questions from each unit), and candidate have to attempt any five questions selecting one from each unit, each question of 10 marks each.
3. The question paper should at least have one question with 3 subparts and three questions with 2 subparts.

READING LIST: (to be amplified by the subject teacher)
INTENT:
To understand the concept of shade and shadows and its application in architecture and develop the skill of perspective drawing.

CONTENT:
UNIT I:
Perspective drawing, its concepts and various elements and methods
Two-point Perspective drawings of 3 D solids like cube, cone pyramid etc. with changes in different parameters.

UNIT II:
Two-point perspective drawings of small structures with changes in different parameters

UNIT III:
One-point perspective drawing of interior of a room like drawing room, class room, bed room etc.

UNIT IV:
Shade and shadow of object of different shape at different levels and planes
Shade and shadows of building facades
Shade and shadow of simple building in perspective.

NOTE:
Detailed teaching programme to be made and circulated to the students at the commencement of the semester.
Minimum 10 sheets must be prepared in the studio under supervision of the teacher.

INSTRUCTIONS TO QUESTION PAPER SETTER:
1. Exam shall be of 3 hours duration and of maximum marks: 75. (minimum passing marks:30)
2. Exam shall be conducted in the drawing hall/studio having provision of drawing boards.
3. Following Stationery shall be provided to each of the student
   a) Four cartridge sheet (white)
   b) Two tracing papers
4. Total FIVE questions are to be set, out of which FIRST question shall be compulsory (from the entire syllabus) of theory of 25 marks and rest of the FOUR QUESTIONS shall be from four units (one question from each of the unit, candidate have to attempt any TWO questions (drawing based) out of four of 25 marks each.

READING LIST: (to be amplified by the subject teacher)
AR209-B      BUILDING SERVICES-III (CLIMATOLOGY)

Teaching Schedule    Marks of Sessional work    Marks of Examination    Total marks    Credits    Duration of Examination (h)
L  P    Sessional work    Theory    Portfolio
2    -    50    50    -    100    2    3

INTENT:
The course intent to fundamentals of architectural science, climate on global and site levels, factors of thermal comfort, solar geometry, natural ventilation and climate responsive building design and site planning.

CONTENT:
UNIT I: Climate and thermal comfort
Global climatic factors, elements of climate, measurements and representations of climatic data
Classifications of climates: Köppen classification and tropical climate classification, climatic zones of India
Micro climate effects of local factors and landscape elements on site climatic elements
Thermal balance of human body, physiological and environmental factors of thermal comfort
Thermal comfort indices, Bioclimatic chart, comfort zone, overheated and under heated periods
Climate responsive traditional architecture in different climates
Mahoney tables, Computer analysis of climate and comfort

UNIT II: Principles of thermal design in buildings
Thermal quantities: temperature, heat, specific heat, sensible heat, latent heat, thermal capacity.
Heat flow: conduction, convection, radiation
Thermo-physical properties of building materials and elements: conductivity (k), density, surface conductance, air-to-air thermal transmittance (U value), effects of cavities
Heat exchange of buildings (thermal balance equation)

UNIT III: Solar Geometry and design of solar control
Apparent movement of the sun, Sun path diagrams and its application, green house effect
Solar control-orientation, internal blinds and curtains, high performance glasses, taxonomy of shading devices
Procedure for designing fixed external shading devices: solar angles, shadow angles, solar shading masks etc.
Exemplar studies involving measuring, observing and recording shade in different types of public buildings

UNIT IV: Ventilation and Day lighting
Functions of natural ventilation; supply of fresh air, stack effect due to the thermal forces, convective cooling, physiological cooling, wind simulators, air movement through building and around buildings - factors affecting the indoor air flow, air flow around buildings, wind shadow etc. wind tower, wind scoop.
Light principles, photometric quantities, daylight prediction-day light factor, the design sky, design methods.
Bureau of Indian Standard Codes (SP-7, SP-41), Energy Conservation Building Code, GRIHA and LEED

NOTE: Detailed teaching programme to be made and circulated to the students at the commencement of the semester.
A visit to the University weather station/environmental lab and hands on experience with the various instruments for measuring climatic elements should be conducted.

I    Sessional evaluation    Weightage
Minor Test – I    20%
Minor Test – II    20%
Assignment / Mini Project / Term paper    30%
Quiz/Tutorial/Class Test    30%

II    Theory examination    100%

INSTRUCTIONS TO QUESTION PAPER SETTER:
1. Exam shall be of 3 hours duration and of maximum marks: 50. (minimum passing marks:20)
2. Total EIGHT questions are to be set (two questions from each unit), and candidate have to attempt any five questions selecting one from each unit, each question of 10 marks each.
3. The question paper should at least have one question with 3 subparts and three questions with 2 subparts.

READING LIST: (to be amplified by the subject teacher)
6. LEED: http://www.igbc.in/site/lmibase/attachments/48344/LEED.Abrid_Ver.pdf – India
INTENT:
To augment and enhance the skill and techniques in architectural rendering using different mediums.

CONTENT:
UNIT I:
Introduction to rendering of architectural drawing
Quick sketches of site plan, plan, elevation, section with professional markers

UNIT II:
Techniques for rendering drawings in color pencil, water color and ink
Rendering of plan, section and elevation in different mediums

UNIT III:
Rendering of two point perspective of a building in different mediums
Rendering of one point perspective of an interior space in ink/colour
Internal spaces like bedroom, drawing room, kitchen, bathroom in markers.

NOTE:
Detailed teaching programme to be made and circulated to the students at the commencement of the semester.
Minimum 8-10 sheets must be prepared in the studio under supervision of the teacher.
The medium includes use of color pencils, water colours, ink, professional markers.

<table>
<thead>
<tr>
<th>I</th>
<th>Sessional evaluation</th>
<th>Weightage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minor Test – I</td>
<td>20%</td>
<td></td>
</tr>
<tr>
<td>Minor Test – II</td>
<td>20%</td>
<td></td>
</tr>
<tr>
<td>Assignments</td>
<td>30%</td>
<td></td>
</tr>
<tr>
<td>Quiz/Tutorial/Class Test</td>
<td>30%</td>
<td></td>
</tr>
<tr>
<td>II Theory examination</td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>

INSTRUCTIONS TO QUESTION PAPER SETTER:
1. Exam shall be of 3 hours duration and of maximum marks:75. (minimum passing marks:30)
2. Exam shall be conducted in the drawing hall/studio having provision of drawing boards.
3. Following Stationery shall be provided to each of the student
   a) Four cartridge sheet (white)
   b) Two tracing papers
4. Total THREE questions are to be set one from each unit out of which candidate has to attempt any TWO each of 37.5 marks.

READING LIST: (to be amplified by the subject teacher)
### AR 213-B  
#### HISTORY OF ARCHITECTURE III

<table>
<thead>
<tr>
<th>Teaching Schedule</th>
<th>Marks of Sessional work</th>
<th>Marks of Examination</th>
<th>Total marks</th>
<th>Credits</th>
<th>Duration of Examination (h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>P</td>
<td>Theory</td>
<td>Portfolio</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>-</td>
<td>50</td>
<td>50</td>
<td>-</td>
<td>100</td>
</tr>
</tbody>
</table>

**INTENT:**
To appreciate the growth and development of architecture from the 12th to the 18th century in the Indian subcontinent and Europe in terms of the idea of the time converted to architectural enterprise at that time

**CONTENT:**

**UNIT I: Indo-Islamic Architecture (12th to 18th century)**  
The coming of Islam to the region and its Architectural Implications  
Architecture of the Sultans in the Delhi Region  
Development of Architecture in the important provinces  

**UNIT II: Indo-Islamic Architecture (12th to 18th century)**  
Architecture of the Early Rulers of the Mughal Dynasty  
Architecture of the Later Rulers of the Mughal Dynasty  

**UNIT III: Architecture in Europe (12th to 18th century)**  
The birth of Renaissance in Florence in 15th century  
Renaissance in Italy in 16th century  
Renaissance and the Cult of personality in 16th century  

**UNIT IV: Architecture in Europe (12th to 18th century)**  
Baroque  
Rococo  
Influences of Italian Renaissance on Architecture in rest of Europe

**NOTE:**
Detailed teaching programme to be made and circulated to the students at the commencement of the semester.

<table>
<thead>
<tr>
<th>I</th>
<th>Sessional evaluation</th>
<th>Weightage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Minor Test – I</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td>Minor Test – II</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td>Assignment/Exercises</td>
<td>30%</td>
</tr>
<tr>
<td></td>
<td>Quiz/Tutorial/Class Test</td>
<td>30%</td>
</tr>
</tbody>
</table>

| II | Theory examination | 100% |

**INSTRUCTIONS TO QUESTION PAPER SETTER:**
1. Exam shall be of 3 hours duration and of maximum marks: 50. (minimum passing marks: 20)
2. Total EIGHT questions are to be set (two questions from each unit), and candidate have to attempt any five questions selecting one from each unit, each question of 10 marks each.
3. The question paper should at least have one question with 3 subparts and three questions with 2 subparts.

**READING LIST:** (to be amplified by the subject teacher)
## Teaching Schedule

<table>
<thead>
<tr>
<th>L</th>
<th>Studio</th>
<th>Marks of Sessional Work</th>
<th>Marks of Examination</th>
<th>Total Marks</th>
<th>Credits</th>
<th>Duration of Examination (h)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4</td>
<td>100</td>
<td>-</td>
<td>100</td>
<td>4</td>
<td>-</td>
</tr>
</tbody>
</table>

## INTENT:
To appreciate that 33% cost of construction is wood items in a building and its very important to understand use of wood applications
To get hands on experience in basic carpentry and enhance the skill of architectural model making.

## CONTENT:

**UNIT I:**
- Use of carpentry tools and CNC machines and latest tools
- Characteristics of wood, ply, boards

**UNIT II:**
- Exercises in making of carpentry joints
- Exercises using commercial boards and MDF boards

**UNIT III:**
- Model making in mount board, thermocol and wood
- Making of one detailed model of a building

**UNIT IV:**
- Making of detailed site model of a contouring site

## NOTE:
Detailed teaching programme to be made and circulated to the students at the commencement of the semester. The classes to be conducted in the workshop and construction yard.

<table>
<thead>
<tr>
<th>I</th>
<th>Sessional Evaluation</th>
<th>Weightage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Minor Test – I</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td>Minor Test – II</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td>Assignment / Mini Project /</td>
<td>30%</td>
</tr>
<tr>
<td></td>
<td>Quiz/Tutorial/Class Test</td>
<td>30%</td>
</tr>
</tbody>
</table>

## READING LIST:
(To be amplified by the subject teacher)

INTENT:
To understand the nuances of traditional architecture both in rural context of a settlement

CONTENT:
Appreciation of traditional settlement pattern and building typology through villages.
Exercises related to understanding social structure and its manifestation spatial organization and manifestation
Public and private spaces, family and community spaces, Residential, Haveli.
Public spaces: Aganwadi, Kisan kendra, primary school, primary health centre, Kalyan kendra etc.
An architectural design focused on a specific theme, for example, a material based thing such as, building only in mud/stone/timber etc. or a style based theme, for example, based on a period style, or a vernacular style,
ecology - energy conservation theme, etc.
Formulation of design criteria- application of climatic data, socio-cultural factors, behavioral aspects and structural considerations; Site analysis and design concepts, application of building services
  • The students would be familiarized with vernacular terminology.
  • The emphasis will be construction details as applicable to Indian climatic conditions.
  • The design problem would induce students to experiment with built and open spaces.
All portfolio to include one drawing showing construction system and materials, services.

NOTE:
Detailed teaching programme to be made before the commencement of the semester and circulated to the students at the commencement of the semester.
Visits to prototype situations to be arranged during the studio hours under supervision of the studio coordinators.
The design shall be sensitive to the needs of disabled, aged people and children.
These shall be minimum of TWO exercises as a part of sessionals out of which, one will be a time problem. One exercise will be meant for portfolio evaluation.

<table>
<thead>
<tr>
<th>I</th>
<th>Sessional evaluation</th>
<th>Weightage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Minor Test</td>
<td>20 %</td>
</tr>
<tr>
<td></td>
<td>Design Exercises</td>
<td>60%</td>
</tr>
<tr>
<td>II</td>
<td>Portfolio exercises (part evaluation)</td>
<td>20 %</td>
</tr>
<tr>
<td></td>
<td>Portfolio evaluation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Portfolio exercises</td>
<td>100%</td>
</tr>
</tbody>
</table>

READING LIST: (to be amplified by the subject teacher)
AR 204-B BUILDING CONSTRUCTION & MATERIALS - IV

<table>
<thead>
<tr>
<th>Teaching Schedule</th>
<th>Marks of Sessional work</th>
<th>Marks of Examination</th>
<th>Total marks</th>
<th>Credits</th>
<th>Duration of Examination (h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>P</td>
<td>Theory</td>
<td>Portfolio</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>6</td>
<td>75</td>
<td>75</td>
<td>150</td>
</tr>
</tbody>
</table>

INTENT:
To understand the design and drawing of interior building elements in different materials.

CONTENT:
UNIT I:
Timbering of trenches, shoring, underpinning, scaffolding, strutting and waling
Form-work for RC columns, beams, slabs, walls and stairs, types of formwork
Reinforcement detail

UNIT II:
Expansion joints and construction joints
Water proofing construction details
Basement construction: internal and external tanking details

UNIT III:
Conventions for doors and windows, types and their uses, swing, sliding and folding, revolving
Aluminum doors and windows
Steel doors and windows
PVC doors and windows

UNIT IV:
Vertical surfaces, external cladding materials and construction (stone, metal, wood and other materials)
Composite materials
Market survey of different sections, industrial field visits to manufacturing units

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

In each class teacher will deliver lecture on the subject to be followed by drawing.
Market survey, industrial visits to manufacturing units and field visits are to be conducted
Minimum 10 sheets must be prepared in the studio under supervision of the teacher.

<table>
<thead>
<tr>
<th>I</th>
<th>Sessional evaluation</th>
<th>Weightage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Minor Test – I</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td>Minor Test – II</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td>Assignments</td>
<td>30%</td>
</tr>
<tr>
<td></td>
<td>Quiz/Tutorial/Class Test</td>
<td>30%</td>
</tr>
<tr>
<td>II</td>
<td>Theory examination</td>
<td>100%</td>
</tr>
</tbody>
</table>

INSTRUCTIONS TO QUESTION PAPER SETTER:
1. Exam. shall be conducted in the drawing hall/studio having provision of drawing boards.
2. Following Stationery shall be provided to each of the student
   a. Four Cartridge Sheet (White)
   b. Two tracing papers
3. Total FIVE questions are to be set, out of which FIRST question shall be compulsory (from the entire syllabus) of theory of 25 marks, (due consideration has to be given to building materials) and rest of the FOUR QUESTIONS shall be from four units (one question from each of the unit, candidate have to attempt any TWO questions (drawing based) out of four of 25 marks each.
4. Exam. shall be of 3 hours duration and of Maximum marks: 75. (minimum passing marks 30)

READING LIST: (to be amplified by the subject teacher)
8. Relevant IS codes
INTENT:
To inculcate the understanding of shear failure, design for shear reinforcement, requirement of development length, effect of Torsion on the reinforcement design and design of some basic components of a building by Limit state method.

CONTENT:
DESIGN REQUIREMENTS OF REINFORCED CONCRETE STRUCTURES

UNIT I: Concept of Limit state Design, Characteristic strength of steel and concrete, Loads and Loading conditions, Limit state of Collapse and Serviceability

UNIT II: Analysis and Design of reinforcement for a section subjected to torsion, Side face reinforcement. Design and Detailing of a lintel beam & lintel with sun shade. Analysis & Design of Flanged Beams

UNIT III: Analysis of slabs spanning in one direction and spanning in two directions. Design & Detailing of a one way slab, Design & Detailing of a cantilever chajja. Design & detailing of a two way slab.

UNIT IV: Design of isolated footing including wall footing, square, rectangular, trapezoidal, circular footings including one way and two shears, flexure and checks

NOTE:
Detailed teaching programme to be made and circulated to the students at the commencement of the semester. Appropriate Standards must be explained and used

INSTRUCTIONS TO QUESTION PAPER SETTER:
1. Exam shall be of 3 hours duration and of maximum marks: 50. (minimum passing marks:20)
2. Total EIGHT questions are to be set (two questions from each unit), and candidate have to attempt any five questions selecting one from each unit, each question of 10 marks each.
3. The question paper should at least have one question with 3 subparts and three questions with 2 subparts.

READING LIST: (to be amplified by the subject teacher)
## INTENT:
To help students to get accustomed to Drafting & Sketching at the initial stage.

## CONTENT:
AutoCAD 2D 2015 (Basic & Advanced), Sketch book designer

## NOTE:
Detailed teaching programme to be made and circulated to the students at the commencement of the semester. Each student must produce individual work for evaluation.

### Sessional evaluation

<table>
<thead>
<tr>
<th>I</th>
<th>Sessional evaluation</th>
<th>Weightage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Minor Test – I</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td>Minor Test – II</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td>Assignment / Mini Project /</td>
<td>30%</td>
</tr>
<tr>
<td></td>
<td>Quiz/Tutorial/Class Test</td>
<td>30%</td>
</tr>
</tbody>
</table>

### READING LIST: (to be amplified by the subject teacher)
1. Relevant software manuals
INTENT:
To understand the electrical system in domestic and multistoreyed buildings including lighting, fixtures and fittings, and cabling.

CONTENT:
UNIT I:
Introduction to engineering services for buildings
Electrical Services: sources of electrical energy supplied to buildings
Electricity generation, transmission and distribution.
Instruments for measurement, metering
Electricity Authority, Act, rules and regulations

UNIT II:
Rules and regulations regarding electrification of buildings as appropriate with relevant standards
Types of electrical wiring system, earthing, scope and requirements
Requirements of electrical materials such as conductors, insulators
Types and requirements of electrical cables
Control equipments such as switch gear, safety devices to be used in electrical layouts

UNIT III:
Electrical lighting
Integration of Electrical lighting with day lighting, sensors
Instruments for measurement lux meters
Type of lamps and luminaries, lighting density and efficiency
Outdoor lighting, Specialized lighting like art galleries etc.

UNIT IV:
Graphical symbols electrical systems
Plug load calculation of a small building
Electrical drawing of a small building

NOTE:
Detailed teaching programme to be made and circulated to the students at the commencement of the semester.
Appropriate Standards must be explained and used

<table>
<thead>
<tr>
<th>I</th>
<th>Sesssional evaluation</th>
<th>Weightage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Minor Test – I</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td>Minor Test – II</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td>Assignment/Exercises</td>
<td>30%</td>
</tr>
<tr>
<td></td>
<td>Quiz/Tutorial/Class Test</td>
<td>30%</td>
</tr>
</tbody>
</table>

II Theory examination 100%

INSTRUCTIONS TO QUESTION PAPER SETTER:
1. Exam shall be of 3 hours duration and of maximum marks: 50. (minimum passing marks:20)
2. Total EIGHT questions are to be set (two questions from each unit), and candidate have to attempt any five questions selecting one from each unit, each question of 10 marks each.
3. The question paper should at least have one question with 3 subparts and three questions with 2 subparts.

READING LIST: (to be amplified by the subject teacher)
INTENT:
To provide an insight into the ideas of influential theorists from antiquity to the present time.

CONTENT:
UNIT I

UNIT II:
18th Century Theory – Ideas of Laugier, Bouleee, Ledoux, Durand
19th Century Theory – Concepts of Viollet Le Duc, Choisy, John Ruskin, William Morris, Pugin, John Ruskin, Quatramere de Quincy, Gottfried Semper, Karl Friedrich Schinkel, Henri O Labrouste

UNIT III:
Deconstruction – Fundamental beliefs and philosophy. Ideas of Peter Eisenman, Bernard Tschumi, Frank O. Gehry, Zaha Hadid, Rem Koolhaas et al

UNIT IV:
Theory of Indian architecture: antiquity to modern times
Impact of Architectural design theories and ideas on architects in India, pre-independence and post independent Claude Batley, Habib Rahman, Charles Correa, Achute P. Kanvinde, B. V. Doshi, Joseph Allen Stein, Anant Raje, Raj Rewal, Uttam C. Jain, Kulbhushan and Meenakshi Jain, Hasmukh Patel, Dulal Mukherjee, Chandavarkar and Thacker et al

NOTE:
Detailed teaching programme to be made and circulated to the students at the commencement of the semester. Appropriate Standards must be explained and used

INSTRUCTIONS TO QUESTION PAPER SETTER:
1. Exam shall be of 3 hours duration and of maximum marks: 50. (minimum passing marks:20)
2. Total EIGHT questions are to be set (two questions from each unit), and candidate have to attempt any five questions selecting one from each unit, each question of 10 marks each.
3. The question paper should at least have one question with 3 subparts and three questions with 2 subparts.

READING LIST: (to be amplified by the subject teacher)
INTENT:
To inculcate the technique and skill of effective communication mediums for the running of an effective architectural practice.

CONTENT
UNIT I:
Principles of communication
Office English
Interview skill, technical presentation

UNIT II:
Reading comprehension
Report writing
Electronic correspondence

UNIT III:
Writing for publication
Spoken English (oral presentation)
Meetings

UNIT IV:
Annotative English
Creative writing
Types of Essays
Argumentative Essay (300-400 words)

NOTE:
Detailed teaching programme to be made and circulated to the students at the commencement of the semester. Appropriate Standards must be explained and used.

INSTRUCTIONS TO QUESTION PAPER SETTER:
1. Exam shall be of 3 hours duration and of maximum marks: 50. (minimum passing marks:20)
2. Total EIGHT questions are to be set (two questions from each unit), and candidate have to attempt any five questions selecting one from each unit, each question of 10 marks each.
3. The question paper should at least have one question with 3 subparts and three questions with 2 subparts.

READING LIST:
AR 216-B  
THEORY OF LANDSCAPE DESIGN IV

<table>
<thead>
<tr>
<th>Teaching Schedule</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>P</td>
<td>Marks of</td>
<td>Marks of</td>
<td>Total</td>
<td>Credits</td>
<td>Duration of</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sessional work</td>
<td>Examination</td>
<td>marks</td>
<td></td>
<td>Examination (h)</td>
</tr>
<tr>
<td>2</td>
<td>-</td>
<td>50</td>
<td>50</td>
<td>-</td>
<td>100</td>
<td>2</td>
</tr>
</tbody>
</table>

INTENT:
To develop a conceptual understanding of landscape design and site planning principles.
To develop skills in integrating landscape design with built environments

CONTENT:
UNIT I: Introduction and History of Landscape Design
Introduction to landscape design and its role in built environment. Changing perception of man's relationship with nature in various phases of history and its influence on environment.
A brief review of landscape design and garden design in history: Persian, Spanish, Italian, French, Renaissance, Moghul, English, Japanese garden styles. Evolution of concepts in landscape design after the industrial revolution leading to new theories in integrating built spaces to open spaces.
Increasing awareness of ecological variables in landscape design.

UNIT II: Site Studies and Site Planning
Principles of site planning and land use; review of definition applied in typical landscape development situations.
Site survey and appraisal – understanding different site characteristics –topography, vegetation, hydrology, access, surroundings etc. Site characteristics and establishing relationship with design / Architecture Programme.
Philosophical and design issues related to site development – siting of buildings, spatial and contextual relationships of built and outdoor space and circulation, site and its relationship to surroundings.
Importance of climate and social factors in development of site. Process of design development. Identifying functional requirements of site. Development of site by mutual exploitation of forms, grading principles, drainage

UNIT III: Plants and Design
Introduction to study of plants in relation to landscape design and architecture. An overview of use of plants in history. Study of Plant material – Botanical nomenclature, anatomy and physiology of plant growth study of trees, shrubs, ground cover, indoor plants in Indian context.
Design with plants – Basic principles of designs. The physical attribute of plants and relation to design. Appearance, functional and visual effects of plants in landscape design and built environment.
Selection and management of plant material in relation to built environment.

UNIT IV: Elements in Landscape Design
Use of landform, water and vegetation in landscape design.
Hard landscapes: design of paths, roadways streets, terraces etc and use of land form effectively.
Soft landscapes: design of lawns, shrubs, hedges, trees – in relation to buildings and other landscape elements.
Design concepts related to use of sculpture, outdoor lightings
Architectural feature, street furniture and grouping them into meaningful compositions for visual and functional effects. Examples and application of Landscape design principles in small projects such as site plans, small gardens, courtyards, residential outdoor, urban spaces etc.

NOTE:
Detailed teaching programme to be made and circulated to the students at the commencement of the semester. Appropriate Standards must be explained and used; site visits to be organized.

I  
**Sessional evaluation**  | Weightage  
---|---
Minor Test – I | 20%  
Minor Test – II | 20%  
Assignment/Exercises | 30%  
Quiz/Tutorial/Class Test | 30%  

II  
**Theory examination**  | 100%  

INSTRUCTIONS TO QUESTION PAPER SETTER:
1. Exam shall be of 3 hours duration and of maximum marks: 50. (minimum passing marks:20)
2. Total EIGHT questions are to be set (two questions from each unit), and candidate have to attempt any five questions selecting one from each unit, each question of 10 marks each.
3. The question paper should at least have one question with 3 subparts and three questions with 2 subparts.
READING LIST: (to be amplified by the subject teacher)

### AR 218-B  
**EDUCATIONAL TOUR -IV**

<table>
<thead>
<tr>
<th>Teaching Schedule</th>
<th>Marks of Sessional work</th>
<th>Marks of Examination</th>
<th>Total marks</th>
<th>Credits</th>
<th>Duration of Examination (h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>L P</td>
<td>- 50</td>
<td>- Theory - Portfolio</td>
<td>50</td>
<td>2</td>
<td>-</td>
</tr>
</tbody>
</table>

**INTENT:**
To expose students to Historical, traditional and Contemporary Architecture

**CONTENT:**
Vacation Assignment/ Study tour is to be undertaken in IV semester and before the commencement of V semester classes.

This assignment could be a measured drawing and documentation of a noted building or a study tour for visiting places of architectural interest. The choice of the building to be documented and the places to be visited will be decided by the department. The assignment may be given as group work (4 to 6 students per group). The students have to submit a report on the measured drawing or the study tour within 15 days from the beginning of the V Semester.
AR 301-B

ARCHITECTURAL DESIGN–V

Teaching Schedule

<table>
<thead>
<tr>
<th>L.</th>
<th>Studio</th>
<th>Theory</th>
<th>Portfolio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>9</td>
<td>200</td>
<td>-</td>
</tr>
</tbody>
</table>

INTENT:
To inculcate the appreciation of the design process and an understanding of the design complexities and contradictions to resolve architectural design problems for Institutional Infrastructure.

CONTENT:
The following issues relating to institutional design will be addressed to:
- Nature of contemporary institutions, correlation to urban structure.
- Development control and urban infrastructure affecting design.
- Various approaches to building in urban context.
- Integration of function: movement, climate, acoustics, structure and services into the group of buildings.
- Landscaping and site planning
- Institutional character from abstract to detail.
- User behavior and requirement pertaining to the physically handicapped.

Necessary theoretical inputs to be given highlighting the norms and design issues. The topics not covered as design problems may be covered by the studio faculty members through lecture/slide shows.

The topics to be covered as design problems may include:
- Design of Institutional buildings: Schools, colleges with its various learning departments such as medical, engineering, law, business, music and dance colleges, vocational training institutions,
  - Socio-cultural Centres, Museums, Library, Art galleries, Cultural center, Performing Arts Centre, Industrial Buildings
  - Adaptive reuse of buildings of a documented building
  - All portfolio two drawings construction system and materials, services.

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

Site visits and prototype study visits to be conducted.

These shall be minimum of 2 exercises as a part of sessional out of which, one will be a time problem. One exercise will be meant for portfolio evaluation

<table>
<thead>
<tr>
<th>I</th>
<th>Sessional evaluation</th>
<th>Weightage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Minor Test</td>
<td>20 %</td>
</tr>
<tr>
<td></td>
<td>Design Exercises</td>
<td>60 %</td>
</tr>
<tr>
<td></td>
<td>Portfolio exercises (part evaluation)</td>
<td>20 %</td>
</tr>
</tbody>
</table>

| II  | Portfolio evaluation | Portfolio exercises | 100 % |

READING LIST: (to be amplified by the subject teacher)
8. Tergsone, W. R. Practical Laboratory Planning.
INTENT:
To familiarize the student with steel as a building material and understand its use in buildings.

CONTENT:
UNIT I:
Introduction to structural steel, types of steel used in buildings
Joining details of various steel members
Market survey of available steel sections

UNIT II:
Steel foundations
Structural steel frame

UNIT III:
Steel support system for roofing
Steel trusses
Collapsible and rolling shutters, Case studies and construction yard exercises

UNIT IV:
Steel staircase, Metal stairs - types and construction details of steel stairs.
Steel Mezzanine floor
Steel cladding

NOTE:
Detailed teaching programme to be made before the commencement of the semester and circulated to the students at the commencement of the semester.
In each class teacher will deliver lecture on the subject to be followed by drawing.
Market survey, industrial visits to manufacturing units and field visits are to be conducted
Minimum 10 sheets must be prepared in the studio under supervision of the teacher.
Use of Computer Aided Drawing techniques may be encouraged.

<table>
<thead>
<tr>
<th>I</th>
<th>Sessional evaluation</th>
<th>Weightage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Minor Test – I</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td>Minor Test – II</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td>Assignments</td>
<td>30%</td>
</tr>
<tr>
<td></td>
<td>Quiz/Tutorial/Class Test</td>
<td>30%</td>
</tr>
<tr>
<td>II</td>
<td>Theory examination</td>
<td>100%</td>
</tr>
</tbody>
</table>

INSTRUCTIONS TO QUESTION PAPER SETTER:
1. Exam. shall be conducted in the drawing hall/studio having provision of drawing boards.
2. Following Stationery shall be provided to each of the student
   a. Four Cartridge Sheet (White)
   b. Two tracing papers
3. Total FIVE questions are to be set, out of which FIRST question shall be compulsory (from the entire syllabus) of theory of 25 marks, (due consideration has to be given to building materials) and rest of the FOUR QUESTIONS shall be from four units (one question from each of the unit, candidate have to attempt any TWO questions (drawing based) out of four of 25 marks each.
4. Exam. shall be of 3 hours duration and of Maximum marks: 75. (minimum passing marks 30)

READING LIST: (to be amplified by the subject teacher)
8. Relevant IS codes
AR305-B            STRUCTURAL DESIGN-V

Teaching Schedule | Marks of | Marks of Examination | Total marks | Credits | Duration of Examination (h)
|-------------------|----------|----------------------|-------------|---------|---------------------------
| L P               | Sessional work | Theory | Portfolio |          |              |
| 2 -               | 50       | 50                   | -           | 100     | 2                         | 3                         |

INTENT:
To understand the principles and design of simple steel structures

CONTENT:
PRINCIPLES OF DESIGN OF STEEL STRUCTURES:

UNIT I:
Structural Properties of steel and use of steel as a structural material.
Classification of rolled steel sections and their properties.

UNIT II:
Riveted, Bolted & Pinned connection.
Welded connections.

UNIT III:
Design of Tension members.
Design of compression members, lacing & bracing

UNIT IV:
Analysis and Design of simple Beams & Plated Beams.

NOTE:
Detailed teaching programme to be made and circulated to the students at the commencement of the semester.
Appropriate Standards must be explained and used

<table>
<thead>
<tr>
<th>I</th>
<th>Sessional evaluation</th>
<th>Weightage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Minor Test – I</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td>Minor Test – II</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td>Assignment / Exercises</td>
<td>30%</td>
</tr>
<tr>
<td></td>
<td>Quiz/Tutorial/Class Test</td>
<td>30%</td>
</tr>
</tbody>
</table>

| II | Theory examination | 100% |

INSTRUCTIONS TO QUESTION PAPER SETTER:
1. Exam shall be of 3 hours duration and of maximum marks: 50. (minimum passing marks:20)
2. Total EIGHT questions are to be set (two questions from each unit), and candidate have to attempt any five questions selecting one from each unit, each question of 10 marks each.
3. The question paper should at least have one question with 3 subparts and three questions with 2 subparts.

READING LIST:
AR 307-B       COMPUTER IN ARCHITECTURE-V

Teaching Schedule | Marks of Sessional work | Marks of Examination | Total marks | Credits | Duration of Examination (h)
L | Studio | Theory | Portfolio |
--- | --- | --- | --- | --- | ---
6 | 100 | - | 100 | 6 | -

INTENT:
To appreciate the potential of the computer as a drafting aid for an architect.

CONTENT:
Advanced 2D commands of AutoCAD – latest version
Basic 3D commands of AutoCAD – latest version

NOTE:
Detailed teaching programme to be made and circulated to the students at the commencement of the semester.
Each student must produce individual work for evaluation.

<table>
<thead>
<tr>
<th>I</th>
<th>Sessional evaluation</th>
<th>Weightage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minor Test – I</td>
<td>20%</td>
<td></td>
</tr>
<tr>
<td>Minor Test – II</td>
<td>20%</td>
<td></td>
</tr>
<tr>
<td>Assignment / Mini Project /</td>
<td>30%</td>
<td></td>
</tr>
<tr>
<td>Quiz/Tutorial/Class Test</td>
<td>30%</td>
<td></td>
</tr>
</tbody>
</table>

READING LIST: (to be amplified by the subject teacher)
1. Relevant software manuals
INTENT
To appreciate the role of acoustics and fire protection in buildings.

CONTENT:
UNIT I:
Introduction to the study of acoustics, basic terminology, sound and distance – inverse square law; absorption of sound, sound absorption co-efficient.
Reverberation time, Sabines' formula, various sound absorbing materials.
Behavior of sound in enclosed spaces
Acoustical defects

UNIT II:
Acoustical design for halls used for drama, music, speech, cinema theatres and open air theatres.
Noise and its types – outdoor and indoor noise, air born noise, structure borne noise, impact noise.
Acoustical materials and constructional measures of noise control, insulation of machinery, sound insulation.
Noise control at neighbourhood and city level.

UNIT III:
Causes of fire, reasons for loss of life due to fire, development of fire, fire load, fire hazards
National Building Code: grading of structural elements due to fire, classification of building types, norms for fire-exit ways and building materials, concept of fire zoning, doorways, stairways, passages and corridors, fire escapes etc.
Rules for fire protection and fire fighting requirements for high-rise buildings in India

UNIT IV:
Brief description of characteristics of combustible and noncombustible materials in case of fire
Fire resisting materials, fire resistant rating
Concepts in passive fire protection and control – including design of escape routes, pressurization and compartmentation, etc.
Active fire control using portable extinguishers. Basic concepts in fixed fire fighting installations.
Automatic fire detection and alarm systems
Fire preventive techniques, fire protection equipments

NOTE:
Detailed teaching programme to be made and circulated to the students at the commencement of the semester.
Appropriate Standards must be explained and used

<table>
<thead>
<tr>
<th>I</th>
<th>Sessional evaluation</th>
<th>Weightage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Minor Test – I</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td>Minor Test – II</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td>Assignment / Exercises</td>
<td>30%</td>
</tr>
<tr>
<td></td>
<td>Quiz/Tutorial/Class Test</td>
<td>30%</td>
</tr>
</tbody>
</table>

INSTRUCTIONS TO QUESTION PAPER SETTER:
1. Exam shall be of 3 hours duration and of maximum marks: 50. (minimum passing marks:20)
2. Total EIGHT questions are to be set (two questions from each unit), and candidate have to attempt any five questions selecting one from each unit, each question of 10 marks each.
3. The question paper should at least have one question with 3 subparts and three questions with 2 subparts.

READING LIST: (to be amplified by the subject teacher)
INTENT:
To understand the growth and development of architecture and appreciation of the role of the intangibles that brought this growth and development from the 18th Century to the advent of European Modernism.

CONTENT:
UNIT I: Architecture in Europe – (Late 18th to early 20th century)
Industrial Revolution and its architectural Implications
19th Century Neo Classicism
Development of Architecture in Victorian England
Technology of Iron and Steel
UNIT II: Architecture in Europe – (Late 18th to early 20th century)
Town Planning Trends in Europe
Rise of the Idea of Expositions
Birth of the American Skyscraper
Alternate Trends in late 19th and early 20th century in Europe.
UNIT III: Architecture in Colonial India (Late 18th to early 20th century)
Culture of colonialism
British Response to Indian Context
Early British Architecture
UNIT IV: Architecture in Colonial India (Late 18th to early 20th century)
Birth of Indo Saracenic Architecture
Princely India’s Architectural response
Public Works Department (PWD)
Classical Revival
Building of New Delhi

NOTE:
Detailed teaching programme to be made and circulated to the students at the commencement of the semester.

INSTRUCTIONS TO QUESTION PAPER SETTER:
1. Exam shall be of 3 hours duration and of maximum marks: 50. (minimum passing marks:20)
2. Total EIGHT questions are to be set (two questions from each unit), and candidate have to attempt any five questions selecting one from each unit, each question of 10 marks each.
3. The question paper should at least have one question with 3 subparts and three questions with 2 subparts.

READING LIST: (to be amplified by the subject teacher)
AR 313-B

ESTIMATING AND COSTING - V

<table>
<thead>
<tr>
<th>Teaching Schedule</th>
<th>Marks of Sessional work</th>
<th>Marks of Examination</th>
<th>Total marks</th>
<th>Credits</th>
<th>Duration of Examination (h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>L P</td>
<td>Theory</td>
<td>Portfolio</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 -</td>
<td>50</td>
<td>50</td>
<td>100</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

INTENT:
To appreciate the technique and role of this subject in Architecture

CONTENT:
UNIT I:
Preparation of project estimate; types of estimates
Thumb rules used in estimating
Costing and valuation

UNIT II:
Bill of Quantities (BOQ)
Methods of preparing BOQ
Taking out quantities of work items, long wall – short wall method, centre line method

UNIT III:
Quantity estimation for finishes
Principles of economics in building planning
Price rise mechanism in tenders

UNIT IV:
Abstract of cost of estimate of Project
Various forms of tenders in building civil works
Rate analysis of different work items, factors affecting rate of an item

NOTE:
Detailed teaching programme to be made and circulated to the students at the commencement of the semester. Appropriate Standards must be explained and used

I Sessional evaluation | Weightage
--- | ---
Minor Test – I | 20%
Minor Test – II | 20%
Assignment / Exercises | 30%
Quiz/Tutorial/Class Test | 30%
II Theory examination | 100%

INSTRUCTIONS TO QUESTION PAPER SETTER:
1. Exam shall be of 3 hours duration and of maximum marks: 50. (minimum passing marks:20)
2. Total EIGHT questions are to be set (two questions from each unit), and candidate have to attempt any five questions selecting one from each unit, each question of 10 marks each.
3. The question paper should at least have one question with 3 subparts and three questions with 2 subparts.

READING LIST: (to be amplified by the subject teacher)
4. Relevant I.S. Codes for Material Specifications.
5. CPWD Specifications manual
6. HPWD Specifications
INTENT:
To acquaint the students with building legislation and basis office procedure and management techniques in architecture

CONTENT:
UNIT I: Introduction to building codes and norms
Introduction to Building codes, bye laws and regulations, their need and relevance.
Overview of basic terminologies, nature of building codes in special regions like heritage zones, air funnels, environmentally sensitive zones, disaster prone regions, coastal zones, hilly areas, etc.

UNIT II: Study of building regulations
Study of structure of Building bye laws, National Building Code etc.
General building requirements, building classifications and permissible uses.
Norms for exterior and interior open spaces, setbacks and margins, norms for building projections in open spaces, considerations in FAR, guidelines for open green areas.
Plinth, habitable rooms, kitchen, wet areas, mezzanine, store rooms, elevated parts like chimneys, parapets etc.
Means of access, norms for access widths for various types of buildings, requirements of parking spaces, Equivalent Car Space (ECS), standards for turning radius, access to service areas.

UNIT III: Norms for Local bye laws
Study of local planning bodies such as corporation, municipal board’s and panchayats
Building bye laws framed by local bodies of Chandigarh, Delhi, Haryana
Procedural method for use of bye laws for submission drawings, obtaining building permits, architectural control and provision of building services, regulations for super structures, building height regulations, regulations for multi-storied buildings etc.

UNIT IV: Office management
Architectural office, architect, contractor, client relationships
Office correspondence, filing and record keeping
Human resource management.

NOTE:
Detailed teaching programme to be made and circulated to the students at the commencement of the semester. Appropriate Standards must be explained and used

<table>
<thead>
<tr>
<th>Teaching Schedule</th>
<th>Marks of Sessional work</th>
<th>Marks of Examination</th>
<th>Total marks</th>
<th>Credits</th>
<th>Duration of Examination (h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>P</td>
<td>Theory</td>
<td>Portfolio</td>
<td>-</td>
<td>100</td>
</tr>
</tbody>
</table>

INSTRUCTIONS TO QUESTION PAPER SETTER:
1. Exam shall be of 3 hours duration and of maximum marks: 50. (minimum passing marks:20)
2. Total EIGHT questions are to be set (two questions from each unit), and candidate have to attempt any five questions selecting one from each unit, each question of 10 marks each.
3. The question paper should at least have one question with 3 subparts and three questions with 2 subparts.

READING LIST: (to be amplified by the subject teacher)
INTENT:
To understand the inter-relationships between man and the built environment.

CONTENT:
UNIT I: Environment-Behaviour Studies in the design process
Introduction to the subject.
The scope of environment-behaviour information
USER GROUPS: groups with different ways of life, different socioeconomic groups, handicapped, infirm, elderly, children
BEHAVIOURAL PHENOMENA/CONCEPTS: anthropometrics, proxemics, personal space, territoriality, privacy, perception, cognition, meaning
SETTING/PLACES: World, nation, regions, cities and towns, urban areas, residential areas, complexes of buildings, buildings of various types, parts of buildings, rooms, furniture, equipment and objects.

UNIT II: Simulation theory of human behavior and the physical environment
SIMULATION THEORIES: Focus on the physical environment as a source of sensory information that is essential for human well-being (light, color, heat, texture, or scent; building, streets, or parks), patterns of simulation that influence thinking, feelings, social interaction, and health, simulation varies by amount—intensity, frequency, duration, number of sources, as well as type, stimulus overload—too much stimulation, restricted environmental stimulation or stimulus deprivation

UNIT III: Control Theory of human behavior and the physical environment
Ability to gain control over one’s environment is central, primary—selective control of access to the self or to one’s group; involves control over information about oneself as well as control over interactions with others, personal space—interpersonal distance—is the physical distance we choose to maintain in interpersonal relationships, territoriality—refers primarily to the behavior of individuals and small groups as they seek control over physical space, crowding—interchangeability used with density; density is ration of persons per unit area of a space; crowding is the feeling of being crowded or influenced by an interaction of personal, social, and cultural as well as physical actors

UNIT IV: Behavior-Settings Theory of human behavior and the physical environment
The factors that influence different individuals to behave differently in the same environment
Human preference for elements of the natural environment (water, trees, sunlight, etc.)
Built environment—sociofugal spaces (discourage social interactions), sociopetal spaces (encourage social interaction), building types and design
Environment perception, Gestalt theory of perception, environmental cognition, building imagery, urban cognitive mapping, meaning and symbolism, neighbourhoods and communities

NOTE:
Detailed teaching programme to be made and circulated to the students at the commencement of the semester.

<table>
<thead>
<tr>
<th>Sessional evaluation</th>
<th>Weightage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minor Test – I</td>
<td>20%</td>
</tr>
<tr>
<td>Minor Test – II</td>
<td>20%</td>
</tr>
<tr>
<td>Assignment / Mini Project / Term paper</td>
<td>30%</td>
</tr>
<tr>
<td>Quiz/Tutorial/Class Test</td>
<td>30%</td>
</tr>
</tbody>
</table>

INSTRUCTIONS TO QUESTION PAPER SETTER:
1. Exam shall be of 3 hours duration and of maximum marks: 50. (minimum passing marks:20)
2. Total EIGHT questions are to be set (two questions from each unit), and candidate have to attempt any five questions selecting one from each unit, each question of 10 marks each.
3. The question paper should at least have one question with 3 subparts and three questions with 2 subparts.

READING:
INTENT:
To inculcate the appreciation of the design process and an understanding of the design complexities and contradictions to resolve architectural design problems for Housing of different typologies and public buildings.

CONTENT:

Design of Mid rise apartments:
Issues to be addressed for the design project pertaining to apartment design:
- Density, mixed land use, ground coverage, development controls.
- Type of occupancy, social strata, social status and prevalent social strata.
- Urban systems, services and their integration with the project.
- User requirements (derived from surveys).
- Issues in appropriate technology and costs.
- Issues of hierarchy, identity of space, public and private scales of space. Integration of community institutions etc.
- Detailing for the disabled and the elderly.
- Indian / local architectural responses to climate, culture, traditional values, building elements, symbols motifs and special character.

Details from the dwelling cell to immediate shared space to communal space shall be emphasized and worked out. Socio cultural layer of the occupants shall form a strong fabric in the ultimate weave of the design. Projects shall aim at developing a very sensitive attitude towards micro level human habitation and role of architecture in enhancing or curbing the quality of living.

Examples of projects: Apartments for IT employees, Govt. servants, teaching faculty, Textile weavers, etc. luxury flats in the center of the city, group housing in the suburbs.

Design of public buildings:
The role of urban space as a public realm and the need to create such spaces as extension of private domain in a public building shall be investigated and shall become one of the architectural goals of the project. Some of the prerequisites of the project shall be; 1. Multiple functions, 2. Public access to majority of the spaces, 3. Large gathering areas which are open and extendable to the immediate urban context.

Examples of projects: Large scale exhibition spaces, Auditorium, Cinema halls, Sports stadium, etc., Detailing of architectural features of the major project like entrance lobby, skylights and staircases has to be attempted.

All portfolio to include two drawings showing construction system and materials, services.

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

Site visits and prototype study visits to be conducted.

These shall be minimum of 2 exercises as a part of sessionals out of which, one will be a time problem. One exercise will be meant for portfolio evaluation.

<table>
<thead>
<tr>
<th>I</th>
<th>Sessional evaluation</th>
<th>Weightage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minor Test</td>
<td>20 %</td>
<td></td>
</tr>
<tr>
<td>Design Exercises</td>
<td>60%</td>
<td></td>
</tr>
<tr>
<td>Portfolio exercises (part evaluation)</td>
<td>20 %</td>
<td></td>
</tr>
<tr>
<td>II</td>
<td>Portfolio evaluation</td>
<td></td>
</tr>
<tr>
<td>Portfolio exercises</td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>

READING LIST: (to be amplified by the subject teacher)
AR 304 B           BUILDING CONSTRUCTION & MATERIALS - VI

<table>
<thead>
<tr>
<th>Teaching Schedule</th>
<th>Marks of Sessional work</th>
<th>Marks of Examination</th>
<th>Total marks</th>
<th>Credits</th>
<th>Duration of Examination (h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>P</td>
<td>Theory</td>
<td>Portfolio</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>6</td>
<td>75</td>
<td>75</td>
<td>150</td>
</tr>
</tbody>
</table>

INTENT:
To enable students to prepare working drawings; which are used for construction of buildings.

CONTENT:
Architectural Drafting - lettering, dimensioning lines, drafting conventions, title blocks, office standards, representation of different materials in section, graphic symbols. Complete working drawings of the project handled in an earlier Architectural design studio comprising of:

UNIT I:
Intent of working drawing and standard practices, Demonstration of professional working drawings of architects
All floor plans, schedules of doors, windows, finishes, levels, Roof plans
Grid plan, demarcation plan, foundation plan

UNIT II:
All exterior elevations
Interior elevations
Relevant sections
Joinery details

UNIT III:
Kitchen detail
Toilet detail
Staircase detail

UNIT IV:
Wardrobe detail
Electrical drawings, water supply and sanitary drawings, rain water disposal drawings
Site plan and its detailing

NOTE:
Detailed teaching programme to be made before the commencement of the semester and circulated to the students at the commencement of the semester.
In each class teacher will deliver lecture on the subject to be followed by drawing.
Field visits are to be conducted
Minimum 10 sheets must be prepared in the studio under supervision of the teacher.
Use of Computer Aided Drawing techniques may be encouraged.

<table>
<thead>
<tr>
<th>I</th>
<th>Sessional evaluation</th>
<th>Weightage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Minor Test – I</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td>Minor Test – II</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td>Assignments</td>
<td>30%</td>
</tr>
<tr>
<td></td>
<td>Quiz/Tutorial/Class Test</td>
<td>30%</td>
</tr>
<tr>
<td>II</td>
<td>Theory examination</td>
<td>100%</td>
</tr>
</tbody>
</table>

INSTRUCTIONS TO QUESTION PAPER SETTER:
1. Exam. shall be conducted in the drawing hall/studio having provision of drawing boards.
2. Following Stationery shall be provided to each of the student
   a. Four Cartridge Sheet (White)
   b. Two tracing papers
3. Total FIVE questions are to be set, out of which FIRST question shall be compulsory (from the entire syllabus) of theory of 25 marks, (due consideration has to be given to building materials) and rest of the FOUR QUESTIONS shall be from four units (one question from each of the unit, candidate have to attempt any TWO questions (drawing based) out of four of 25 marks each.
4. Exam. shall be of 3 hours duration and of Maximum marks: 75. (minimum passing marks 30)

READING LIST: (to be amplified by the subject teacher)
INTENT:
To inculcate the understanding of design of some basic components of a building by Working Stress Method.

CONTENT:
DESIGN OF RCC STRUCTURAL COMPONENTS OF A BUILDING:

UNIT I: Design and detailing of a two way slab with corners held down.
Slab with edges fixed or continuous.

UNIT II: Design and Detailing of stair with stair slab spanning horizontally and stair slab spanning longitudinally. Distribution of loading on stairs, Design of Dog-legged stairs and stairs with quarter space landing

UNIT III: Compression Members: Analysis and design of axially loaded short and long (square & circular) columns. Columns with lateral ties and helical reinforcement. I.S. Code recommendations for longitudinal reinforcement, transverse reinforcement, cover to reinforcement, effective length of columns, Permissible loads in short and long columns. Composite column, Reinforced concrete walls.

UNIT IV: Properties of soil as load bearing strata for building structures Soil classification as BIS standard and field investigation of soils. Concept of safe bearing capacity/allowable bearing pressure of soils. Different types of building foundation based soil conditions and building characteristics. Design of continuous and isolated footings. Introduction to various types of shallow foundations pressure distribution beneath footings, bearing capacity of soil. I.S. code recommendations for design of footings. Analysis and design of continuous footings under masonry wall and under concrete wall. Analysis and design of an isolated square footing of uniform depth.

NOTE:
Detailed teaching programme to be made and circulated to the students at the commencement of the semester. Appropriate Standards must be explained and used

<table>
<thead>
<tr>
<th>I</th>
<th>Sessional evaluation</th>
<th>Weightage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minor Test – I</td>
<td>20%</td>
<td></td>
</tr>
<tr>
<td>Minor Test – II</td>
<td>20%</td>
<td></td>
</tr>
<tr>
<td>Assignment / Exercises</td>
<td>30%</td>
<td></td>
</tr>
<tr>
<td>Quiz/Tutorial/Class Test</td>
<td>30%</td>
<td></td>
</tr>
</tbody>
</table>

INSTRUCTIONS TO QUESTION PAPER SETTER:
1. Exam shall be of 3 hours duration and of maximum marks: 50. (minimum passing marks:20)
2. Total EIGHT questions are to be set (two questions from each unit), and candidate have to attempt any five questions selecting one from each unit, each question of 10 marks each.
3. The question paper should at least have one question with 3 subparts and three questions with 2 subparts.

READING LIST: (to be amplified by the subject teacher)
### AR308 B  
**COMPUTER IN ARCHITECTURE VI**

#### Teaching Schedule

<table>
<thead>
<tr>
<th>L</th>
<th>P</th>
<th>Marks of Sessional work</th>
<th>Marks of Examination</th>
<th>Total marks</th>
<th>Credits</th>
<th>Duration of Examination (h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td></td>
<td>Theory</td>
<td>Portfolio</td>
<td>100</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

#### INTENT:
To appreciate the potential of the computer as an aid to the architect in both drawing and design.

#### CONTENT:
Navisworks, 3D Studio Max  
(Helps students to do coordination between multi disciplines, preparing construction drawings, visualization.)

#### NOTE:
Detailed teaching programme to be made and circulated to the students at the commencement of the semester. Each student must produce individual work for evaluation.

#### Sessional evaluation

<table>
<thead>
<tr>
<th>I</th>
<th>Sessional evaluation</th>
<th>Weightage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Minor Test – I</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td>Minor Test – II</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td>Assignment / Mini Project /</td>
<td>30%</td>
</tr>
<tr>
<td></td>
<td>Quiz/Tutorial/Class Test</td>
<td>30%</td>
</tr>
</tbody>
</table>

#### READING LIST: (to be amplified by the subject teacher)
1. Relevant software manuals
AR310 B

BUILDING SERVICES VI

<table>
<thead>
<tr>
<th>Teaching Schedule</th>
<th>Marks of</th>
<th>Marks of Examination</th>
<th>Total marks</th>
<th>Credits</th>
<th>Duration of Examination (h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>P</td>
<td>Theory</td>
<td>Portfolio</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>-</td>
<td>50</td>
<td>50</td>
<td>-</td>
<td>100</td>
</tr>
</tbody>
</table>

INTENT:
To appreciate how buildings can be made more comfortable by adding mechanical systems like artificial ventilation, air conditioning and conveyor systems.

CONTENT:
UNIT I:
Human Comfort conditions
Need for mechanical ventilation in buildings. Rate of ventilation for different occupancies.
Methods and equipment employed for mechanical ventilation in buildings.

UNIT II: Air Conditioning
Principles of Air-conditioning, Indoor Air Quality, Carnot cycles, gas laws, refrigeration, cycles and refrigerants.
Architectural considerations for air conditioned buildings
Definition, advantages and disadvantages, brief introduction to psychrometric process, air-cycle and refrigeration cycle. Summer and winter air-conditioning, calculation of air-conditioning loads
Zoning: purpose and advantages. Air-distribution systems: Ducts and duct systems. Air-outlets
Compressors, condensers, evaporators, heat exchangers, etc.

UNIT IV: Air-conditioning methods and equipment:
Window units, split units, ductable air conditioners and package system.
Central air-conditioning systems: AC plant and room, all air systems and chilled water systems, AHU and FC units, Building ducting, diffusers and grills.
Location of air-conditioning equipment in buildings. Architectural requirement of various equipment.
Residential and commercial air-conditioning, energy conservation techniques.
Introduction to the concept of ‘Clean Room’ and their architectural requirements

UNIT IV: Elevators (Lifts) and escalators
Brief history-types of Elevators like traction, hydraulic etc. Doubledecker, sky lobby, lift lobby, lift interiors etc.,
Definition and components
Elevatoring a building: environmental considerations i.e., location in building, serving floors, grouping, size, shape of passenger car, door arrangement etc.
Types of lifts, passenger, capsule, hospital bed- lift; goods-lift etc.
Working and operation of lifts, parts of lifts; industry standards and capacity calculations.
Provision to be made in buildings for installation: location, systems, sizes, equipment, spatial requirement
Introduction to working of escalator and design, escalators location, equipment

NOTE:
Detailed teaching programme to be made and circulated to the students at the commencement of the semester.
Appropriate Standards must be explained and used

<table>
<thead>
<tr>
<th>I</th>
<th>Sessional evaluation</th>
<th>Weightage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minor Test – I</td>
<td></td>
<td>20%</td>
</tr>
<tr>
<td>Minor Test – II</td>
<td></td>
<td>20%</td>
</tr>
<tr>
<td>Assignment / Exercises</td>
<td></td>
<td>30%</td>
</tr>
<tr>
<td>Quiz/Tutorial/Class Test</td>
<td></td>
<td>30%</td>
</tr>
<tr>
<td>II</td>
<td>Theory examination</td>
<td>100%</td>
</tr>
</tbody>
</table>

INSTRUCTIONS TO QUESTION PAPER SETTER:
1. Exam shall be of 3 hours duration and of maximum marks: 50. (minimum passing marks:20)
2. Total EIGHT questions are to be set (two questions from each unit), and candidate have to attempt any five questions selecting one from each unit, each question of 10 marks each.
3. The question paper should at least have one question with 3 subparts and three questions with 2 subparts.

READING LIST: (to be amplified by the subject teacher)
# AR312-B
## GRAPHICS - VI

<table>
<thead>
<tr>
<th>Teaching Schedule</th>
<th>Marks of Sessional work</th>
<th>Marks of Examination</th>
<th>Total marks</th>
<th>Credits</th>
<th>Duration of Examination (h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>P</td>
<td>Theory</td>
<td>Portfolio</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>4</td>
<td>75</td>
<td>75</td>
<td>-</td>
</tr>
</tbody>
</table>

**INTENT:**
To augment and enhance the skill and techniques in architectural rendering using different mediums

**CONTENT:**
Rendering of architectural drawings

**UNIT I:**
Rendering of Site Plan; Floor Plans

**UNIT II:**
Rendering of Elevations and sections

**UNIT III:**
Rendering of 3-D views

**NOTE:**
Detailed teaching programme to be made and circulated to the students at the commencement of the semester.
Minimum 10-12 sheets to be prepared in as many different mediums as possible in the studio under supervision of the teacher.
The medium of rendering shall be Oil Pastels; Markers; Charcoal Pencil; Cut and Paste; Water Color and Poster Color.

<table>
<thead>
<tr>
<th>I</th>
<th>Sessional evaluation</th>
<th>Weightage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minor Test – I</td>
<td>20%</td>
<td></td>
</tr>
<tr>
<td>Minor Test – II</td>
<td>20%</td>
<td></td>
</tr>
<tr>
<td>Assignments</td>
<td>30%</td>
<td></td>
</tr>
<tr>
<td>Quiz/Tutorial/Class Test</td>
<td>30%</td>
<td></td>
</tr>
</tbody>
</table>

| II | Theory examination | 100% |

**INSTRUCTIONS TO QUESTION PAPER SETTER:**
1. Exam shall be of 3 hours duration and of maximum marks:75. (minimum passing marks:30)
2. Exam shall be conducted in the drawing hall/studio having provision of drawing boards.
3. Following Stationery shall be provided to each of the student
   a) Four cartridge sheet (white)
   b) Two tracing papers
4. Total THREE questions are to be set one from each unit out of which candidate has to attempt any TWO each of 37.5 marks.

**READING LIST:** (to be amplified by the subject teacher)
INTENT:
To understand the growth and development of architecture and the ideas that propelled this development from the advent of the Modern Movement in the early decades of the 20th Century to contemporary trends across the world and in India.

CONTENT:
UNIT I: (The Western World: Early 20th century to the contemporary era)
Early Modernism
Post War Decades: The International Style
Alternatives to the International Styles

UNIT II: (The Western World: Early 20th century to the contemporary era)
Late Modernism
Slick Tech Architecture
Post Modernism
Neo Modernism

UNIT III: (The Indian Scenario: Early 20th century to the contemporary era)
Post Independence Architecture
The Arrival of Modernism in India
Foreign Architects and their influence on Indian Architects
Rediscovering India’s Indigenous Architectural Tradition

UNIT IV: (The Indian Scenario: Early 20th century to the contemporary era)
Current trends in Indian Architecture
Exploring Regionalism in Indian Architecture

NOTE:
Detailed teaching programme to be made and circulated to the students at the commencement of the semester.

.Sessional evaluation & Weightage
<table>
<thead>
<tr>
<th>I</th>
<th>Sessional evaluation</th>
<th>Weightage</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>Minor Test – I</td>
<td>20%</td>
</tr>
<tr>
<td>P</td>
<td>Minor Test – II</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td>Assignment / Exercises</td>
<td>30%</td>
</tr>
<tr>
<td></td>
<td>Quiz/Tutorial/Class Test</td>
<td>30%</td>
</tr>
</tbody>
</table>

| II | Theory examination | 100% |

INSTRUCTIONS TO QUESTION PAPER SETTER:
1. Exam shall be of 3 hours duration and of maximum marks: 50. (minimum passing marks: 20)
2. Total EIGHT questions are to be set (two questions from each unit), and candidate have to attempt any five questions selecting one from each unit, each question of 10 marks each.
3. The question paper should at least have one question with 3 subparts and three questions with 2 subparts.

READING LIST:
**AR316-B**  
**SPECIFICATION - VI**

<table>
<thead>
<tr>
<th>Teaching Schedule</th>
<th>Marks of Sessional work</th>
<th>Marks of Examination</th>
<th>Total marks</th>
<th>Credits</th>
<th>Duration of Examination (h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>L P</td>
<td>Theory Portfolio</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 -</td>
<td>50</td>
<td>50</td>
<td>100</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

**INTENT:**  
Understanding of the techniques and phraseology of writing specifications of basic and composite materials and various building works.

**CONTENT:**
Definition, types, importance of outline and detailed specification in construction practice, method of writing specifications; Detailed specification writing for materials and works like:

**UNIT I:**  
Excavations  
Earthwork  
Foundations  
Damp proof Course

**UNIT II:**  
Brick Masonry  
Concreting  
Flooring

**UNIT III:**  
Timber doors and windows  
Metal doors and windows  
Painting and other finishes

**UNIT IV:**  
Sanitary fittings and fixtures  
Electrical writing and fixtures  
Specifications as a part of the tender document

**NOTE:**
Detailed teaching programme to be made and circulated to the students at the commencement of the semester. Appropriate Standards must be explained and used. Class work shall also include training to write specification for works designed for special situation like non conventional use of conventional materials, etc.

**SESSIONAL EVALUATION**

<table>
<thead>
<tr>
<th>Sessional evaluation</th>
<th>Weightage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minor Test – I</td>
<td>20%</td>
</tr>
<tr>
<td>Minor Test – II</td>
<td>20%</td>
</tr>
<tr>
<td>Assignment / Exercises</td>
<td>30%</td>
</tr>
<tr>
<td>Quiz/Tutorial/Class Test</td>
<td>30%</td>
</tr>
<tr>
<td>Theory examination</td>
<td>100%</td>
</tr>
</tbody>
</table>

**INSTRUCTIONS TO QUESTION PAPER SETTER:**
1. Exam shall be of 3 hours duration and of maximum marks: 50. (minimum passing marks:20)
2. Total EIGHT questions are to be set (two questions from each unit), and candidate have to attempt any five questions selecting one from each unit, each question of 10 marks each.
3. The question paper should at least have one question with 3 subparts and three questions with 2 subparts.

**READING LIST:** (to be amplified by the subject teacher)
1. Relevant I. S. Codes for Material Specifications.
INTENT:
To familiarize the students with common defects arising in the buildings with age, with preventive measures and system of maintenance.

CONTENT:
UNIT I:
Principles of maintenance of buildings- definition, objectives, classification of building maintenance
Building deterioration and design considerations
Economic considerations in building maintenance

UNIT II:
Foundation and substructures defects
Foundation rehabilitation methods: shoring and underpinning
Dampness in buildings and its maintenance.
Cracks in building and repairing structural and non-structural cracks, bulging and leaning of walls
Surface protection

UNIT III:
Maintenance of water supply systems at unit level and city
Standards of World Health Organization, Central Public Health Engineering and Environment Organization (CPHEEO), Public Health Engineering Department (PHED) at State level, Municipal Corporation level
Maintenance of sewerage system at unit level and city.

UNIT IV:
Maintenance of mechanical and electrical systems in buildings.
Repair and Rehabilitation of distressed structures (Repair and Retrofitting)
Computerized Maintenance Management
Exemplars study

NOTE:
Detailed teaching programme to be made and circulated to the students at the commencement of the semester.
Appropriate Standards must be explained and used, site visits to be organized.

INSTRUCTIONS TO QUESTION PAPER SETTER:
1. Exam shall be of 3 hours duration and of maximum marks: 50. (minimum passing marks:20)
2. Total EIGHT questions are to be set (two questions from each unit), and candidate have to attempt any five questions selecting one from each unit, each question of 10 marks each.
3. The question paper should at least have one question with 3 subparts and three questions with 2 subparts.

READING LIST: (to be amplified by the subject teacher)
### AR 320-B EDUCATIONAL TOUR -VI

<table>
<thead>
<tr>
<th>Teaching Schedule</th>
<th>Marks of Sessional work</th>
<th>Marks of Examination</th>
<th>Total marks</th>
<th>Credits</th>
<th>Duration of Examination (h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>P</td>
<td>Theory</td>
<td>Portfolio</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-</td>
<td>-</td>
<td>50</td>
<td>-</td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

**INTENT:**
To expose students to Historical, traditional and Contemporary Architecture

**CONTENT:**
Vacation Assignment/ Study tour is to be undertaken in VI semester.

This assignment could be a measured drawing and documentation of a noted building or a study tour for visiting places of architectural interest. The choice of the building to be documented and the places to be visited will be decided by the department. The assignment may be given as group work (4 to 6 students per group). The students have to submit a report on the measured drawing or the study tour at the end of the VI Semester.
AR 401-B

PRACTICAL TRAINING - VII

Teaching Schedule | Marks of Sessional work | Marks of Examination | Total marks | Credits | Duration of Examination (h)
---|---|---|---|---|---
L | P | Theory | Portfolio |
- | - | 200 | - | 200 | 400 | 8 | -

**INTENT:**

To offer students an opportunity to work in an architect’s office and get acquainted with the demands of the profession

**CONTENT:**

The professional training shall be for duration of minimum twenty four (24) working weeks (SIX MONTHS) in various aspects of architectural practice. During this period, the candidate shall produce a report comprising of four section viz., Training Report, Building Study, Building Material Study and Detailing study.

The Training Report shall consist of the various drawings, observations, technical graphic data, design, structure, construction methods, services, use of material etc. obtained during the process of training. The building study shall be a critical appraisal of one of the noted buildings designed and supervised by the firm in which the candidate has taken the training. The Building Material Study shall include pertinent data, characteristics and applications of a contemporary building material. The detailing study shall deal with the various aspects of an interesting detail done by the firm, where the candidate has done the training or any other project of interest.

Professional training will be carried out as per the professional training rules as prescribed in training manual.

**NOTE:**

This entire semester will be used for Practical Training which is to be undertaken with an architect registered with the Council of Architecture and should have a minimum professional experience of ten years.

Trainees are required to submit monthly progress reports of the work done by them in the office. These reports will be monitored by a faculty member designated as the Practical Training Coordinator.

A Practical Training Examination will be conducted at the end of the training period, in which the work done by the trainee will be assessed through a viva voce.

<table>
<thead>
<tr>
<th>Evaluation</th>
<th>Weightage</th>
</tr>
</thead>
<tbody>
<tr>
<td>I Sessional evaluation</td>
<td></td>
</tr>
<tr>
<td>Training report</td>
<td>50%</td>
</tr>
<tr>
<td>II Portfolio evaluation</td>
<td></td>
</tr>
<tr>
<td>Viva voce</td>
<td>50%</td>
</tr>
</tbody>
</table>
INTENT:
To develop design skills for complex service intensive buildings and structural systems.

CONTENT:
Projects shall be of urban scale with multiple functions and a need for imagery as one of the architectural goals.
Design issues should address the following:
- Macro and micro climate
- User behavior and requirements
- Utility and space enhancement
- Form and function
- Circulation: horizontal and vertical.
- Site Planning and Landscape detailing
- Structural details such as beam framing, building services / HVAC etc.
- Use of innovations in materials and techniques of construction.
- Energy efficient design, water conservation and waste recycling
- Energy Management systems
- Lighting and acoustics
- Communications and security systems
- Design detailing considering the barrier free environment
- Socio-economic profile of user group
- Parking details and standards
- Application of energy rating systems viz. LEED, GRIHA

Design of high rise buildings/services oriented buildings like Multiplexes; Shopping malls, commercial complexes, 5 star hotels, theme-based hotels, recreational buildings, hospitals, IT centres, etc.
Design of transport terminal like airports, bus terminals, railway station, etc.
All portfolio to include two drawings showing construction system and materials, services.

NOTE:
Detailed teaching programme to be made before the commencement of the semester and circulated to the students at the commencement of the semester.
Site visits and prototype study visits to be conducted.
These shall be one major design problem as a part of sessionals partially evaluated up to preliminary stage. Final design will be meant for portfolio evaluation

<table>
<thead>
<tr>
<th>I</th>
<th>Sessional evaluation</th>
<th>Weightage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Minor Test</td>
<td>20 %</td>
</tr>
<tr>
<td></td>
<td>Programme formulation (site, case &amp; literature studies)</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td>Concept</td>
<td>20 %</td>
</tr>
<tr>
<td></td>
<td>Preliminary Design</td>
<td></td>
</tr>
<tr>
<td>II</td>
<td>Portfolio evaluation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Portfolio exercises</td>
<td>100%</td>
</tr>
</tbody>
</table>

READING LIST: (to be amplified by the subject teacher)
INTENT:
To generate awareness about special construction details used in interiors such as hotels, hospitals, offices, shopping malls, industrial, housing.

CONTENT:
UNIT I:
Furniture layout and details
False ceiling layout and details
UNIT II:
Partition details and design.
Paneling design and details.
UNIT III:
Staircase design and details.
Shop front design and details.
UNIT IV:
Flooring layout and details.
Electrical layout
Interior accessories planters, signage, display boards etc.

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

In each class teacher will deliver lecture on the subject to be followed by drawing.
Market survey, industrial visits to manufacturing units and field visits are to be conducted
Minimum 10 sheets must be prepared in the studio under supervision of the teacher.
Use of Computer Aided Drawing techniques may be encouraged.

INSTRUCTIONS TO QUESTION PAPER SETTER:
1. Exam. shall be conducted in the drawing hall/studio having provision of drawing boards.
2. Following Stationery shall be provided to each of the student
   a. Four Cartridge Sheet (White)
   b. Two tracing papers
3. Total FIVE questions are to be set, out of which FIRST question shall be compulsory (from the entire syllabus) of theory of 25 marks, (due consideration has to be given to building materials) and rest of the FOUR QUESTIONS shall be from four units (one question from each of the unit, candidate have to attempt any TWO questions (drawing based) out of four of 25 marks each.
4. Exam. shall be of 3 hours duration and of Maximum marks: 75. (minimum passing marks 30)

READING LIST: (to be amplified by the subject teacher)
8. Relevant IS codes
**AR 406-B**

<table>
<thead>
<tr>
<th>Teaching Schedule</th>
<th>Marks of Sessional work</th>
<th>Marks of Examination</th>
<th>Total marks</th>
<th>Credits</th>
<th>Duration of Examination (h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>P</td>
<td>Theory</td>
<td>Portfolio</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>-</td>
<td>75</td>
<td>-</td>
<td>75</td>
<td>150</td>
</tr>
</tbody>
</table>

**INTENT:**
The course objective is to provide the essential tools to conduct research in architecture and to publish research findings.

**CONTENT:**

**UNIT I: Fundamentals of Research**
Introduction to research, types of research, research methods: qualitative, quantitative and mixed measures
Elements of research, research methodology, characteristics of good research,
Selection of appropriate research design, planning the research: problem statement, literature review, critical thinking, types of hypothesis, types of sample, methods of data collection, data analysis, research proposal preparation

**UNIT II: Quantitative Research in Architectural Design Development**
Data collection, tools of data collection, Types of research survey, questionnaires
Introduction to Statistical analysis of data and graphical representation.
Statistical theories: regression analysis, factor analysis and multivariate analysis

**UNIT III: Qualitative Research in Architectural Design Development**
Interviews in research, observation, physical traces, archival research
Case studies in architectural research
Applied researches in architectural design

**UNIT IV: Report Writing and Presentation**
Introduction to report and research paper writing- components of research paper and research report
Introduction to different styles of referencing - Harvard and Chicago styles
Presentation techniques: oral presentation, layout, printing process, internet, overhead, power point

**NOTE:**
Detailed teaching programme to be made and circulated to the students at the commencement of the semester.
Appropriate Standards must be explained and used

<table>
<thead>
<tr>
<th>I Sessional evaluation</th>
<th>Weightage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minor Test – I</td>
<td>20%</td>
</tr>
<tr>
<td>Minor Test – II</td>
<td>20%</td>
</tr>
<tr>
<td>Assignment / Exercises</td>
<td>30%</td>
</tr>
<tr>
<td>Quiz/Tutorial/Class Test</td>
<td>30%</td>
</tr>
</tbody>
</table>

| II Theory examination | 100% |

**INSTRUCTIONS TO QUESTION PAPER SETTER:**
1. Exam shall be of 3 hours duration and of maximum marks: 75. (minimum passing marks:30)
2. Total EIGHT questions are to be set (two questions from each unit), and candidate have to attempt any five questions selecting one from each unit, each question of 10 marks each.
3. The question paper should at least have one question with 3 subparts and three questions with 2 subparts.

**READING LIST:** (to be amplified by the subject teacher)
INTENT:
To initiate the students to the basic principles of urban design.
To develop an ability to be sensitive to urban issues and give effective design ideas for situations involving public realm.

CONTENT:
UNIT I:
Definition of Urban Design. Necessity and benefits of quality urban design.
Scope, levels and scales of urban design.
Urban design vocabulary: street, square, plaza, circus, landmarks, nodes, districts etc.
Terminologies and the various elements in urban design, and their explanations.

UNIT II:
History of urban design, through a selection of iconic examples.
Nature / environment and urban design – open spaces, urban spaces and urban places.
Importance of designing in an urban context.

UNIT III:
Circulation and urban design: intercity/intra-city.
Pedestrianisation, urban furniture
Townscape analysis and urban visual studies. Formulation of issues for intervention.

UNIT IV:
Building typology and its impact on urban form.
Physical and non physical determinants of city form patterns
Urban design tool: applications of urban design principles in existing developments as well as in new proposals.
Exemplar studies

NOTE:
Detailed teaching programme to be made and circulated to the students at the commencement of the semester.
The assignments can be done through case studies (primary and secondary), book reviews and short exercises.

INSTRUCTIONS TO QUESTION PAPER SETTER:
1. Exam shall be of 3 hours duration and of maximum marks: 75. (minimum passing marks:30)
2. Total EIGHT questions are to be set (two questions from each unit), and candidate have to attempt any five questions selecting one from each unit, each question of 10 marks each.
3. The question paper should at least have one question with 3 subparts and three questions with 2 subparts.

READING LIST: (to be amplified by the subject teacher)
AR 410-B  INTERIOR DESIGN – VIII

<table>
<thead>
<tr>
<th>Teaching Schedule</th>
<th>Marks of Sessional work</th>
<th>Marks of Examination</th>
<th>Total marks</th>
<th>Credits</th>
<th>Duration of Examination (h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>L P</td>
<td>Theory</td>
<td>Portfolio</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 -</td>
<td>75</td>
<td>75</td>
<td>-</td>
<td>150</td>
<td>4*</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

INTENT:
To appreciate the complexities and constraints in the design and execution of architectural interiors

CONTENT:

UNIT I:
History of interior & theory design
Constraints effecting interior design

UNIT II:
Art in interior design
Furniture and furnishings

UNIT III:
Color in interiors
Lighting in interiors

UNIT IV:
Interior design accessories
Building material for interior finishes
Electrical wiring and fixtures, materials and methods

NOTE:
Detailed teaching programme to be made and circulated to the students at the commencement of the semester.
Appropriate Standards must be explained and used

<table>
<thead>
<tr>
<th>Sessional evaluation</th>
<th>Weightage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minor Test – I</td>
<td>20%</td>
</tr>
<tr>
<td>Minor Test – II</td>
<td>20%</td>
</tr>
<tr>
<td>Assignment / Exercises</td>
<td>30%</td>
</tr>
<tr>
<td>Quiz/Tutorial/Class Test</td>
<td>30%</td>
</tr>
<tr>
<td>Theory examination</td>
<td>100%</td>
</tr>
</tbody>
</table>

INSTRUCTIONS TO QUESTION PAPER SETTER:
1. Exam shall be of 3 hours duration and of maximum marks: 75. (minimum passing marks:30)
2. Total EIGHT questions are to be set (two questions from each unit), and candidate have to attempt any five questions selecting one from each unit, each question of 10 marks each.
3. The question paper should at least have one question with 3 subparts and three questions with 2 subparts.

READING LIST:
<table>
<thead>
<tr>
<th>Teaching Schedule</th>
<th>Marks of Sessional work</th>
<th>Marks of Examination</th>
<th>Total marks</th>
<th>Credits</th>
<th>Duration of Examination (h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>L P</td>
<td>Theory</td>
<td>Portfolio</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 -</td>
<td>75</td>
<td>75</td>
<td>-</td>
<td>150</td>
<td>4*</td>
</tr>
</tbody>
</table>

**INTENT:**
To understand housing in terms of issues, problems and directions in urban and rural context.

**CONTENT:**

**UNIT I:**
- Definitions and vocabulary
- Historical development of housing in various contexts
- Impacts of industrialization and urbanization
- Development of housing under various five year plans

**UNIT II:**
- Housing process and product; Housing Surveys, Housing need and demand;
- Basic principles of formulating housing standards for rural and urban areas, desirable and minimum standards
- Housing and planning codes, laws and legislations related to housing like development control rules and regulations

**UNIT III:**
- Review of different forms of housing in both developed and developing countries;
- Case studies; acquaintance with housing strategies like upgrading existing shelter, private partnership
- Housing Construction Technology: building materials and alternative technologies, strategies for cost reduction
- Factors influencing housing sector like land value, economic policy, managing and financing housing projects;

**UNIT IV:**
- Types of Housing, ownership types
- Slums and its upgradation and improvement schemes
- Role of housing agencies like housing boards, State development Authorities, Housing and Urban Development Corporation etc. in housing development
- Social and Physical Infrastructure requirement in housing, National Housing Policy, State Housing Policy

**NOTE:**
Detailed teaching programme to be made and circulated to the students at the commencement of the semester.

Appropriate Standards must be explained and used

<table>
<thead>
<tr>
<th>I</th>
<th>Sessional evaluation</th>
<th>Weightage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Minor Test – I</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td>Minor Test – II</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td>Assignment / Exercises</td>
<td>30%</td>
</tr>
<tr>
<td></td>
<td>Quiz/Tutorial/Class Test</td>
<td>30%</td>
</tr>
<tr>
<td>II</td>
<td>Theory examination</td>
<td>100%</td>
</tr>
</tbody>
</table>

**INSTRUCTIONS TO QUESTION PAPER SETTER:**
1. Exam shall be of 3 hours duration and of maximum marks: 75. (minimum passing marks: 30)
2. Total EIGHT questions are to be set (two questions from each unit), and candidate have to attempt any five questions selecting one from each unit, each question of 10 marks each.
3. The question paper should at least have one question with 3 subparts and three questions with 2 subparts.

**READING LIST:**
<table>
<thead>
<tr>
<th>Teaching Schedule</th>
<th>Marks of Sessional work</th>
<th>Marks of Examination</th>
<th>Total marks</th>
<th>Credits</th>
<th>Duration of Examination (h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>L P</td>
<td>Theory Portfolio</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 -</td>
<td>75</td>
<td>75</td>
<td>150</td>
<td>4*</td>
<td>3</td>
</tr>
</tbody>
</table>

**INTENT:**
To give an introduction to the discipline of urban and regional Planning

**CONTENT:**

**UNIT I:**
Definition and vocabulary of urban and regional planning
Historical evolution of town planning, Industrialization and Urbanisation
Evolution of town planning in India: pre-independence and post-independence.

**UNIT II:**
Techniques of development for new towns and regions, existing towns, urban renewal schemes and development through community participation.
The future of cities and planning, growth management, smart growth and sustainable development

**UNIT III:**
Role of Urban and Regional planning policies and perspectives at different levels like national level, state level, district level etc.
Planning norms and development norms for urban and Regional approaches
Socio-cultural, economic planning, land use planning etc. General principles and working.
Detailed survey and preparation of questionnaire for land use, socioeconomic, transportation planning etc.

**UNIT IV:**
Regional planning, ecology and planning
Services, and network, infrastructure planning
Planning laws and legislation, Special Economic Zones (SEZs), UDRPFI recommendations
Physical, social and economic parameters for regional planning.
Implementation of regional plans.

**NOTE:**
Detailed teaching programme to be made and circulated to the students at the commencement of the semester.

**INSTRUCTIONS TO QUESTION PAPER SETTER:**
1. Exam shall be of 3 hours duration and of maximum marks: 75. (minimum passing marks:30)
2. Total EIGHT questions are to be set (two questions from each unit), and candidate have to attempt any five questions selecting one from each unit, each question of 10 marks each.
3. The question paper should at least have one question with 3 subparts and three questions with 2 subparts.

**READING LIST:** (to be amplified by the subject teacher)
AR 416-B

CONSERVATION OF BUILT ENVIRONMENT – VIII

<table>
<thead>
<tr>
<th>Teaching Schedule</th>
<th>Marks of Sessional work</th>
<th>Marks of Examination</th>
<th>Total marks</th>
<th>Credits</th>
<th>Duration of Examination (h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>L P</td>
<td>Theory</td>
<td>Portfolio</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 -</td>
<td>75</td>
<td>75</td>
<td>150</td>
<td>4*</td>
<td>3</td>
</tr>
</tbody>
</table>

**INTENT:**
To inculcate the ability to appreciate historical architecture and introduce basic issues of conservation as one of the specializations of architecture.

**CONTENT:**

**UNIT I:**
- History of conservation
- Definitions and Vocabulary
- Intervention Types
- Principles of Architectural Conservation

**UNIT II:**
- International Conservation Conventions
- Charters for conservation of historic & cultural properties
- Cultural World Heritage: Notion & Criteria
- Inventorising Architectural Heritage
- Documenting Architectural Heritage

**UNIT III:**
- Conservation in India: Methods & Approaches
- Agencies: Archaeological Survey of India; State Departments of Archaeology; INTACH; etc.
- Statutory Framework
- World Heritage Sites in India

**UNIT IV:**
- Structural Aspects of Conservation
- Material Aspects of Conservation
- Maintaining & Managing Historic Sites
- Disaster Management of Historic Sites
- Heritage based sustainable development
- Adaptive Reuse

**NOTE:**
Detailed teaching programme to be made and circulated to the students at the commencement of the semester.
Appropriate Standards must be explained and used

<table>
<thead>
<tr>
<th>I</th>
<th>Sessional evaluation</th>
<th>Weightage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Minor Test – I</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td>Minor Test – II</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td>Assignment / Exercises</td>
<td>30%</td>
</tr>
<tr>
<td></td>
<td>Quiz/Tutorial/Class Test</td>
<td>30%</td>
</tr>
<tr>
<td>II</td>
<td>Theory examination</td>
<td>100%</td>
</tr>
</tbody>
</table>

**INSTRUCTIONS TO QUESTION PAPER SETTER:**
1. Exam shall be of 3 hours duration and of maximum marks: 75. (minimum passing marks:30)
2. Total EIGHT questions are to be set (two questions from each unit), and candidate have to attempt any five questions selecting one from each unit, each question of 10 marks each.
3. The question paper should at least have one question with 3 subparts and three questions with 2 subparts.

**READING LIST:** (to be amplified by the subject teacher)
AR 420-B

INDIAN ARCHITECTURE – VIII

<table>
<thead>
<tr>
<th>Teaching Schedule</th>
<th>Marks of Sessional work</th>
<th>Marks of Examination</th>
<th>Total marks</th>
<th>Credits</th>
<th>Duration of Examination (h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>L, P</td>
<td>Theory</td>
<td>Portfolio</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>-</td>
<td>75</td>
<td>75</td>
<td>-</td>
<td>150</td>
</tr>
</tbody>
</table>

INTENT:
To appreciate the vocabulary of Indian Architecture and its multi-dimensional facets by exploring the rich overlay of disparate influences.

CONTENT:

UNIT I: Pre Industrial India
Evolution of Indian Architecture: Indus Valley Civilization
Rise of Hinduism and evolution of the Temple
The Buddhist Landscape
Advent of Islam and its Architectural Implications

UNIT II: Post Industrial India
British Colonialism and India
A New Capital for India: Building New Delhi
Post Independence Architectural Scenario
A New Capital for Punjab: Building Chandigarh

UNIT III: Addressing issues of Tradition & Identity
Going Back to Roots: Tradition versus Modernity
Relevance of Indian Vernacular
Reinventing Vaastu
Architecture without Architects

UNIT IV: Indian Architecture and Globalization
Technology Intensive architecture
Green Building Movement in India
Architecture in the ICE (Information-Communication-Entertainment) Age
Indian Post Modernism

NOTE:
Detailed teaching programme to be made and circulated to the students at the commencement of the semester.

<table>
<thead>
<tr>
<th>I</th>
<th>Sessional evaluation</th>
<th>Weightage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minor Test – I</td>
<td>20%</td>
<td></td>
</tr>
<tr>
<td>Minor Test – II</td>
<td>20%</td>
<td></td>
</tr>
<tr>
<td>Assignment / Exercises</td>
<td>30%</td>
<td></td>
</tr>
<tr>
<td>Quiz/Tutorial/Class Test</td>
<td>30%</td>
<td></td>
</tr>
<tr>
<td>II</td>
<td>Theory examination</td>
<td>100%</td>
</tr>
</tbody>
</table>

INSTRUCTIONS TO QUESTION PAPER SETTER:
1. Exam shall be of 3 hours duration and of maximum marks: 75. (minimum passing marks: 30)
2. Total EIGHT questions are to be set (two questions from each unit), and candidate have to attempt any five questions selecting one from each unit, each question of 10 marks each.
3. The question paper should at least have one question with 3 subparts and three questions with 2 subparts.

READING LIST: (to be amplified by the subject teacher)
INTENT:
To familiarize the students with the problems and methods of energy conservation through design of built forms.

CONTENT:

UNIT I: Energy and Architecture
Definition of energy and related terms, units of measurements
Energy scenario: World/Asia energy outlook, Brundtland report, Kyoto protocol, Agenda 21, IPCC, IEA
Climatic data: Test Reference Year (TRY), Typical Meteorological Year (TMY), Example Weather Year (EWY)
World Meteorological Organization, Indian Meteorological Department
Field experiments using HOBO sensors, environmental meters, anemometer, lux meter
Standard effective temperature, Adaptive thermal comfort, thermal neutrality, psychrometric process, comfort zone-summer and winter, Control Potential Zone (CPZ) analysis

UNIT II Environmental control in building
Heat exchange of buildings (steady-state): heat gain and loss calculation, Mean Radiant Temperature (MRT)
Envelope load dominated buildings and internal load dominated buildings
Means of thermal control: micro climate (settlement), structural controls (building), mechanical control
Bioclimatic strategies (i) building layout (shape), (ii) orientation (solar and wind consideration), (iii) resistive thermal insulation (iv) capacity thermal insulation (v) reflective thermal insulation (vi) Orientation, size of windows, (WWR), internal and external shading devices, high performance glasses- SC, SHGC, VLT
(vii) Minimize infiltration (viii) Mass effect, phase changing material (ix) Direct solar gain-glazed walls, bay windows, sun spaces etc) (x) Minimize external air flow, (xi) Promote ventilation-solar chimney, night flush cooling, induced ventilation, (xii) colour of envelope, (xiii) landscaping around building, cool roof

UNIT III: Passive solar heating and cooling (Exemplar studies)
Climate responsive traditional architecture in different climates: control micro-climate around the building by settlement pattern, built form – open space relationship & façade articulation & appropriate building materials
(i) Passive low energy solar heating: Indirect gain (Trombe wall, water wall, solar chimney, transwall, roof pond, roof radiation trap, solariam etc.), Isolated gain systems-natural convective loops etc.
(ii) Passive low energy cooling of buildings: Comfort ventilation, nocturnal ventilation, radiant cooling, direct and indirect evaporative cooling, passive down draft evaporative cooling, earth sheltering, cooling of outdoor spaces

UNIT IV: Energy modeling and Building Energy codes
Energy modeling of buildings using computer
Building energy management system (BEMS)
The principles of integrated design, systems approach
International building energy codes and rating systems

NOTE:
Detailed teaching programme to be made and circulated to the students at the commencement of the semester.

I  Sessional evaluation  Weightage
Minor Test – I  20%
Minor Test – II  20%
Assignment / Exercises  30%
Quiz/Tutorial/Class Test  30%

II  Theory examination  100%

INSTRUCTIONS TO QUESTION PAPER SETTER:
1. Exam shall be of 3 hours duration and of maximum marks: 75. (minimum passing marks:30)
2. Total EIGHT questions are to be set (two questions from each unit), and candidate have to attempt any five questions selecting one from each unit, each question of 10 marks each.
3. The question paper should at least have one question with 3 subparts and three questions with 2 subparts.
READING LIST: (to be amplified by the subject teacher)
INTENT:
To appreciate the numerous possibilities of structural systems and the techniques of drawing structural drawings.

CONTENT:
UNIT I:
Analysis of the structure of a previous design (preferable an appropriate part of the housing).

UNIT II:
Calculation of the structural component of the selected design
Preparing structural drawings for the selected design

UNIT III:
Bulk active structures
Form active structures

UNIT IV:
Surface active structures
Vector active structures

NOTE:
Detailed teaching programme to be made and circulated to the students at the commencement of the semester.

Appropriate Standards and codes must be explained and used

<table>
<thead>
<tr>
<th>Sessional evaluation</th>
<th>Weightage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minor Test – I</td>
<td>20%</td>
</tr>
<tr>
<td>Minor Test – II</td>
<td>20%</td>
</tr>
<tr>
<td>Assignment / Exercises</td>
<td>30%</td>
</tr>
<tr>
<td>Quiz/Tutorial/Class Test</td>
<td>30%</td>
</tr>
</tbody>
</table>

INSTRUCTIONS TO QUESTION PAPER SETTER:
1. Exam shall be of 3 hours duration and of maximum marks: 75. (minimum passing marks: 30)
2. Total EIGHT questions are to be set (two questions from each unit), and candidate have to attempt any five questions selecting one from each unit, each question of 10 marks each.
3. The question paper should at least have one question with 3 subparts and three questions with 2 subparts.

READING LIST: (to be amplified by the subject teacher)
AR 501-B  

ARCHITECTURAL DESIGN – IX

<table>
<thead>
<tr>
<th>Teaching Schedule</th>
<th>Marks of Sessional work</th>
<th>Marks of Examination</th>
<th>Total marks</th>
<th>Credits</th>
<th>Duration of Examination (h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>L.</td>
<td>Studio</td>
<td>Theory</td>
<td>Portfolio</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-</td>
<td>9</td>
<td>150</td>
<td>150</td>
<td>300</td>
<td>9</td>
</tr>
</tbody>
</table>

INTENT:
To explore design parameters that relate to the larger urban context as well as extra-architectural issues that has a bearing on how the built-environment is designed and perceived.

CONTENT:
The students are expected to engage in a process of collation and assimilation of what they have so far learnt over the preceding semesters in the resolution of an architectural situation at the urban level.

Design issues should address the following:
The built-environment is to be appreciated through buildings, their settings, the larger landscape, social and economic processes.
At the urban level this would entail making a design intervention in a complex urban context; investigating and proposing an architectural language appropriate to image, context and use and exploring and understanding zoning and spatial organisation of spaces that constitute the precinct.
At the building level this would entail developing skills to integrate form, function, space, structure, service and user behavior sensitively into a coherent whole and demonstrating a good understanding of materials, detailing, composition and assembly and the way they determine the character of an architectural composition.
Macro and micro climate
Site Planning and Landscape detailing
Circulation: horizontal and vertical.
Design detailing considering the barrier free environment
Parking details and standards

Design of District Centres, Institutional Campus Planning; Revitalization of Historic Areas; Urban Renewal of Precincts / Streets etc.
The design project would be conducted as follows:
First Part: Study of the given urban context and support study of critical issues (6 weeks)
Time Problem (6-12 hours)
Portfolio Problem: Resolution of the architectural problem identified in the study (7 weeks)
All portfolio to include two drawings showing landscape construction and services and provision of barrier free environment.

NOTE:
Detailed teaching programme to be made before the commencement of the semester and circulated to the students at the commencement of the semester.
Site visits and prototype study visits to be conducted.
These shall be one major design problem as a part of sessional partially evaluated upto preliminary stage. Final design will be meant for portfolio evaluation

<table>
<thead>
<tr>
<th>I</th>
<th>Sessional evaluation</th>
<th>Weightage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Minor Test</td>
<td>20 %</td>
</tr>
<tr>
<td></td>
<td>Programme formulation (site, case &amp; literature studies)</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td>Concept</td>
<td>20 %</td>
</tr>
<tr>
<td>II</td>
<td>Preliminary Design</td>
<td>40%</td>
</tr>
<tr>
<td></td>
<td>Portfolio exercises</td>
<td>100%</td>
</tr>
</tbody>
</table>

READING LIST: (to be amplified by the subject teacher)
INTENT:
To learn advance construction technology and its application, advance building materials and typical construction details of multistoried building and areas requiring special detailing.

CONTENT:
UNIT I:
Modern Formwork techniques in steel, lift slab construction and slip form formwork and formwork of special profiles, patented formwork.
UNIT II:
Prefabrication of RC using pre-stressed, post-stressed, pre-tensioning, post tensioning Construction details of typical RC building element in prefab mode.
Construction system of large span structures
UNIT III:
Curtain walls, different materials and their detailing.
UNIT IV:
Construction details of terrace gardens, swimming pool
Advance building material and their properties

NOTE:
Detailed teaching programme to be made before the commencement of the semester and circulated to the students at the commencement of the semester.
In each class teacher will deliver lecture on the subject to be followed by drawing.
Market survey/ site visits are to be conducted
Minimum 10 sheets must be prepared in the studio under supervision of the teacher.

INSTRUCTIONS TO QUESTION PAPER SETTER:
1. Exam. shall be conducted in the drawing hall/studio having provision of drawing boards.
2. Following Stationery shall be provided to each of the student
   a. Four Cartridge Sheet (White)
   b. Two tracing papers
3. Total FIVE questions are to be set, out of which FIRST question shall be compulsory (from the entire syllabus) of theory of 25 marks, (due consideration has to be given to building materials) and rest of the FOUR QUESTIONS shall be from four units (one question from each of the unit, candidate have to attempt any TWO questions (drawing based) out of four of 25 marks each.
4. Exam. shall be of 3 hours duration and of Maximum marks: 75. (minimum passing marks 30)

READING LIST: (to be amplified by the subject teacher)
INTENT:
To undertake the process of study and research on the topic preferably related to thesis project of tenth semester with sufficient background and references.

CONTENT:
Students are required to select architectural topics of individual interest reflecting social and technological needs of the day. The topics so chosen are required to be subjected to discussions and criticisms by the department. Students are required to explore and furnish reference work on related topics, availability of case studies and other data sources to help in an objective decision making process.

The dissertation shall entail the following:
- Formulate synopsis including objectives, scope of work, methodology of work, case studies to be undertaken, site selection culminating in broad functional requirements.
- An investigation of the topic using an analysis of existing literature, case studies and other data sources
- To develop understanding of the research topic.
- Drawing informed and scientific conclusions from the research.

(a) The dissertation shall be based on empirical study, field work, and textual analysis in the field of architecture. It should demonstrate candidate’s capacity for analysis and judgment as also her/his ability to carry out independent viewpoint in interpretation. A dissertation may be supplemented by published work, if any.

(b) The dissertation shall present an orderly & critical exposition of existing knowledge of the subject or shall embody results of original interpretation and analysis & demonstrate the capacity of the candidate to do independent research work. While writing the dissertation, the candidate shall lay out clearly the work done by her/him independently and the sources from which she/he has obtained other information.

(c) The dissertation shall be prepared as per guidelines given in the dissertation manual. Nevertheless, the typing shall be done on both sides of the paper, the font size should be 12 point Times New Roman in 1.5 (one and a half) space but the reference and bibliography should be typed in single space in Harvard style. The paper to be used should be A-4 size and orientation should be portrait.

The dissertation shall be well structured document of not more than 10000 words with clear objectives and well-argued and appropriate conclusions indicating an appropriate level of expertise. The submission format for all stages shall be print and digital. Seminars in related areas to the dissertation topic (activities and functions to be handled, building typologies, technology applied) are required to be presented at all stages during the entire semester.

At the end of the semester, each student would be required to make a formal presentation on the chosen and approved subject of dissertation along with the anticipated scope of work and schedule for the next semester.

NOTE:
Detailed teaching programme to be made and circulated to the students at the commencement of the semester.

<table>
<thead>
<tr>
<th>I</th>
<th>Sessional evaluation</th>
<th>Weightage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Synopsis</td>
<td>10%</td>
<td></td>
</tr>
<tr>
<td>Mid term submission</td>
<td>50%</td>
<td></td>
</tr>
<tr>
<td>Prefinal submission</td>
<td>40%</td>
<td></td>
</tr>
</tbody>
</table>

II | Portfolio evaluation | 100% |

READING LIST: (to be amplified by the subject teacher)
INTENT:
To give an exposure into the breadth of landscape architecture as a profession and to understand the complexities involved in urban landscape design.
To appreciate the potential of use of landscape in architecture

CONTENT:
UNIT I: Landscape design
Review of landscape design, history and evolution. Landscape conservation and environmental landscapes.
Types of landscape: natural, manmade landscape, urban and rural landscape. Factors effecting landscape design. The role of landscape components in modifying micro climate with respect to temperature, humidity, precipitation and percolation.

UNIT II: Urban landscape
Introduction to Urban landscape design and its influence on our physical and visual environment. Hierarchy of Urban open spaces, elements of urban landscape, recent trends in concepts and approaches to urban landscape design.

UNIT III: Landscape Construction and Services:
Study of landform its technical expression through site grading plan, sections and earthwork computations. Irrigation systems – sprinkler trickle irrigation, drip irrigation and laying irrigation networks, site drainage.

UNIT IV: Contemporary concepts and concerns:
Study and analysis of contemporary landscape designs by noted landscape architects and their concepts and theories. Role of professional institutes in the landscape architecture.
Application of landscape design principles - master planning for large developments like Technology parks, Mixed Use developments, Institutional and Industrial campuses, urban avenues etc.

NOTE:
Detailed teaching programme to be made and circulated to the students at the commencement of the semester. Appropriate Standards must be explained and used

INSTRUCTIONS TO QUESTION PAPER SETTER:
1. Exam shall be of 3 hours duration and of maximum marks: 75. (minimum passing marks:30)
2. Total EIGHT questions are to be set (two questions from each unit), and candidate have to attempt any five questions selecting one from each unit, each question of 10 marks each.
3. The question paper should at least have one question with 3 subparts and three questions with 2 subparts.

READING LIST: (to be amplified by the subject teacher)
Teaching Schedule

L | P | Theory | Portfolio | Total marks | Credits | Duration of Examination (h)  
---|---|--------|-----------|-------------|--------|----------------------------
3 | - | 75     | 75        | 150         | 4*     | 3                          

INTENT: 
To appreciate the role of traffic and transportation in the planning and success of human habitat.

CONTENT:

UNIT I:  
Urbanization and transport problem  
Traffic surveys studies  
Land use transportation interaction  
Road Network Planning

UNIT II:  
Geometric design of roads and inter sections  
Transport system characteristics planning for public transport  
Urban transport planning process and policies.

UNIT III:  
Transport planning in small and medium cities  
Transport economics  
Planning norms and space

UNIT IV:  
Parking characteristics space requirements.  
Traffic management and regulations scope  
Traffic and environment

NOTE:  
Detailed teaching programme to be made and circulated to the students at the commencement of the semester.  
Appropriate Standards must be explained and used

<table>
<thead>
<tr>
<th>I</th>
<th>Sessional evaluation</th>
<th>Weightage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Minor Test – I</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td>Minor Test – II</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td>Assignment / Exercises</td>
<td>30%</td>
</tr>
<tr>
<td></td>
<td>Quiz/Tutorial/Class Test</td>
<td>30%</td>
</tr>
</tbody>
</table>

| II | Theory examination | 100% |

INSTRUCTIONS TO QUESTION PAPER SETTER:
1. Exam shall be of 3 hours duration and of maximum marks: 75. (minimum passing marks:30)
2. Total EIGHT questions are to be set (two questions from each unit), and candidate have to attempt any five questions selecting one from each unit, each question of 10 marks each.
3. The question paper should at least have one question with 3 subparts and three questions with 2 subparts.

READING LIST: (to be amplified by the subject teacher)
**Teaching Schedule**

<table>
<thead>
<tr>
<th>L</th>
<th>P</th>
<th>Sessional work</th>
<th>Marks of Examination</th>
<th>Total marks</th>
<th>Credits</th>
<th>Duration of Examination (h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>-</td>
<td>75 Theory</td>
<td>75 Portfolio</td>
<td>150</td>
<td>4*</td>
<td>3</td>
</tr>
</tbody>
</table>

**INTENT:**
To introduce understanding of construction project management principles relevant to building.

**CONTENT:**

**UNIT I: Fundamentals of construction management**


**UNIT II: Time Management**


**UNIT III: Resource Management**

Definition of resource, types of resources, resource efficiency, resource loading diagram, Critical Path Method and resource scheduling; constrained based resource allocation and resource leveling using heuristic algorithms. Resource optimization for repetitive projects using Line of Balance (LOB) techniques. Definition of direct and indirect cost of project. Time-cost tradeoff analysis for expediting projects.

**UNIT IV: Safety, Risk and Environmental management**

Construction Safety Management: Importance of safety and management of consideration. Causes of accidents, classification of construction accidents, safety measures for personnel. Safety measures for storage and handling of building materials as prescribed in IS codes. Safety measures for excavation, demolition, bituminous works, scaffolding, ladders, formwork and other equipment as prescribed in IS codes.

Definition of risk, types of risk, Risk management cycle, risk analysis techniques (qualitative and quantitative), risk response methods.

Environmental Management: water drainage and runoff, air pollution, waste disposal, worker sanitation, noise.

**NOTE:**
Detailed teaching programme to be made and circulated to the students at the commencement of the semester.

<table>
<thead>
<tr>
<th>I</th>
<th>Sessional evaluation</th>
<th>Weightage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minor Test – I</td>
<td>20%</td>
<td></td>
</tr>
<tr>
<td>Minor Test – II</td>
<td>20%</td>
<td></td>
</tr>
<tr>
<td>Assignment / Mini Project / Term paper</td>
<td>30%</td>
<td></td>
</tr>
<tr>
<td>Quiz/Tutorial/Class Test</td>
<td>30%</td>
<td></td>
</tr>
</tbody>
</table>

| II | Theory examination | 100% |

**READING LIST:** (to be amplified by the subject teacher)

INTENT:
To appreciate the needs, constraints, complexities of tall buildings and to understand design and construction process.

CONTENT:
UNIT I: Introduction
Definition – International & Indian concepts, history of tall buildings, need and criteria for development of tall buildings, economics, social conditions, psychological factors, geographical, political & other forces in development, socio-psychological factors effecting such development – analysis; studies & methodology to solution – users’ need and demand.

UNIT II: Design criteria
Design philosophy, static and dynamic approach, structural systems and concepts: effects of openings, large panel construction, foundation superstructure interaction
Gravity and lateral load resisting structural systems: high rise behavior, rigid frames, braced frames, in-filled frames, shear walls, coupled shear walls, wall-frames, tubular, cores, steel-concrete composite floor systems, aluminium facades.
Stability of tall buildings: overall bulking analysis of frames, wall frames, approximate methods

UNIT III:
Impact of tall buildings on urban development in terms of increased density, accessibility, transportation and parking; Ownership, management, and maintenance.
Methods used for construction and site management for tall buildings
Constraints of material usage for tall buildings
Legislation aspects of tall buildings: fire safety, municipal codes, standardisation

UNIT IV:
Buildings Services for tall buildings, Landscaping in tall buildings.
Fire prevention and fire lighting systems for tall buildings
Disaster management in tall buildings
Intelligent building automation
Energy efficiency / Green Building Concepts: green skyscrapers

NOTE:
Detailed teaching programme to be made and circulated to the students at the commencement of the semester.
Appropriate Standards must be explained and used

INSTRUCTIONS TO QUESTION PAPER SETTER:
1. Exam shall be of 3 hours duration and of maximum marks: 75. (minimum passing marks:30)
2. Total EIGHT questions are to be set (two questions from each unit), and candidate have to attempt any five questions selecting one from each unit, each question of 10 marks each.
3. The question paper should at least have one question with 3 subparts and three questions with 2 subparts.

READING LIST:
INTENT:
To appreciate the relevance and need of principles and practices pertaining to cost effective building techniques and practices in India and worldwide.

CONTENT:
UNIT I:
Definition and overview of cost effective building in rural and urban sectors
Establishing the relevance of cost effective building practices in present times
Cost effective building and sustainability

UNIT II:
Spatial norms for cost effective buildings
Usage patterns
Cost analysis – material, labour, percentage breakup of various building components
Cost effectiveness through planning, construction management
Minimizing wastage and recycling

UNIT III:
Choice of building materials – indigenous, organic, alternative materials
Building techniques – standardization, modular co-ordination, mass production, pre fabrication
Traditional technology, alternative technology, adaptation and innovation
Comparative cost analysis of building materials and technologies

UNIT IV:
Evolution of the cost effective architecture movement – India and world wide
Role R & D Organizations, self help community participation, cooperative and individuals in promoting cost effective practices – viz. CBRI, SERC, BMPTC, Development Alternatives, ASTRA, HUDCO, COSTFORD, Auroville etc.
Survey and detailed study of exemplars of low cost study of low cost buildings

NOTE:
Detailed teaching programme to be made and circulated to the students at the commencement of the semester.
Appropriate Standards must be explained and used

INSTRUCTIONS TO QUESTION PAPER SETTER:
1. Exam shall be of 3 hours duration and of maximum marks: 75. (minimum passing marks:30)
2. Total EIGHT questions are to be set (two questions from each unit), and candidate have to attempt any five questions selecting one from each unit, each question of 10 marks each.
3. The question paper should at least have one question with 3 subparts and three questions with 2 subparts.

READING LIST:
(to be amplified by the subject teacher)
5. Publication of CBRI, SERC, RRL, NBO, COSTFORD etc
INTENT:
To appreciate the role of natural resources in building construction and maintenance.

CONTENT:
UNIT I: Sustainability Issues
Need for sustainable development: population growth, carbon emissions, global warming, climate change, ecological balance, ecological footprint, historical background, philosophical basis, social implications.
Manifestoes: Brundtland report, Agenda 21, Kyoto Protocol, IPCC, Forum for Future, complex rating systems.
Role of architects: sustainable site, energy (operational and embodied), materials, water and wastes.
Green, eco, ecological, sustainable, bio-climatic, cradle-to-cradle, biomimicry, restorative, regenerative design.
Systems Approach: definition of system, types, characteristics, components, behavior, integrated design.

UNIT II: Sustainable Site Planning
Site assessment and selection: topography, vegetation, built form, water, access to natural light, local wind patterns and micro climate.
Site planning: layout, shape, spacing, orientation, mutual relationship, solar studies, pollution prevention and ecology, heat island effect.
Design for environment: Greenfield development, smart growth, brownfield redevelopment strategies and infill development, sustainable urbanism.
Socially responsible design: user-centered design, design education/ethics and sustainability.

UNIT III: Energy
Forms of energy, energy sources: renewable and non-renewable, energy conversion: cogeneration and fuel cells.
Solar Energy: low temperature thermal systems (active & passive systems), solar air conditioning, solar water heating, high temperature thermal systems (solar thermal electricity system), photovoltaic systems, BPVs.
Wind Energy: traditional windmills, wind turbines – HAWT and VAWT (SWOC analysis).
Other renewable energy: methane gas (waste), energy crops (biomass conversion), sea and earth (geo-thermal).
Energy Storage: reversible chemical reactions, phase change materials.

UNIT IV: Materials, water and wastes
Water efficiency: water use/demand, quality of water, water conservation, ground water recharge.
Waste management: gaseous wastes, liquid wastes, solid wastes, recycling systems.
Contemporary exemplars of sustainable architecture.

NOTE:
Detailed teaching programme to be made and circulated to the students at the commencement of the semester.
Appropriate Standards must be explained and used.

INSTRUCTIONS TO QUESTION PAPER SETTER:
1. Exam shall be of 3 hours duration and of maximum marks: 75. (minimum passing marks:30)
2. Total EIGHT questions are to be set (two questions from each unit), and candidate have to attempt any five questions selecting one from each unit, each question of 10 marks each.
3. The question paper should at least have one question with 3 subparts and three questions with 2 subparts.

READING LIST:
INTENT:
To develop the techniques of observing, recording, reporting, analyzing architecture for the purpose of publication.

CONTENT:
UNIT I:
Definition of journalism, theories of journalism, techniques and processes
Appreciation of journalism in architecture, mediums, techniques
Historical architectural writing
Contemporary architectural journalism – real and virtual
Digital journalism, architecture, arts and journalism / media.

UNIT II:
Emphasis on the usage of language and vocabulary
Methodology of writing essays, compositions, précis, articles
Listening comprehension, analyzing talks, interviews and conversations
Collating and editing gathered information to build an article
Paraphrasing and summarizing
Analysis of works of Indian and overseas writers

UNIT III:
Writing original reports on design projects/buildings/complexes etc.
Thesis or research report writing
Organizing material for publication in newspapers, magazines, research journals etc.
Reporting editorials for magazines and journals, book reviews
Reporting activities like seminars, panel discussions, conference etc.
Subbing like condensing, connecting, titling, etc. of reports/write-ups submitted for publication.
Examining Case Studies of published works

UNIT IV:
Significance of the visual medium in architectural journalism
Photo Journalism, Captioning pictures, programmes and events
Ethics and legal issues in journalism, Copy right issues, plagiarism

NOTE:
Detailed teaching programme to be made and circulated to the students at the commencement of the semester.
Appropriate Standards must be explained and used

<table>
<thead>
<tr>
<th>I</th>
<th>Sesssional evaluation</th>
<th>Weightage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minor Test – I</td>
<td>20%</td>
<td></td>
</tr>
<tr>
<td>Minor Test – II</td>
<td>20%</td>
<td></td>
</tr>
<tr>
<td>Assignment / Mini Project / Term paper</td>
<td>30%</td>
<td></td>
</tr>
<tr>
<td>Quiz/Tutorial/Class Test</td>
<td>30%</td>
<td></td>
</tr>
</tbody>
</table>

INSTRUCTIONS TO QUESTION PAPER SETTER:
1. Exam shall be of 3 hours duration and of maximum marks: 75. (minimum passing marks:30)
2. Total EIGHT questions are to be set (two questions from each unit), and candidate have to attempt any five questions selecting one from each unit, each question of 10 marks each.
3. The question paper should at least have one question with 3 subparts and three questions with 2 subparts.

READING LIST: (to be amplified by the subject teacher)
INTENT:
To create awareness about various issues and challenges pertaining to disasters that impact the built environment.

UNIT I:
Introduction to basic definitions: Hazard, Risk, Vulnerability, Disaster, Coping Capacity
Factors causing disasters, Classification of Disasters – Natural, Manmade, Low, Medium and High Impact
Overview of Disaster Management scenario in India

UNIT II:
Overview of the impact of various types of disasters on the built environment
Behaviour of structural and non-structural building components in case of disaster, simulation studies
Design guidelines and norms for risk reduction for various disaster scenarios
Site Planning, Building geometry and form, Structural Engineering, Landscape
Building Repair and Retrofitting measures

UNIT III:
Earthquake Resistant and cyclone resistance measures in design and planning of buildings
Local practices: traditional regional responses, provisions of National Building Code
Earthquake resistant construction details for Foundations, soil stabilization, retaining walls, plinth fill, flooring, walls, openings, roofs, terraces, parapets, boundary walls, underground and overhead tanks, staircases and base isolation of structures; introduction to IS codes. Cyclone-resistant buildings: general guidelines

UNIT IV:
Disaster Management - strategies, policy, framework
Risk Assessment, Vulnerability mapping, Risk prevention, Mitigation
Emergency Preparedness and Response, Recovery
Case studies to illustrate the above

NOTE:
Detailed teaching programme to be made and circulated to the students at the commencement of the semester.
Appropriate Standards must be explained and used

<table>
<thead>
<tr>
<th>Teaching Schedule</th>
<th>Marks of Sessional work</th>
<th>Marks of Examination</th>
<th>Total marks</th>
<th>Credits</th>
<th>Duration of Examination (h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>P</td>
<td>Theory</td>
<td>Portfolio</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>75</td>
<td>75</td>
<td>-</td>
<td>150</td>
<td>4*</td>
</tr>
</tbody>
</table>

INSTRUCTIONS TO QUESTION PAPER SETTER:
1. Exam shall be of 3 hours duration and of maximum marks: 75. (minimum passing marks:30)
2. Total EIGHT questions are to be set (two questions from each unit), and candidate have to attempt any five questions selecting one from each unit, each question of 10 marks each.
3. The question paper should at least have one question with 3 subparts and three questions with 2 subparts.

READING LIST: (to be amplified by the subject teacher)
INTENT:
The B. Arch. Thesis aims to provide students the opportunity to prove that they have acquired adequate ability to handle in totality all stages and phases of an architectural project thereby giving proof of their preparedness to take on the responsibilities of a professional architect. The Thesis is expected to demonstrate:
- Understanding of research methods appropriate to the field of study
- Critical investigation of the subject of research
- Independent and original contribution to existing body of knowledge

CONTENT:
The Thesis project will be independent personal endeavour under the supervision of an academic supervisor. Thesis subject, therefore, usually embodies a candidate’s interest and showcase of his / her academic and professional strengths. While students can identify a number of topics that interest them, the final topic must be approved after consultation with their respective Thesis Supervisors.

The thesis project shall entail the following
- Articulate thesis topic, aim and objectives, scope, methodology, validity within the following framework:
  i) The subject must meet the Department’s academic standards
  ii) It must have a critical mass of research activity within its fold
  iii) The subject must entail access to all pertinent data for the purpose of pre-design study and analysis
  iv) Subjects where the data is classified or beyond the immediate reach of the student are not to be considered
  v) The subject must be of a manageable scope & within the self-assessed capability of the student
  vi) It must have relevance to the contemporary context
- Formulate detailed Architectural Programme of the thesis topic using an analysis of existing literature, exemplar study (primary and secondary sources), relevant standards etc.
- Analyze site attributes, site zoning, develop alternative design concepts of the thesis topic
- Develop architectural design interventions as solution to the thesis to fulfil thesis objectives.

The Supervisor will be drawn from the core faculty of the Department. A group of students will be allocated to each Supervisor whose consent for their respective Thesis subjects is necessary. The Supervisor is expected to guide the student during the course of the thesis project through scheduled meetings on a weekly basis. The Thesis Co-coordinator will co-ordinate the Thesis Programme and will also participate in all stages of Internal Evaluation of the Thesis.

Broadly speaking, the Thesis shall entail the submission and presentation of the student's work through a report (including relevant drawings to appropriate scale), presentation drawings and models. The thesis report shall be well structured document of not more than 10000 words with clear objectives and well-argued and appropriate conclusions and design intervention indicating an appropriate level of expertise.

NOTE:
Detailed teaching programme and Thesis manual will be prepared by the Thesis co-coordinator and circulated to the students at the commencement of the semester.

<table>
<thead>
<tr>
<th>Sessional</th>
<th>Weightage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Synopsis</td>
<td>10%</td>
</tr>
<tr>
<td>2. Programme formulation</td>
<td>30%</td>
</tr>
<tr>
<td>3. Concept</td>
<td>20%</td>
</tr>
<tr>
<td>4. Preliminary Design</td>
<td>40%</td>
</tr>
<tr>
<td>II Portfolio</td>
<td>100%</td>
</tr>
</tbody>
</table>

READING LIST: (to be amplified by the respective guide)
2. As appropriate for each individual thesis.
INTENT:
To understand the professional responsibilities, ethics & liabilities of the Architectural Profession.
To understand the process of Contract management in architectural projects.

CONTENT:

UNIT I: Scope and responsibilities of Architectural Profession
An overview of architectural practice in building industry - the participants, the transactions, the webs of relationships -- considered from the primary relationship of the individual to the collective
Taxonomy of building project delivery: Traditional, Design build, construction/project manager, turnkey;
Team working and leadership role of architect in conceptualizing, designing until the commissioning
The profession's future as it responds to its changing socio-economic context, including the challenges of globalization and environmental sustainability.

UNIT II: Models for procurement of Architectural services
Architectural firm organization and legal/financial structures: proprietorship, partnership, associateship and private limited concerns, institutional consultancy practice.
Public relations and marketing strategies for building client base and gaining projects.
Procurement procedures for Architectural services: non-competitive and competitive, qualification based selection (QBS), Architectural competitions, guidelines of the Council of Architecture,
Taxes and implications of service tax. Implication of GATS on the profession in India.

UNIT III: Standard consultancy agreement forms, fee structure, code of professional practice and ethics
The Architect’s Act 1972 and registration of architects.
Role of the Council of Architecture and other professional bodies in architectural profession.
Architects (Professional Conduct) Regulations, 1989, Professional Ethics
Standard CoA Owner/Architect agreement forms and Architects relation with other parties connected with works such as contractor, subcontractors, consultants, municipal and public authorities
Managing the legal risks and responsibilities associated with design and construction
Basic financial concepts such as fee determinations and project budgeting. Types and extent of services offered by architects, Scale of remuneration for architectural services, stages of payment and mode of payments

UNIT IV: Contract Management
General principles of Indian Contract Act 1872 and Arbitration and Conciliation Act 1996
Building contracts, taxonomy of contracts: lumpsum, unit price, cost plus fixed fee, cost plus percentage, GMP.
Taxonomy of tenders: public, private and negotiated, tendering process, pre-qualification and post-qualification
Standard forms of contract, general and specific conditions, administration of contract and role of architect
Mode of measurements - clerk of work and his duties; Inspection of work during construction; certificate of payment to contractor
Preliminary knowledge of Building and other construction workers (Regulation of Employment and Conditions of Service) Act, 1996, the Indian Easement Act 1882, Transfer of property Act 1882; The Indian Stamp Act 1892, Land Acquisition Act 1894 and procedures of land acquisition
Valuation of property, income tax, wealth tax and property tax. Insurance and settlement of claims.

NOTE:
Detailed teaching programme to be made and circulated to the students at the commencement of the semester.
INSTRUCTIONS TO QUESTION PAPER SETTER:
1. Exam shall be of 3 hours duration and of maximum marks: 75. (minimum passing marks: 30)
2. Total EIGHT questions are to be set (two questions from each unit), and candidate have to attempt any five questions selecting one from each unit, each question of 10 marks each.
3. The question paper should at least have one question with 3 subparts and three questions with 2 subparts.

READING LIST: (to be amplified by the subject teacher)
INTENT:
This course aims to facilitate students to perform leadership roles to meet 21st century challenges in shaping of the built environment.

CONTENT:
The purpose this course is to enable students to inculcate a sense of professionalism along with personality development in terms of social, cultural, environmental and ethical responsibilities. The student efforts will be evaluated on the basis of his/her performance/achievements in co-curricular activities.

The student will submit a written report on the prescribed proforma duly approved by the respective Faculty Counsellor and present before the committee highlighting his/her achievements during the current academic session:

I. Academic Performance
II. Co-Curricular Activities / Community Service, Hostel Activities
III. Site visits, market surveys, case study visits, participation in workshops/seminars/exhibition/training etc.
IV. Sports/games

NOTE:
Detailed documentation of the achievements of the current academic session to be made maintained by the students.

<table>
<thead>
<tr>
<th>I</th>
<th>Sessional evaluation</th>
<th>Weightage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Field work</td>
<td>40%</td>
</tr>
<tr>
<td></td>
<td>(Technical Activities/ Extra Curricular Activities/ Industrial, Education Tour/Sports/games/community Service / Hostel Activities)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Presentation/Viva – Voce</td>
<td>40%</td>
</tr>
<tr>
<td></td>
<td>Faculty Counselor Assignment</td>
<td>20%</td>
</tr>
</tbody>
</table>
## INTENT:
This course aims to facilitate students to perform leadership roles to meet 21st century challenges in shaping of the built environment.

## CONTENT:
The purpose this course is to enable students to inculcate a sense of professionalism along with personality development in terms of social, cultural, environmental and ethical responsibilities. The student efforts will be evaluated on the basis of his/her performance/achievements in co-curricular activities.

The student will submit a written report on the prescribed proforma duly approved by the respective Faculty Counsellor and present before the committee highlighting his/her achievements during the current academic session:

I. Academic Performance
II. Co-Curricular Activities / Community Service, Hostel Activities
III. Site visits, market surveys, case study visits, participation in workshops/seminars/exhibition/training etc.
IV. Sports/games

## NOTE:
Detailed documentation of the achievements of the current academic session to be made maintained by the students.

### Teaching Schedule

<table>
<thead>
<tr>
<th>L</th>
<th>P</th>
<th>Theory</th>
<th>Portfolio</th>
<th>Total marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td>-</td>
<td>50</td>
<td>-</td>
<td>50</td>
</tr>
<tr>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### Sessional evaluation

<table>
<thead>
<tr>
<th>Sessional evaluation</th>
<th>Weightage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Field work (Technical Activities/ Extra Curricular Activities/ Industrial, Education Tour/Sports/games/community Service / Hostel Activities)</td>
<td>40%</td>
</tr>
<tr>
<td>Presentation/Viva – Voce</td>
<td>40%</td>
</tr>
<tr>
<td>Faculty Counselor Assignment</td>
<td>20%</td>
</tr>
</tbody>
</table>
AR 320-B

GENERAL PROFICIENCY

Teaching Schedule | Marks of Sessional work | Marks of Examination | Total marks | Credits | Duration of Examination (h)

| L | P | Theory | Portfolio | 50 | - | - |

INTENT:
This course aims to facilitate students to perform leadership roles to meet 21st century challenges in shaping of the built environment.

CONTENT:
The purpose this course is to enable students to inculcate a sense of professionalism along with personality development in terms of social, cultural, environmental and ethical responsibilities. The student efforts will be evaluated on the basis of his/her performance/achievements in co-curricular activities.

The student will submit a written report on the prescribed proforma duly approved by the respective Faculty Counsellor and present before the committee highlighting his/her achievements during the current academic session:

I. Academic Performance
II. Co-Curricular Activities / Community Service, Hostel Activities
III. Site visits, market surveys, case study visits, participation in workshops/seminars/exhibition/training etc.
IV. Sports/games

NOTE:
Detailed documentation of the achievements of the current academic session to be made maintained by the students.

<table>
<thead>
<tr>
<th>I</th>
<th>Sessional evaluation</th>
<th>Weightage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Field work</td>
<td>40%</td>
</tr>
<tr>
<td></td>
<td>(Technical Activities/ Extra Curricular Activities/ Industrial, Education Tour/Sports/games/community Service / Hostel Activities)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Presentation/Viva – Voce</td>
<td>40%</td>
</tr>
<tr>
<td></td>
<td>Faculty Counselor Assignment</td>
<td>20%</td>
</tr>
</tbody>
</table>