CONTENTS

ABBREVIATIONS/DEFINITIONS

- "AC" means, Academic Council of the University.
- "BOM" means, the Board of Management of the University.
- "BOS" means, the Board of Studies of the Department.
- "CAU/AUC-option" CAU/AUC means change from Credit to Audit option / change from Audit to Credit option
- "Class/Course Committee" means, the Class/Course Committee of a class/course.
- "Course" means, a specific subject usually identified by its course-number and course-title, with a specified syllabus / course-description, a set of references, taught by some teacher(s) / course- instructor(s) to a specific class (group of students) during a specific academic-semester.
- "Course Instructor" means, the teacher or the Course Instructor of a Course.
- "Curriculum" means the set of Course-Structure and Course-Contents.
- "DAA" means, the Dean of Academic Affairs.
- "DAAB" means Departmental Academic Appeals Board.
- "DEC/PEC" means Dissertation Evaluation Committee / Project Evaluation committee.
- "Department" means a group in the University devoted to a specific discipline also called a School. Department and School are used interchangeably.
- "DSA" means, Dean Student Affairs.
- "ESE" means End-Semester Examination
- "Faculty Advisor/Class Counsellor" means, the Faculty Advisor or the Panel of Faculty Advisors, in a Parent Department, for a group (admission-batch) of students. Also known as Class Counsellor**.**
- "Grade Card" means the detailed performance record in a programme.
- "He" means both genders "he" and "she"; similarly "his" and/or "him" includes "her" as well, in all the cases.
- "HOD" means, the Head of the Department.
- "MES" means Make-up End Semester.
- "MLC" means Mandatory Learning Course.
- "MSE" means Mid Semester Examination.
- "Parent Department" or "Degree Awarding Department" means, the department that offers the degree programme that a student undergoes.
- "Project Guide" means, the faculty who guides the Major Project of the student.
- "Regulations" means, set of Academic Regulations.
- "University" or "LU" means, Lingaya's University, Faridabad
- "VC" means, the Vice Chancellor, Lingaya's University, Faridabad.

CODE OF CONDUCT AND ETHICS FOR STUDENTS

1. Wear decent dress respecting his/her modesty as well as that of others.
2. Expected to respect and show regard for teachers, staff and fellow students.
3. Inculcate civic sense and sensitivity for environment protection.
4. Not to resort to collection of funds for any use without written permission of VC.
5. To exhibit exemplary behaviour, discipline, diligences, and good conduct and are a role model to other students.
6. Not to indulge in offences of cognizable nature.
7. Not to practice casteism, communalism.
8. Not to indulge in any other conduct unbecoming of a professional student of the University.
9. Not to outrage the status, dignity and honour of any person.
10. Not to get involved in physical assault or threat, and use of physical force against any body.
11. Not to expose fellow students to ridicule and contempt that may affect their self esteem.
12. Not to form any kind of student's Union, etc.
13. Not to take active or passive part in any form of strikes/protests.
14. To observe all safety precautions while working.
15. Not to disfigure/damage the University property, building, furniture, machinery, library books, fixtures, fittings, etc. (Damage / loss caused shall have to be made good by the students).
16. Use of mobile/video camera phones is strictly prohibited inside the examination halls, class rooms, laboratories and other working places. LU has the right to confiscate the mobile phones in case of any violation.
17. Not to indulge in ragging/teasing, smoking, gambling, use of drugs or intoxicants, drinking alcohol, rude behavior, and use of abusive language.
18. Not to resort to violence, unruly travel in buses, bullying, threatening and coercing others for undesirable act, such as preventing from attending classes, writing exam. / tests, etc etc.
19. All the students of the LU shall be under the disciplinary control of the VC.
20. Students are deemed to be under the care and guidance of parents. It is obligatory for the former to appraise their progress (given by the CC) to the parents.
21. Fine, if ever imposed, is only to improve discipline and shall be paid promptly.
22. While on campus, students have to take care of their belongings and no responsibility for any loss or damage can be held by the University.
23. Every student shall produce the I-Card on demand, and if lost, get a duplicate issued.
24. The students must attend all lectures, tutorials and practical classes in a course punctually (The attendance will be counted course-wise).
25. To abide by the rules and regulations of the University stipulated from time to time.

IMPORTANT ACADEMIC RULES

B.Arch. Degree Programme (Regular)

GENERAL

- The Regulations may evolve and get revised/refined or updated or amended or modified or changed through approvals from the Academic Council from time to time, and shall be binding on all parties concerned, including the Students, Faculty, Staff, Departments, University Authorities and officers. Further, any legal disputes shall be limited to the legal jurisdiction determined by the location of the University and not that of any other party.
- If, at any time after admission, it is found that a candidate had not in fact fulfilled all the requirements stipulated in the offer of admission, in any form whatsoever, including possible misinformation etc., the matter will be reported to the AC, recommending revoking the admission of the candidate.
- The LU reserves the right to cancel the admission of any student at any stage of his study programme in the University on the grounds of unsatisfactory academic performance or indiscipline or any misconduct.
- Medium of Instruction shall be English.

PROGRAMME

- The minimum duration of the programme leading to B.Arch. degree will be five years and maximum would be eight years.

  The total course package for a B.Arch. Degree Programme will typically consist of the following components.

(i)	General courses	(GEN)
(ii)	Engineering Science and Technical Arts	(ESTA)
(iii)	Core Courses	(DCC)
(iv)	Elective Courses	
	An Elective Course can be any of the following:	
	a) Departmental Elective	(DEC)
	b) Open Elective:	(OE)
(v)	Mandatory Learning Courses	(MLC)
(vi)	Thesis (Design Project)	(TH)
(vii)	Internship	(INT)

- The Minimum Credit Requirement for the B.Arch. Degree programme is 225. However the credits required for consideration for honors degree will be 230.
- The thesis topic will be assigned in fourth semester. Appropriate double-letter grade is awarded as per the evaluation scheme which will be considered for AGPA and CGPA calculations. It is recommended that atleast one external expert from industry/academia may be a member of the evaluation team of four persons (two professors, external expert and respective project guide).

- MLC must be completed by a student at appropriate time or at his convenience. The 'S' grade is awarded for satisfactory completion of the course and 'N' grade is awarded for non-satisfactory completion of the course. In case 'N' grade is awarded, the student has to re-register for the same course if no alternative options are available. However, one can opt for other courses if provided with multiple options. The 'S' and 'N' grades do not carry grade-points and, hence, are not included in the AGPA and CGPA computations.

  Courses that come under this category are the following:

  (a) Environment Science and Ecology
  (b) Community Service Oriented Project
  (c) Professional Development Courses
- Students admitted to the University will be required to take suitable additional Courses in Communication Skills, if found deficient.

ASSOCIATION

- Every student of the University shall be associated with Parent Department (Degree Awarding Department) offering the degree programme that the student undergoes throughout his study period, right from the very first day of admission into the programme.
- The schedule of academic activities for a semester, including the dates of registration, mid-semester examinations, End-semester examination, vacation, etc. shall be referred to as the Academic Calendar of the semester, and announced at least two weeks before the closing date of the previous semester.

PRE-REGISTRATION

- In order to facilitate proper planning of the academic activities of an semester, it is essential for the students to declare their intent to register for a course well in advance, before the actual start of the academic semester, through the process of Pre-Registration, which is mandatory for all those students of second or subsequent semester who propose to deviate from recommended scheme of studies.
- Pre-registration is an expression of intention of a student to pursue particular course(s) in the next semester. It is information for planning for next semester. Every effort will be made to arrange for a course opted by the student. However, it is not obligatory on the part of the university to offer the course(s) and no course may be offered if the number of students opting for the course is less than 15 or 25 percent of the admission strength whichever is less.
- If a student fails to pre-register it will be presumed that he will follow suggested normal scheme of studies provided that he is progressing at a normal pace. For remaining students the HOD of the parent department will plan for courses as per the convenience of the department.

REGISTRATION TO COURSES

- Every student after consulting his Faculty-Advisor is required to register for the approved courses with the HOD of parent department at the commencement of each semester on the days fixed for such registration as notified in the academic calendar.
- A student shall register for courses from amongst the courses being offered in an semester keeping in mind the minimum and maximum credits allowed for a degree and other requirements i.e. pre-requisite if any, SGPA and CGPA after consulting the Faculty Advisor. No registration will be valid without the consent of HOD of the parent department.
- A student will be permitted to register in the next semester as per the suggested normal scheme only if he fulfills the following Conditions:
  (a) Satisfied all the Academic Requirements to continue with the programme of studies without termination.
  (b) Cleared all university, library and hostel dues and fines (if any) of the previous semester.
  (c) Paid all required advance payments of the university and hostel for the current semester.
  (d) Not been debarred from registering on any specific ground by the University.
- The students will be permitted to register for course(s) being offered in an semester other than his normal suggested scheme provided that the time table permits.
- The registration in the critical cases will be done as per the priority given below:
  (a) Fulfillment of minimum credit requirement for continuation,
  (b) The completion of programme in minimum period needed for degree, (Those who need to improve SGPA/CGPA)
  (c) The fulfillment of pre-requisite requirement of courses.
- Students who do not register on the day announced for the purpose may be permitted LATE REGISTRATION up to the notified day in academic calendar on payment of late fee.
- REGISTRATION IN ABSENTIA will be allowed only in exceptional cases with the approval of the DAA after the recommendation of HOD through the guardian of the student.
- Credits will be awarded in registered courses only.

CREDIT LIMITS

- A full time student of the B.Arch. degree programme must register for a minimum of 16 credits, and up to a maximum of 31 credits in a Semester. However, the minimum / maximum credit limit can be relaxed by the DAA on the recommendation of the HOD, only under exceptional circumstances.

- Professional Development courses are one credit courses each, with multiple options, to be completed at student's convenience in each semester. Some of them may be mandatory and others two-letter grade category. However, registration has to be done for all courses.

CHANGE IN REGISTRATION

- A student has the option to ADD courses for registration till the date specified for late registration in the Academic Calendar.
- On recommendation of the Teaching Department as well as the Parent Department, a student has the option to DROP courses from registration until two weeks after the commencement of the classes in the semester, as indicated in the Academic Calendar.
- A student can register for auditing a course, or a course can be converted from credit to audit or from audit to credit, with the consent of the Faculty Advisor and Course Instructor within two weeks after the commencement of the classes in a semester as indicated in the Academic Calendar. However, core Courses shall not be available for audit.

ATTENDANCE REQUIREMENTS

- LU academic programmes are based primarily on the formal teaching-learning process. Attendance in classes, participating in classroom discussions and participating in the continuous evaluation process are the most essential requirements of any academic programme.
- Attendance will be counted for each course scheduled teaching days as per the academic calendar.
- The attendance requirement for appearing in End-semester examination shall be a minimum of 75% of the classes scheduled in each course.

LEAVE OF ABSENCE

- The leave of absence must be authorized as per regulations.
- A student short of attendance in a course (less than needed after leave of absence and condonation by VC) will be awarded ‘FF’ grade in the course.
- All students must attend all lecture, tutorial and practical classes in a course. The attendance will be counted course wise.
- To account for approved leave of absence e.g. representing the University in sports, games or athletics; professional society activities, placement activities, NCC/NSS activities, etc. and/or any other such contingencies like medical emergencies, etc., the attendance requirement shall be a minimum of 75% of the classes scheduled in each course to appear in the examination.
- A student with less attendance in a course during a semester, in lectures, tutorials and practicals taken together as applicable, shall be awarded ‘FF’ grade in that course, irrespective of his academic performance, and irrespective of the nature of absence.

- If the period of leave is more than three days and less than two weeks, prior application for leave shall have to be submitted to the HOD concerned, with the recommendation of the Faculty-Advisor, stating fully the reasons for the leave requested, along with supporting documents.
- If the period of leave is two weeks or more, prior application for leave shall have to be made to the DAA with the recommendations of the Faculty-Advisor; HOD concerned stating fully the reasons for the leave requested, along with the supporting documents. The DAA may, on receipt of such application, grant leave or decide whether the student be asked to withdraw from the course for that particular semester because of long absence.
- If a student fails to apply and get sanction for absence as in above two cases, his parent/guardian may apply to the VC with reasons duly recommended by the faculty advisor, HOD and DAA and explain in person to the VC the reasons for not applying in time. The VC will consider on merit and decide to grant the leave or withdrawal from the course for that particular semester subject to any condition that he may like to impose. The decision of the VC shall be final and binding.

ABSENCE DURING EXAMINATIONS

- A student who has been absent during Mid-semester Examination due to illness and/or any exigencies may give a request for make-up examination within one week after the Mid-semester Examination to the HOD with necessary supporting documents in person. The HOD may consider such requests depending on the merits of the case, and after consultation with the course instructor, may permit the Make-up examination for the student concerned. However, no makeup examination will be permitted if the attendance in the course is less than 60% till the date of examination. This facility can be available only once in a semester.
- In case of absence from End-Semester Examination of a course(s) on Medical ground and/or other special circumstances, the student can apply for award of 'I' grade in the course(s) with necessary supporting documents and certifications by an authorized person to the HOD within one week after the End-Semester Examination. The HOD may consider the request, depending on the merit of the case, and after consultation with the Course(s) Instructor(s)/ faculty advisor may forward the case to DAA with his recommendation for the award of 'I' grade. After permission by DAA in writing, the 'I' Grade is converted into a regular double letter grade on the basis of the students' marks in Mid-Semester Examination and Class Work. However, if a student has scored 50% or more marks in Mid-Semester Examinations plus Class work his/her marks will be increased by 50% before awarding the grade. This applies to both theory and practical courses.

COURSE CREDIT ASSIGNMENT

- Every Course comprises of specific Lecture-Tutorial-Practical (L-T-P) Schedule. The credits for various courses are shown in the Scheme of Studies

and Syllabus.

- The Academic Performance Evaluation of a Student shall be according to a Letter Grading System, based on the Class Performance Distribution.
- The double-letter grade (AA, AB, BB, BC, CC, CD, DD, FF) indicates the level of academic achievement, assessed on a decimal (0-10) scale.

Letter-Grades and Grade-Points:

LETTER-GRADE	GRADE-POINTS	REMARKS
AA	10	
AB	9	
BB	8	
BC	7	
CC	6	
CD	5	
DD	4	
EE	2	
FF	0	Fail
I	-	Incomplete
U	-	Audited
W	-	Withdrawal
S	-	Satisfactory
N	-	Unsatisfactory

DESCRIPTION OF GRADES

- An 'AA' grade stands for outstanding performance, relative to the class which may include performance with previous batches. The Course Instructor is supposed to take utmost care in awarding of this highest double-letter grade.
- The 'DD' grade stands for marginal performance and is the minimum passing double-letter grade.
- *An 'EE' grade indicates that the student has attended the course but obtained less than pass marks. In this case he will earn half the credits assigned to the course.*
- The 'FF' grade denotes very poor performance, i.e. failure in a course, and the Course Instructor is supposed to take utmost care while awarding this lowest double-letter grade. The 'FF' grade due to detention is denoted by 'FF*'.
- *A student, who obtains 'FF' grade in a core course due to detention in attendance, has to repeat (re-register) course in subsequent smesters /sessions whenever the course is offered. In other cases of 'FF' Grade, a student has three options as follows:*

a) *Repeat the course,*

Or

b) *Only appear in End-Semester Examination in a subsequent semester and evaluated out of 60 marks for new grade computation.*

The new grade will be computed out of 100 marks as follows:

ESE = 60 (against 40 marks for the regular students)

CW + Attendance = 30+10, to be brought forward from the earlier semester.

Or

c) *Get the course converted into a partially dropped course to earn two grade points but earn only half the credits meant for that course. It could be termed as two letter grade 'EE'.*

However, for an elective course in which 'FF' grade has been obtained, the student may over come the deficiency either in the same course or any other elective course.

- *There are four possible ways of clearing backlog courses and improvement of grades: Subsequent Semester; Summer Term; Week Ends; after University hours with the following overriding conditions – (i) There will be minimum 60% of contact hours of a regular course in a semester for doing backlog in any mode, (ii) The attendance requirement shall be a minimum of 75% of the classes scheduled in each course without any condonation*.
- An 'I' grade denotes incomplete performance in any course due to absence at the End-Semester Examination (see Section "Absence during Examination").
- 'U' grade is awarded in a course that the student opts to register for audit. It is not mandatory for the student to go through the entire regular process of evaluation in an audit course. However, the student has to go through some process of minimal level of evaluation and also the minimum attendance requirement, as stipulated by the Course Instructor and approved by the corresponding BOS, for getting the 'U' grade awarded in a course, failing which that course will not be listed in the Grade Card.
- A 'W' grade is awarded when the student withdraws from the course. Withdrawal from a course is permitted only under extremely exceptional circumstances (like medical emergencies, family tragedies and/or other unavoidable contingencies) and has to be recommended by the HOD and approved by the DAA. However, no withdrawal is permitted after the finalization of the grades in the semester.
- 'S'/'N' These grades are awarded for the Mandatory Learning Courses. The 'S' grade denotes satisfactory performance and completion of a course. The `N' grade is awarded for non- completion of course requirements and the student will have to register for the course until he obtains the 'S' grade.

FEEDBACK TO STUDENTS

- A student requires feedback on the progress of his learning. For this purpose, the Instructor will conduct three quizzes for a theory course in a semester 1st before MSE-1, 2nd between MSE-1 and MSE-2 and 3rd after MSE-2. The quizzes will form a component of class work, the other components being tutorials, home assignments or any other mode..
- For a laboratory course, the continuous assessment's feed back will be given through the laboratory records which are required to be submitted after performing the experiment in the next laboratory class.
- The continuous feedback on project/major project will be through project diary and interim report.

EVALUATION

Theory Course:

- The double-letter grade awarded to a student in a course other than a practical course i.e. 0-0-P course for which he has registered, shall be based on his performance in quizzes, tutorials, assignments etc., as applicable, in addition to two mid-semester examinations and End-semester examination. The weightage of these components of continuous evaluation may be as follows:

End-Semester Examination (ESE) (3 hrs)	:	40%
Mid-Semester Examinations (MSE) (2×10%;1 ½ hrs each)	:	20%
3Quizzes (3×5), Tutorials, Assignments, etc. (Several over the semester)	:	30%
Attendance	:	10%
Total		100%

Laboratory Course:

- The double letter grade awarded to the student in a practical course i.e. 0-0-P course will be based on his performance in regular conduct of experiments, viva voce, laboratory report, quizzes etc. The weightage of the components of continuous evaluation may be as follows:

Conduct of Experiments (as per syllabus)	:	50%
Lab Records	:	20%
Quizzes/Viva Voice +Attendance (10%)	:	30%
Total	:	100%

Design Project:

- The double letter grade awarded to the student in Major Project Phase-I and Phase-II i.e. 0-0-P course will be based on his performance in technical work pertaining to the solution of a problem, project report, presentation and

defending in a viva-voce. The weightage of the components of continuous evaluation may be as follows:

Technical Work	:	50%
Report	:	25%
Presentation & Viva-voce	:	25%
Total	:	100%

Internship:

- The Internship-II will be treated as Major Project for evaluation purpose. The double letter grade awarded to the student in Internship-II i.e. 0-0-P course will be based on his performance in technical work pertaining to the solution of a real-life problem, project report, presentation and defending in a viva-voce. The weightage of the components of continuous evaluation may be as follows:

Technical Work	:	50%
Report	:	25%
Presentation & Viva-voce	:	25%
Total	:	100%

The continuous assessment and feedback is to be through seminars, professional diary and entering report at the place of work.

Seminar:

- The double letter grade awarded to the student in Seminar i.e. 0-0-P course will be based on his performance in oral presentation with emphasis on technical contents, presentation and ability to answer questions. The weightage of the components of continuous evaluation may be as follows:

Technical Contents	:	40%
Presentation	:	30%
Questions and answers	:	30%
Total	:	100%

Professional Development:

- These are one credit courses, with multiple options, to be completed at student's convenience in each year. Some of them may be mandatory and others two letter grade category. The evaluation process of these courses will be as per the nature, contents and delivery of these courses. Some of the common components of evaluation could be quizzes, viva-voce, practical test, group discussion, etc. Participation by students is to be given more weightage in Co-curricular courses.

SCHEME OF EXAMINATION

- The duration of examinations for a theory course will be 3 hours for End-semester examination and 1½ hours for mid-semester examination.
- The pattern of question paper/examination will be as under:

Theory Courses:

The University shall conduct the ESE for all theory courses being taught in the semester.

i) There will be eight questions in all distributed over all the units in a course syllabus. The question paper will be in two parts with weightage 20 percent and 80 percent respectively. The paper setter must set the questions such that each question can be answered in about 35 minutes and the paper can be solved in 3 hours by an average student.

ii) Part-A will have one question of objective types with multiple choices, covering all the units in the syllabus, which will be compulsory.

iii) Part-B will consist of seven questions, one question from each of the seven units, and the students are required to solve any four. Out of seven any three questions will have long answers of comprehensive/ derivation/description type and the remaining four questions will be of problem solving type in order to measure ability on analysis/ synthesis/application.

If any special instruction(s) is/are required for a particular course, it/they is/are to be specified by the concerned HOD with prior approval of DAA.

Students are allowed in the examination the use of single memory, non-programmable calculator. However, sharing of calculator is not permitted.

Laboratory Courses:

Each experiment may be considered as a unit and evaluated to assess formative and cumulative performance say each of the experiments which carries 10 marks with distribution 5+2+3. Finally, the teacher looks at attendance and total earned marks in the experiments done in a Semester/ Year and awards the grades relatively.

Mid-Semester Examination:

The question paper for Mid-Semester Examination will be made by the Course Coordinator from the topics covered till then (Test-1: from start of semester till Test-1 and Test-2, from after Test-1 till Test-2). Each Mid-Semester Examination question paper should have three questions all of which are to be solved but the questions will have internal choice and at least one of these questions must be of analytical type.

Note: The Mid-Semester examination will not have multiple choice question (mcq).

TRANSPARENCY

- The answer books of all Mid-semester Examination and End-semester Examination will be shown to the students within three days of the last paper. It is the responsibility of the student to check this evaluation and affix his signature in confirmation.

- If the student finds some discrepancy, he should bring it to the notice of the Course Coordinator. The Course Coordinator will look into the complaint and remove the doubts of the student and proceed with the work of grading.
- The entire process of evaluation shall be transparent, and the course instructor shall explain to a student the marks he is awarded in various components of evaluation.

RESULT

- The final marks and grades shall be displayed on the notice board and a student can approach the Course Instructor(s) concerned for any clarification within the period stipulated in the Academic Calendar. The process of evaluation shall be transparent and the students shall be made aware of all the factors included in the evaluation. In case of any correction, the Course Instructor shall have to incorporate the same before finalization of the grades.
- The Student's Grade Card shall contain the Letter-Grade for each registered course; along with the SGPA at the end of the semester, and the CGPA at the completion of the programme.

APPEAL FOR REVIEW OF GRADE

- If a student is not satisfied with the award of the grade after the announcement of the grades, he may appeal on a Grievance Form duly filled in along with the fee receipt for this purpose to the HOD of the parent department within one week of the following semester. The HOD will forward the form along with his recommendation based on the records of the case to DAAB within the date specified in the Academic Calendar.
- The fee for such an appeal will be decided from time to time. If the appeal is upheld by DAAB, then the fee amount will be refunded to the student without interest.
- VC shall have power to quash the result of a candidate after it has been declared, if
  - (a) He is disqualified for using malpractice in the examination;
  - (b) A mistake is found in his result;
  - (c) He is found ineligible to appear in the examination

AWARD OF DIVISIONS

- The overall performance of a student will be indicated by two indices:
  - (i) **SGPA** which is the Semester Grade Point Average
  - (ii) **CGPA** which is the Cumulative Grade Point Average

SGPA for a semester is computed as follows:

$SGPA = \sum C_i G_i / \sum C_i$

Where,

C_i denotes credits assigned to i^{th} course with double-letter grade, and G_i denotes the grade point equivalent to the letter grade obtained by the student in i^{th} course with double-letter grade, including all 'FF' grades in that semester.

CGPA is computed as follows:

$CGPA = \sum C_i G_i / \sum C_i$

Where,

C_i denotes credits assigned to i^{th} course with double-letter grade, and G_i denotes the grade point equivalent to the letter grade obtained by the student in i^{th} course for all courses with double-letter grades, including all 'FF' grades in all semesters at the end of the programme.

For CGPA calculation, the following grades are to be counted:

(i) Grades in all core courses,

(ii) The best grades in the remaining eligible courses to fulfill the minimum credits requirement for a programme.

- The degree will be awarded only upon compliance of all the laid down requirements for programme as under:

(i) There shall be University requirement of earning a minimum credits for a degree, satisfactory completion of mandatory learning courses and other activities as per the degree programme structure.

(ii) There shall be a minimum earned credit requirement on all Departmental core courses, Elective courses and Thesis as specified by BOS.

(iii) There shall be a maximum duration for complying to the degree requirement.

(iv) The candidate will be placed in First Division with Honours/First Division with Distinction/First Division/Second Division which will be mentioned on the degree certificate as under.

DIVISION	CONDITIONS TO BE FULFILLED
First Division with Honours	CGPA $\geq$ 8.5 No 'FF', N or W grade in any course during the programme and total 230 credits
First Division with Distinction	CGPA $\geq$ 8.5
First Division	CGPA $\geq$ 6.75
Second Division	CGPA $\geq$ 5.0 but < 6.75

Note: Although, there is no direct conversion from grades to marks, however, for comparison purposes percentage of marks may be assumed to be CGPA multiplied by nine.

B. ARCH. DEGREE REQUIREMENTS

The requirements of the award of B.Arch. Degree programme are as follows:

(a) **University Requirements:**

(i) Minimum Earned Credit Requirement for Degree is 225 for the programme. However the credits required for consideration for honours degree will be 230.

(ii) Satisfactory completion of all Mandatory Learning Courses.

(b) **Programme Requirements:**

Minimum Earned Credit Requirements on all Core Courses, Elective Courses and Thesis and Internship as specified by the BOS.

(c) The Maximum duration for a student for complying to the Degree Requirement is EIGHT years from date of first registration for first semester. However, first three semesters have to be completed in FIVE years.

(d) The CGPA at the end of programme is atleast 5.0.

GRADE IMPROVEMENT

- A student may be allowed to improve the SGPA in an appropriate semester, if his SGPA falls below 5.0. Similarly, any student may be allowed to improve performance in any course provided the course is being floated and available.

TERMINATION FROM THE PROGRAMME

- A student shall be required to leave the University without the award of the Degree, under one or more of the following circumstances:

(a) If a student fails to earn the minimum credits specified below:

CHECK POINT	PERCENTAGE OF CREDITS** (%)
End of FIRST year	75*
End of SECOND year	75*
End of THIRD year	75
End of FOURTH year	80
End of FIRTH year	80

Note 1:

* A student may be given one more chance to cover the shortfall in the threshold at the end of first two years during the following summer terms if s/he can fulfill the requirement by doing two courses. In case s/he fails to clear the threshold even after the summer term he has to leave the course.

** If at any stage, a student fails to cross the thresh hold with a minimum of 5.0 SGPA in any term, he will be treated as critical case and will be

advised to improve the grades.

Note 2:The period of temporary withdrawal (refer: Clause No. G8.1) is not to be counted for the above Credit Threshold.

(b) If a student is absent for more than 4 (Four) weeks at a stretch in a Term without sanctioned leave.

(c) Based on disciplinary action by the AC, on the recommendation of the appropriate committee.

Note: Under any circumstances of termination, the conditions specified in Permanent. Withdrawal (refer: Clause No: G8.2) shall also apply.

WITHDRAWAL FROM PROGRAMME

Temporary:

- A student who has been admitted to a degree programme of the University may be permitted to withdraw temporarily, for a period of one term or more, on the grounds of prolonged illness or grave calamity in the family, etc., provided:
  - (i) He applies to the University stating fully the reasons for withdrawal together with supporting documents and endorsement from his parent/guardian
  - (ii) There are no outstanding dues or demands, from the Departments/ University /Hostels/Library and any other centers;
  - (iii) Scholarship holders are bound by the appropriate Rules applicable to them.
  - (iv) The decision of the VC of the University regarding withdrawal of a student is final and binding.
- Normally, a student will be permitted only one such temporary withdrawal during his tenure as a student and this withdrawal will not be counted for computing the duration of study.

Permanent:

- Any student who withdraws permanently admission before the closing date of admission for the academic semester is eligible for the refund of fee as per the University rules. Once the admission for the academic semester is closed, the following conditions govern withdrawal of admission:
- A student who wants to leave the University for good, will be permitted to do so (and take Transfer Certificate from the University, if needed), only after clearing all the dues for the remaining duration of the course.
- A student who has received any scholarship, stipend or other form of assistance from the University shall repay all such amounts, in addition, to clearing all the dues for the remaining duration of the course.
- The decision of the VC regarding all aspects of withdrawal of a student shall be final and binding.

*****

Scheme of Studies

B. Arch. Degree Programme (Regular)

Stage-I

3rd Year (Semester-V)

THEORY							
Course No.	Course Name	Periods	Evaluation Scheme				Cr
			Components of Evaluation with Weightage (%)				
		L-T-P	CW+Att.	MSE (2×½ Hrs)	ESE (3 Hrs)	Total	
AR301	Principles of Human Settlements I	2-0-0	30+10	10+10	40	100	2
AR302	Building Services III	2-0-0	30+10	10+10	40	100	2
CE311	Structures in Architecture - V	2-0-0	30+10	10+10	40	100	2
AR303	Estimation and Costing	2-0-0	30+10	10+10	40	100	2
AR304	Landscape Architecture	2-0-0	30+10	10+10	40	100	2

PRACTICAL / DRAWING / DESIGN							
Course No.	Course Name	Periods	Evaluation Scheme				Cr
			Components of Evaluation With Weightage (%)				
		L-T-P	EXPT.	Lab Record	Viva+Att.	Total	
AR356	Architectural Design III	2-0-6	50	20	30	100	5
AR357	Architectural and structural detailing I	0-0-2	50	20	30	100	1
AR358	Working Drawing-I**	0-0-4	50	20	30	100	2
AR359	Building Construction and Technology-V**	0-0-4	50	20	30	100	2
AR354	Site Planning and Landscape Design**	0-0-6	50	20	30	100	3
PD391	Extra / Co-Curricular Activities						1*

TOTAL CONTACT HOURS	TOTAL CREDITS
12-0-22(34)	23

FINAL EVALUATION IN GRADES

(L-T-P-Cr) - Lectures-Tutorials-Practical-Credits

***** One credit to be earned in Semester-VI through Co-Curricular Activities outside contact hours. However, a student is to register for this course in both the Semesters of third year.

Scheme of Studies
B. Arch. Degree Programme (Regular)
Stage-I

3rd Year							
Semester-VI							
THEORY							
Course No.	**Course Name**	**Periods**	**Evaluation Scheme**				**Cr**
			Components of Evaluation with Weightage (%)				
		L-T-P	**CW+Att.**	**MSE (2×½ Hrs)**	**ESE (3 Hrs)**	**Total**	
AR311	Principles of Human Settlements II	2-0-0	30+10	10+10	40	100	2
AR132	Building Services IV	2-0-0	30+10	10+10	40	100	2
CE312	Structures in Architecture VI	2-0-0	30+10	10+10	40	100	2
AR313	Specifications of Works	2-0-0	30+10	10+10	40	100	2
AR314	Project Planning and Management	2-0-0	30+10	10+10	40	100	2
PRACTICAL / DRAWING / DESIGN							
Course No.	**Course Name**	**Periods**	**Evaluation Scheme**				**Cr**
			Components of Evaluation With Weightage (%)				
		L-T-P	**EXPT.**	**Lab Record**	**Viva+Att.**	**Total**	
AR361	Architectural Design IV	2-0-8	50	20	30	100	6
AR362	Architectural and structural detailing II	0-0-4	50	20	30	100	2
AR363	Working Drawing-II**	0-0-6	50	20	30	100	3
AR364	Building Construction and Technology-VI**	0-0-4	50	20	30	100	2
PD391	Extra / Co-Curricular Activities						1*
TOTAL CONTACT HOURS		**TOTAL CREDITS**					
12-0-22 (34)		23+1					

LIST OF ELECTIVE-I

Sr. No.	Course Code	Subject	L-T-P	Cr
1	AR-221	Vernacular Architecture	2-0-0	2
2	AR-222	Energy Efficient Architecture	2-0-0	2

FINAL EVALUATION IN GRADES

(L-T-P-Cr) - Lectures-Tutorials-Practical-Credits

***** One credit to be earned in Semester-VI through Co-Curricular Activities outside contact hours. However, a student is to register for this course in both the Semesters of third year.

DETAILED SYLLABUS

AR303	ESTIMATION AND COSTING	L T P	Cr
		2 0 0	2

OBJECTIVE

To educate students in computing quantities of various building items for simple load bearing structures, R.C.C. framed structure, steel structure, building services such as water supply, sanitation and drainage, electrical installations, acquainting them with rates of various building items and acquaint them with various types of estimates including mode of measurements.

1. **INTRODUCTION:** Introduction to quantity surveying, definition, aim and object, scope and importance of subject; method of preparing estimates, data required for framing estimate and type of estimates.
2. **TERMINOLOGY:** Mensuration, standard mode of measurements, schedule of rates, administrative approval, technical sanction, competent authority, issue rate, interest, indent of work, etc.
3. **METHODS OF APPROXIMATE ESTIMATING**: Built up or carpet area method, cubic contents, method and numbers system, current rates in Delhi-NCR for approximate estimating.
4. **DETAILED ESTIMATE ON ITEM RATE BASIS**: method and procedure of working out quantities and abstract of estimate, bill of quantities of tender, contingencies; examples and exercise for working out quantities for items from excavation to the final finishing.
5. **RATE ANALYSIS:** Rate analysis, cost of material and labour for various works, detailed rate analysis of important items of construction work.
6. **MEASUREMENT OF WORKS:** Measurements of completed items for payment to contractor's interim and final certificate.
7. **DETAILED ESTIMATE OF PROJECT:** Taking of Quantities for civil work of load bearing wall structure and R. C. C. Frame Building and preparation of abstract; use of computers for the same.

NOTE: Sessional shall be submitted in the form of drawings and estimate report

REFERENCE BOOKS

1. Dutta, B.N., "Estimating & Costing in Civil Engineering Theory & Practice", UBS Publishers' Distributors Ltd., New Delhi, 1995.
2. Rangawala, K.S., & Rangawala, K.K., "Elements of Estimating & Costing", Charotar Publishing House, Anand, 1984.
3. Patil, B.S., "Civil Engineering Contracts and Estimates", Universities Press, 2006
4. I.S.I. Handbook of measurements of building works.

AR202	ARCHITECTURAL DESIGN - III	L T P	Cr
		2 0 0	2

OBJECTIVE
To educate students about urban development control for multi-storied structure by using codes and building bye-laws.

DESIGN OF A MULTI-FUNCTIONAL PUBLIC BUILDING IN THE URBAN SETTING:
Projects to include buildings or building complexes with multi - use public activities, i.e. campus design with more than one building accommodated in the same premises.
Introduction to urban development controls, codes and bye-laws; exercise in articulation and manipulation of programmed needs; criticism and evaluation of alternative concepts, understanding of complex relationship between the form, function, structure and aesthetics in a building, Contextual Design,decision-making process; use of computers as an aid to Design.

e.g: Campus design (single or multistoried type) in urban settlement such as courts, college/ university campus, commercial complex, hospitals etc.

NATURE BASED ARCHITECTURE: Design of a holiday resort, beach resort, spa resort, weekend cottages etc on sites of natural abundance. Demonstration of use of natural elements on and off site as propagator of design concept; site development by exploiting natural forms etc; contextual design.

REFERENCE BOOKS
1. Kanvinde & Miller, “Campus Design in India: Experience of a Developing Nation”, Jostens/American Yearbook Company, 1969
2. Dober R., “Campus Planning”, Reinhold Pub. Corp., 1968
3. Spreiregen, Paul D. “Urban Design: The Architecture of towns and cities”, R.E. Krieger Pub. Co., 1981
4. Zevi, Bruno, “Modern Language of Architecture”, Da Capo Press, 1994
5. Yoshinobu Ashihara “Exterior design in Architecture”, Van Nostrand Reinhold,1981.

AR-313	SPECIFICATIONS OF WORKS	L T P	Cr
		2 0 0	2

OBJECTIVE
To acquaint students with methodology of writing specifications with reference to building trades, materials, workmanship and performance of different items of work and introducing the students to specifications as an integral part of contract document for building projects.

1. **INTRODUCTION:** Importance of specification in the building activities, method of writing correct order and sequence of use of materials; art of writing specifications of material along with emphasis on the quality of the materials and proper sequence of construction works; use of Indian Standard specification and P.W.D specifications.
2. **SPECIFICATION FORMING PART OF BUILDING CONTRACT:** Method of specification writing : trade wise practice and Item of completed works; establishment for project and their insistence for compliance with specification with reference to contract document; specification for handing over the site; standard clauses/ instructions for various items of work for the contractor, owner, architect, sub- contractor; explanation of extra items, their necessity and other items created for change of specifications.
3. Primary consideration for selection of material for various applications; specification of basic materials required in residential buildings , such as bricks, stone, concrete, R.C.C, plastering and various finishes, timber work, flooring materials, glazing, metals such as steel, brass, aluminium, etc
4. Specification for materials used in roofing and roof such as tiles, A.C sheets, G.I and aluminium sheets, etc. Specifications for fixtures and fastenings, specification of works.
5. Specification of works for a residential building- load-bearing type and/ or R.C.C framed type , construction of steel and R.C.C structure, ceiling and partition ,paneling, insulation and water- proofing, specification for services such as drainage, water-supply, electrical installation
6. Specification for demolition work, temporary construction like sheds, exhibition stalls, gateways, etc. Study of proprietary building materials along with manufactures specification, trade name of such materials;
7. **APPLICATION IN DRAFTING SPECIFICATION:** Load bearing structure; R. C. C. frame structure; Steel frame structure.

REFERENCE BOOKS

1. Indian Standard Specifications.
2. C.P.W.D. Specifications and schedule of rate analysis.
3. Watson, Donald A., “Specification Writing for Architects and Engineers”, 1964.
4. Willis C. J., Willis, Andrew, “Specification Writing: For Architects and Surveyors”, John Wiley & Sons, 1997.

AR302	BUILDING SERVICES –III (MECHANICAL SERVICES)	L T P	Cr
		2 0 0	2

OBJECTIVE

This course is intended to integrate the knowledge of mechanical services in buildings.

1. **INTRODUCTION:** Introduction of mechanical services, it’s internal and external components, their functions and principles of air- conditioning.

2. **AIR CONDITIONING**: Introduction; comfort conditions within built environment; basic refrigeration systems; refrigeration system components, vapor compression cycle; concept of cooling load, introduction to calculation of cooling load; concept of zoning; air- conditioning methods , equipments and ducting: their space requirements and placements.
3. **TYPES OF AC UNITS:** Unit type equipment: (i) room A.C. & (ii) split A.C.; Package units: (i) fully self contained (factory made) & (ii) split type units; central DX plants and central chilled water plants; schematic details of various systems, comparison of various systems; space data of A.C. equipment rooms.
4. **VERTICAL TRANSPORTATION:** Lifts, moving walkways and escalators, their layouts; Lifts: types of lifts, dimension of lifts; traffic analysis, calculation of round trip time and selection of lifts. Hoist way/shaft/well, machine room & pit, arrangement of lifts; Escalators - characteristics, dimensions and arrangements of escalators.
5. **L.P.G / BIO-GAS INSTALLATIONS**: Their location and layouts in residential and non-residential buildings.
6. **FIRE SAFETY:** Causes of fire, mechanism of fire spread in buildings, classification of fire. grades of fire hazard – personal hazard, internal hazard & exposure hazard classification of building based on occupancy; high temperature effects and combustibility of building materials and structure.
7. **FIRE RESISTANCE OF BUILDINGS:** Fire escape staircases and fire fighting equipments/ alarms- their spatial requirements and locations; passive and active fire precautions; site planning, heat sensitive detectors, fire alarm system, means of escape. fire fighting installations: hose reel, internal hydrant system, CO2 system, wet risers, etc.

REFERENCE BOOKS

1. Jain. V.K., "Design and Installation of Services in Building complexes & High Rise Buildings", Khanna Tech. Publishers, New Delhi, 1986.
2. Croome, D.J., & Roberts, B.M., "Air conditioning and Ventilation of Buildings", Pragamon Press, Oxford, 1981.
3. Tricomi, Ernest, “ABC’s of air conditioning”, H. W. Sams, 1970
4. Faber, Kell, Martin, “Heating and air conditioning of buildings”, Architectural Press, 1984.
5. “National Building Code”, Bureau of Indian Standards, 2005.

AR301	PRINCIPLES OF HUMAN SETTLEMENTS- I	L T P	Cr
		2 0 0	2

OBJECTIVE: The course aims at introducing the history of development of settlement planning and also gives emphasis on tracing broad principles of settlement design.

1. **INTRODUCTION:** Human Settlement Science - objective, scope & relations with architecture; man’s role in designing and developing settlements; various factors influencing development of settlements.

2. **SETTLEMENT PLANNING IN ANCIENT INDIA**: General information of various settlement planning principles and examples from ancient India and study of the principles described in the ancient Indian text: Indus valley city, typical Hindu Aryan city, typical Dravidian temple city.
3. Settlement planning principles developed and contributed by Egyptians, Greeks and roman etc.
4. **STUDY OF CITY PLANNING DURING MEDIEVAL AND RENAISSANCE PERIOD:** Classical European city, medieval European city, European renaissance city; study of selected historical examples of villages, towns , forts, palaces, gardens, public places etc.
5. **PLANNING IN THE PRE INDEPENDENT INDIA: C**ontribution of Mughal and British; typical Muslim city in India, baazar based traditional city; British colonial city.
6. **MODERN PLANNING PRINCIPLES:** Ebenezer Howard - Garden city movement, Patrick Geddes, Dr.C.A.Doxiades, LeCorbusier, Soria Y Mata - Linear city Clarence, A. Perry - The neighbourhood concept.
7. **URBAN & RURAL SETTLEMENTS**: Their differences, origin, evolution and growth of settlements: site and situation, major function of a city, city forming and city serving functions; the relationship between urban and rural areas.

REFERENCE BOOKS

1. Burn, Stanly & Williams, Jack, "Cities of the World, - World Regional Urban Development", Harper & Row, New York, 1983.
2. Keeble, Lewis, "Principles and Practice of Town and Country Planning", The Estates Gazette Ltd. London, 1972.

AR311	PRINCIPLES OF HUMAN SETTLEMENTS-II	L T P	Cr
		2 0 0	2

OBJECTIVE

The course aims at introducing the history of development of settlement planning and also gives emphasis on tracing broad principles of settlement design.

1. **BASIS FOR PLANNING:** Understanding the social, cultural and economic basis for planning; evolution of society from tribal, rural and urban to present time; relationship between social structure and spatial structure; need for social , economical, physical, technical and environmental as part of a comprehensive planning system; basic principles of regional planning
2. **EVOLUTION OF PLANNING THEORY**: Aim and objects of planning; understanding planning as a social, economic, political, technical and environmental process of shaping of living environment.
3. **PLANNING PROCESS**: Development plan, structure plans, master plans: scope and objectives, planning as an integrated systematic activity related to different sectors of economy.

4. **MULTI LEVEL DEVELOPMENT**: understanding planning as a multi-level comprehensive process of development through local, urban, rural, regional and national planning.
5. **PROBLEMS FACED BY A TYPICAL CITY:** Activity pattern and landuse, traffic and road network, density of population; central business district of a city; urban nodes, fringe area and suburbs; Migration and urban population explosion; problem caused due to this including slums; human, social and environmental problems and issues in Indian context
6. **INTERNAL SPATIAL STRUCTURE:** Concentric theory, Sector theory, Multi nuclei theory, Inverse concentric theory; pattern of settlements in a region and their major function; Satellite towns.
7. **NEW TOWNS:** Development of new towns and cities. Study of new towns in India such as Chandigrah, Bhubaneshwar, Gandhinagar and Navi Mumbai.

REFERENCE BOOKS

1. Burn, Stanly & Williams, Jack, "Cities of the World, - World Regional Urban Development", Harper & Row, New York, 1983.
2. Keeble, Lewis, "Principles and Practice of Town and Country Planning", The Estates Gazette Ltd. London, 1972.

AR312	BUILDING SERVICES- IV (ARCHITECTURAL ACOUSTICS)	L T P	Cr
		2 0 0	2

OBJECTIVE

This course in Architectural Acoustics offers an intense curriculum in acoustics for effectively shaping sonic environments to achieve optimum acoustic performance and sound quality.

1. **INTRODUCTION TO ACOUSTICS**: General principles of sound , its origin, propagation and sensation; behavior of sound with respect to various surfaces and in an enclosed space.
2. Acoustical / Sonic Environment and acoustical comfort; concept of Geometric Acoustics, reflection of sound and their applications; reverberation time and sound levels and their calculations.
3. **SOUND ABSORBING MATERIALS**: Absorption of sound, sound absorption coefficient; sound absorbing materials - porous materials, panel / membrane absorbers & cavity / Helmholtz resonators; absorption coefficients of indigenous acoustical materials; space / functional absorbers; mounting conditions and its impact on sound absorption.
4. Constructional and planning measures for good acoustical design; Acoustical defects and remedies, Sound application systems, Case studies for the above aspects.
5. **ACOUSTICAL DESIGN OF AUDITORIUMS**: adequate loudness, uniform distribution of sound energy, optimum reverberation time & elimination of acoustical defects. Methods of raking the auditorium floor and the balcony. Acoustical Design of seminar rooms, Conference halls, Cinema Theatres etc.

6. **NOISE:** Outdoor & indoor noise, airborne noise & structure borne noise / impact noise, community noise, & industrial noise; transmission of noise & transmission loss; maximum acceptable noise levels; means of noise control & sound insulation. Sources of industrial noise.
7. **SOURCES OF OUTDOOR NOISE**: Traffic noise - air traffic, rail traffic, road traffic and sea shore & inland water traffic. Planning & Design against Outdoor Noise - for air traffic, road traffic and rail traffic.

REFERENCE BOOKS

1. Egan, M. David, “Architectural Acoustics”, J. Ross Publishing 2007.
2. Templeton, Duncan & Saunders, David, "Acoustic Design", The Architectural Press, London, 1987.
3. Templeton (ed.), "Acoustics in the Built Environment", Butterworth, London, 1993.
4. Mehta, Johnson & Rocafort, “Architectural acoustics: principles and design”, Prentice Hall, 1999.

AR304	LANDSCAPE ARCHITECTURE	L T P	Cr
		2 0 0	2

OBJECTIVE

Landscape architecture is the profession committed to the creation of meaningful and enjoyable outdoor places and to the sustainable management of our environment. The design of outdoor spaces is vital to create a complete environment for the users. We are seeing an increase in the usage of outdoor areas as extensions of interior places or 'outdoor rooms' in the residential scene. This course intends to build an understanding of Landscape Architecture to compliment Architectural Design.

1. **INTRODUCTION OF LANDSCAPE ARCHITECTURE:** Introduction to ecology, interdependence of various systems in the biosphere; study of ecosystems in urban & rural habitats; introduction to architecture and environment related issues; introduction to landscape architecture, scope and role in architecture & planning; the landscape elements, major revolution in landscape architecture, study of works of pioneers of various revolutions.
2. **MAJOR GARDEN STYLES:** Hindu, Buddhist, Mughal, Japanese, Italian, Renaissance etc; their design philosophy, structure components and planting design; history, development, features elements and types..
3. **LANDSCAPE DESIGN PROCESS:** Factors to be considered, components involved; designing and execution of proposal : analysis of site, identification of functional requirements, site development by exploiting mutual forms etc; introduction to major and minor landscape elements, role of landscape elements in landscape design; preparation of technical data sheets.

4. **PLANT MATERIALS AND LANDFORMS:** Study of plant material and preparation and herbarium; plant material - characteristic features; introduction to planting design; Landform: modification, alteration, accentuation, grading etc
5. **URBAN LANDSCAPE:** Basic principles and elements of urban landscape; introduction to street furniture; modification of site topography, grading, methods of estimating earth volumes / layout of drainage & other utilities, layout of roads & pedestrian paths, materials & construction of paving, creation & maintenance of water bodies, selection of plant materials & their care, method of planting.
6. **LANDSCAPE ASSESSMENT:** Introduction to landscape assessment & planning.
7. **CASE STUDIES**: Field identification of minimum 20 common Indian trees and 25 common Indian shrubs; study of contemporary landscape architecture; study of work of major landscape architects.

REFERENCE BOOKS

1. Motloch, J.L., "Introduction to Landscape Design", Van Nostrand Reinhold Publishing Co., New York, 1991.
2. Bring, M, "Japanese Gardens: Design & Meaning", McGraw Hill Book Co., New York, 1981
3. Geoffrey & Jellicoe, "The Landscape of Man", Thames and Hudson
4. Simonds,J. "Landscape Architecture: A Manual of Site Planning and Design" McGraw-Hill, 1998
5. McHarg, Ian,"Design with Nature", John Wiley Pub, 1995.
6. Lyall, Sutherland. "Designing the New Landscape", Thames and Hudson, 1991.

AR359	BUILDING CONSTRUCTION AND TECHNOLOGY – V	L T P	Cr
		0 0 4	2

OBJECTIVE

To give an introduction to building elements and expose the student to the process of building construction.

1. To study different types of partitions and their properties.
2. To study and prepare drawings on the joinery details and constructional techniques involved in timber partitions, single and double skinned partitions, partially glazed partitions.
3. To study various types of aluminum partitions, its extrusions & details of components for partitions.
4. To study aluminum panels for partitions, cladding component for various structures, aluminum grill modules.
5. To study and prepare drawings on various types of wall finishes - external facing and veneers - stone facing, wall facing, wall tiling, and cement concrete facing - methods of construction and details pertaining to the same.

6. To introduce fixing devices in walls, ceilings and floors of solid construction.
7. To understand the purpose and functions of joints in building construction and to prepare drawings on the types of joints that occur in buildings.
8. To prepare drawings on expansion joints in Brick walls and R.C.C. framed structures and its construction details and materials involved in the construction.
9. To study different types of roofing of industrial buildings.
10. To understand and prepare drawings on the construction details of Curtain walls in glass, aluminum, precast concrete units etc.

TEXT BOOKS

Rangwala, S. C., "Building Construction", Charotar Publishing House, 2007.

REFERENCE BOOKS

1. McKay, W.B., "Building Construction Volume I, II, III and IV", Longmans, UK, 1955.
2. Ching, Francis D. K., Adams, Cassandra, "Building Construction Illustrated", Wiley & Sons, Incorporated, John.
3. Barry. R., "The construction of Buildings", The English Language Book society and Crosby Lockwood, London, 1976.
4. Chudley, Roy, "Construction Technology", Longman, 2005.
5. Arora, S.P. & Bindra, S.P., "The text book of Building Construction", Dhanpat Rai Publications, 2009.

AR364	BUILDING CONSTRUCTION AND TECHNOLOGY - VI	L T P	Cr
		0 0 4	2

OBJECTIVE

To give an introduction to building elements and expose the student to the process of building construction.

1. To study and prepare drawings on suspended ceilings and false ceiling using aluminum sections.
2. To understand the various construction details for providing thermal insulation.
3. To study insulation materials like glass wool, insulating boards, gypsum boards, plaster of paris and various kinds of perforated boards.
4. To study the fixing details of sound absorbing materials, its properties and uses.
5. To study various damp - proofing materials like bitumen, felts, etc. Relevant construction chemicals for W.P.C. & O.P.C. Study of construction chemical products.
6. To prepare drawings on various types of foundations: raft foundation, pile foundation etc.
7. To study various techniques of termite proofing.
8. To prepare drawings on various cavity wall construction techniques.

9. To study and prepare drawings on fire resisting constructions.
10. To study the principles of temporary works such as shuttering, centering and scaffolding, form work, centering and scaffolding materials used for these temporary structures - timber & steel, literature survey on temporary structures.

REFERENCE BOOKS

1. Rangwala, S. C., "Building Construction", Charotar Publishing House, 2007
2. McKay, W.B., "Building Construction Volume I, II, III and IV", Longmans, 1955
3. Ching, Francis D. K. and Adams, Cassandra, "Building Construction Illustrated", Wiley and Sons, 2000
4. Barry, R**,** "The Construction of Buildings", The English Language Book Society and Crosby Lockwood, 1976
5. Chudley, Roy, "Construction Technology", Longman, 2005

AR- 357	ARCHITECTURAL AND STRUCTURAL DETAILING – I	L T P	Cr
		0 0 2	1

OBJECTIVE

This course is designed to encourage students to apply the knowledge of their building construction classes in providing working details of their own designs. The course acts as a bridge between architectural design, working drawings and building construction courses.

EXERCISES

1. To design a Door and a window design and give construction details of joinery, material used etc.
2. To design a Staircase and provide details of balustrade fixing, materials used etc.
3. To design and give construction details for Furniture Design: - Counters of various types for enquiry, bar and bank, room divider furniture, built in ward robe etc.
4. Other relevant details to be decided by the faculty in charge.

REFERENCE BOOKS

1. Ballast, "Interior Detailing: Concept to Construction", John Wiley & Sons, 2010.
2. McKay, W.B., "Building Construction Volume I, II, III and IV", Longmans, UK, 1955.
3. Ching, Francis D. K., Adams, Cassandra, "Building Construction llustrated", Wiley & Sons, Incorporated, John.
4. Chudley, Roy, "Construction Technology", Longman, 2005.
5. Arora, S.P. & Bindra, S.P., "The text book of Building Construction", Dhanpat Rai Publications, 2009.

AR362	ARCHITECTURAL AND STRUCTURAL DETAILING – II	L T P	Cr
		0 0 4	2

OBJECTIVE

This course is designed to encourage students to apply the knowledge of their building construction classes in providing working details of their own designs. The course acts as a bridge between architectural design, working drawings and building construction courses.

1. To design and give working details of a 2.4m X 1.8m Toilet with both Indian style and European WCs- sanitary fixtures, drainage layout, traps, pipes, sunken slabs etc.
2. To design and give working details of a 3.0m x 3.0m modular Kitchen – traps and drainage layout/ details, fixing of channels, chimneys and built in cooking range etc.
3. To design a false ceiling for a café and provide working details of the same.
4. Other relevant details to be decided by the faculty in charge.

REFERENCE BOOKS

1. McKay, W.B., "Building Construction Volume I, II, III and IV", Longmans, UK, 1955**.**
2. Ching, Francis D. K., Adams, Cassandra, "Building Construction Illustrated", Wiley & Sons, Incorporated, John.
3. Chudley, Roy, "Construction Technology", Longman, 2005.
4. Arora, S.P. & Bindra, S.P., "The text book of Building Construction", Dhanpat Rai Publications, 2009.

AR358	WORKING DRAWING-I	L T P	Cr
		0 0 4	2

OBJECTIVE

This course provides clear explanations of why working drawings are required, what they must contain to be relevant, the importance of understanding drawing intent and content, and how to combine individual drawings into meaningful and construction-ready sets.

To prepare working drawings of a Load Bearing Wall Structure for Design Problem done during preceding years, indicating to appropriate scale :
Foundation Plans
Working Floor Plans
Working Sections.
Working Elevations
Working Details.
To prepare a municipal corporation drawing of the same.

Note: Use of computers is not recommended

REFERENCE BOOKS

1. Wakita, Linde & bakhoum. "The Professional Practice of Architectural Working Drawings", John Wiley & Sons, 2011.
2. Liebing, Ralph W. "Architectural Working Drawings", John Wiley & Sons, 1999.
3. Styles & Bichard, "Working Drawings Handbook", Taylor & Francis, 2004.
4. Stitt, "Working Drawing Manual", McGraw-Hill Professional, 1998.

AR363	WORKING DRAWING-II	L T P	Cr
		0 0 6	3

OBJECTIVE

This course provides clear explanations of why working drawings are required, what they must contain to be relevant, the importance of understanding drawing intent and content, and how to combine individual drawings into meaningful and construction-ready sets.

EXERCISES

To prepare working drawings of a Frame Structure for Design problem done during preceding years,
indicating to appropriate scale

1. Working Floor Plans.
2. Working Sections.
3. Working Elevations.
4. Working Details.
5. Services layouts.
6. To prepare a municipal corporation drawing of the same.

Note: Use of computers is encouraged.

REFERENCE BOOKS

1. Wakita, Linde & Bakhoum. "The Professional Practice of Architectural Working Drawings", John Wiley & Sons, 2011
2. Liebing, Ralph W. "Architectural Working Drawings", John Wiley & Sons, 1999.
3. Styles & Bichard, "Working Drawings Handbook", Taylor & Francis, 2004.
4. Stitt, "Working Drawing Manual", McGraw-Hill Professional, 1998.

AR361	ARCHITECTURAL DESIGN-IV	L T P	Cr
		2 0 8	6

OBJECTIVE

To educate students about multi-storied frame structure and various housing schemes by using codes and building bye-laws and also considering the social , economical , environmental aspects.

DESIGN OF HIGH DENSITY, LARGE-SCALE HOUSING: Socio-economic determinants, legislative and economic constraints and technological alternatives shall be studied in detail. Exercises in simulation and conceptual modeling shall be conducted. Application of concepts of community participation, phasing, financing and construction planning.
Projects may include multistoried apartments or group housing etc.

DESIGN FOR PEOPLE WITH SPECIAL NEEDS: Design of residential accommodation for senior citizens or differently abled persons with emphasis on barrier free architecture. Students are required to understand the special needs of these people-, physical, mental and social and provide design solutions accordingly. Projects may include the design of Old Age homes, Hostels for the Disabled, Rehabilitation centers etc.

CS155	PROJECT PLANNING AND MANAGEMENT	L T P	Cr
		2 0 0	2

OBJECTIVE
Project managers have the responsibility of the planning, execution and closing of any project, typically relating to construction industry and architecture.

1. Introduction, need and importance of management. Principles, theories, concepts, approaches, softwares in management, Role of manager.
2. Project Management Acquiring projects. Scope of work and liasoning, Feasibility studies, project proposal and reports, financial facilities.
3. Construction Management planning, monitoring and controlling.
4. Planning techniques, Bar chart, CPM, PERT.
5. Selecting appropriate specification, manpower, technology, etc.
6. Financial Management, Value of work and cash flow costing and life cycle costing, Time, Value of money.
7. Organization and staffing purpose of organizing, Human resources management. motivation and productivity.

AR354	SITE PLANNING AND LANDSCAPE DESIGN	L T P	Cr
		0 0 6	3

OBJECTIVE
This course intends to develop an understanding of Site Planning and landscape architecture to compliment architectural design.

1. To introduce site planning, its scope and role; environmental/ regional context in site planning and landscape design.
2. To highlight the importance of site analysis and study the various onsite and off site factors of a site. (factors involved, accessibility, size and shape of sites; confirming and non-conforming uses; climate and topography, infrastructure

available, sources of water supply and means of disposal system, architectural and visual aspects).
3. To prepare site analysis diagrams.
4. To prepare contour drawings and understand the concepts of surface drainage and watershed.
5. To study various factors affecting site planning and landscape design: geological setup, topography, slope, drainage network, flora and fauna.
6. Preparation of maps of matrix analysis, composite analysis, locality plans, topographical analysis.
7. Design exercise incorporating the following: Access network, parking and service planning, service layouts and trenching; Landscape constructions: pavings, curbs, edgings, drains, trees, plants in paved areas, landscape furniture etc; ponds, pools, waterways and fountains.
8. Study oriented work involving study of the use of outdoor spaces by different user groups, landscape elements, street furniture, etc.
9. To study and prepare the ecological profile of an area.
10. To study architectural examples where nature is an integral part of the design.

REFERENCE BOOKS

1. Simonds, J.O., "Earthscape: A Manual of Environmental planning", McGraw Hill Book Co., New York, 1978.
2. John Ormsbee Simonds, “Landscape Architecture: A manual of site planning & design”, McGraw Hill, 1961.
3. Kevin Lynch, “Site Planning”, MIT Press, Cambridge, MA. 1957.
4. Thomas H. Russ, “Site Planning and Design Handbook” Pearson Education, 2002.
5. Diane Y. Carstens, “Site Planning & Design for the Elderly”, Van Nostrand Reinhold, New York, 1993.
6. William M. Marsh, “Environmental Analysis for Land Use and Site Planning”, McGraw-Hill, 1978.
7. R. Gene Brooks, “Site Planning - Environment, Process and Development”, Prentice Hall, 1988.

CE311	STRUCTURES IN ARCHITECTURE-V	L T P	Cr
		2 0 0	2

OBJECTIVE

The objective of the course is to develop a feel for structural principles as they relate to a building design, to enable him to make an informed choice regarding the most appropriate structural system for this building and to develop a reasonable understanding of its operational and economic implications.

1. Indeterminacy in structural system and its application in finding forces in different elements of structures.
2. Design of continuous structures of steel and RCC.
3. Effect of wind and seismic forces on different structures.

4. Soil Mechanics – Different types of soil, bearing capacity shear stress concept.
5. Foundation Engineering- Design of RCC foundation, grillage footing, isolated and combined footings and Raft footing.
6. Design of earth- retaining structures and piles (including under reamed).
7. Construction of foundation in water logged areas including dewatering of soil or soils having harmful salts.

TEXT BOOK

1. Jain,A.K., Elementary Structural Analysis, Nem Chand Bros. Roorkee.
2. Jain, O.P. and Jain B.K., Theory of Structures, Vol. 1, Nem Chand Bros. Roorkee.

REFERENCE BOOKS

1. Ramamrutham S.and Narayan R., "Theory of structures", Dhanpat Rai and sons, 2010.
2. Punmia R.C., Jain Ashok kumar Dr., Jain Arun Kumar, "Soil Mechanics and Foundations".
3. Dr. Ramchandra Dr. & Gehlot Virendra "Design of Steel Structures".
4. Jain Ashok K. "Reinforced Concrete Structures".

CE312	STRUCTURES IN ARCHITECTURE - VI	L T P	Cr
		2 0 0	2

OBJECTIVE

The objective of the course is to develop a feel for structural principles as they relate to a building design, to enable him to make an informed choice regarding the most appropriate structural system for this building and to develop a reasonable understanding of its operational and economic implications.

EXERCISES

1. Method of analysis of different type of structures (Complex and composite).
2. Design of continuous RCC and steel beams.
3. Design of box and complex girder.
4. Effect of wind and seismic forces on different elements of Multi storied structure.
5. Concepts for design of shear walls and service core.
6. Basic concepts for design of prefabricated structures, different forces acting on the elements.

TEXT BOOKS

1. Jain,A.K., Elementary Structural Analysis, Nem Chand Bros. Roorkee.
2. Jain, O.P. and Jain B.K., Theory of Structures, Vol. 1, Nem Chand Bros. Roorkee.

REFERENCE BOOKS

1. Ramamrutham S.and Narayan R., “Theory of structures”, Dhanpat Rai and sons, 2010.
2. Punmia R.C., Jain Ashok kumar Dr., Jain Arun Kumar, “Soil Mechanics and Foundations”.
3. Dr. Ramchandra Dr. & Gehlot Virendra “Design of Steel Structures”..
4. Jain Ashok K. “Reinforced Concrete Structures”.

PD-391	EXTRA/CO-CURRICULAR ACTIVITIES	L T P	Cr
			1

OBJECTIVE

To help the students in their all round growth and acquire attributes like team spirit, organizational ability, leadership qualities, etc.

OPERATION

The students are to take part in Co-curricular activities outside contact hours through clubs/ societies spread over all the three terms of the year. They are required to register for this course in each term and their performance will be evaluated in last term of the year.