



Your Dreams Our Goal
POORNIMA
UNIVERSITY

Member of Association of Indian Universities & Approved by UGC (Govt. of India) under 2(f) & 12(B)

FACULTY OF PLANNING & ARCHITECTURE



PROGRAM: BACHELOR OF ARCHITECTURE

SCHEME & SYLLABUS BOOKLET

BATCH 2025-2030

INDEX

S. No	Contents	Page No.
1	Vision, Mission And Quality Policy Of University	
2	Knowledge Wheel	
3	Preamble	
4	About Program, Program Outcomes (POs), and Program Specific Outcomes (PSOs)	
5	Examination System	
6	Assessment & Grade Point Average: SGPA, CGPA	
7	Guidelines for MOOC Courses	
8	Teaching Scheme of all Semesters	
9	Teaching Syllabus of all Semesters	

Disclaimer: The scheme, syllabus and other materials published in this booklet may be changed or modified as per the requirement after approval of competent authority. The decision taken by the management of Poornima University will be final and abiding to all.



Your Dreams Our Goal **POORNIMA** **UNIVERSITY**

Member of Association of Indian Universities & Approved by UGC (Govt. of India) under 2(f) & 12(B)

Vision

Our vision is to create knowledge based society with scientific temper, team spirit and dignity of labour to face global competitive challenges.

Mission

Our mission is to evolve and develop skill based systems for effective delivery of knowledge so as to equip young professionals with dedication and commitment to excellence in all spheres of life.

Quality Policy

To provide quality education through faculty development, updating of facilities and continual improvement for meeting norms laid down by the government, keeping the stakeholders satisfied. Poornima University has forged industrial alliances with Top MNC's worldwide which assures high educational standards, up to- date and forward-thinking curricula, and professional relevance. At Poornima University you will have a distinct advantage through exposure to the corporate standard environment through industry sponsored infrastructure and expert faculty. The University involves global industry leaders in many ways.

Knowledge Wheel

At Poornima, the academic atmosphere is a rare blend of modern technical as well as soft skills and traditional systems of learning processes.



About Program and Program Outcomes (PO):

Title of the Program:

Nature of the Program:

Program Outcomes (POs):

Graduates will be able to:

PO1: Architectural and Urban Planning Knowledge- Demonstrate the knowledge of fundamentals of architecture, design & planning principles, theory of design, planning theories, architectural drawings, building science and building structures to the solution of complex design problems.

PO2: Construction & planning techniques and materials: Identify, review, evaluate and illustrate the details of various constructions, its details & techniques available using the plethora of construction materials available.

PO3: Infrastructure & Building Services: Utilize the various building services like power systems, rain water harvesting systems, water supply distribution, HVAC, vertical transportation, building automation systems, fire extinguishing systems, building acoustic systems, illumination, mechanical systems along with the fundamentals in the conception as well as completion of design projects.

PO4: Architectural & Planning tools & softwares: Identify the latest rendering, visual effects, graphic design, presentation tools, 3-d Printer and mediums along with the latest computer softwares such as Auto- Cad, Revit, Sketch up, 3D's Max, Lumion, Arc GIS, Coral Draw, Photoshop & other supporting tools for the visualization and actual realization of design projects.

PO5: Design Thinking, solutions & Creative Problem Solving - To demonstrate creative problem solving skills including design thinking, critical assessment and developing user centric, innovative design and planning solutions.

PO6: Professional & communication Skills- To comprehend, design & write effective reports & documentations; give and receive clear instructions; demonstrate effective and convincing communication and presentation skills on architectural issues with architecture fraternity for the interest of society at large.

PO7: Project & Finance management: To demonstrate the understanding of HR, Finance, contract and construction management for the profession individually as well as a team member.

PO8: Entrepreneurship and Employability –After completion of this program the students will be conscious of the professional as well as managerial activities of architectural practices shall be able to undertake projects with appropriate management control and control on cost & time & perform standard proficiencies, in harmony with the scope of local practice of architecture in particular.

PO9: Individual & Team work- Demonstrate appropriate interpersonal skills to work effectively in as an individual, as a member or as a team leader of a multidisciplinary/interdisciplinary team setting.

PO10: Environment & Sustainability - Understand the impact of the professional design & planning solutions catering to the societal, cultural and environmental context and contribute to sustainable development.

PO11: Receptiveness and lifelong learning –Be competent and receptive to new ideas, knowledge and infusing a sense of scientific research in the architectural works undertaken. Recognize the need for continuous learning and upgrade their architectural knowledge and the technical competencies.

PO12: Professional Ethics: Be committed to professional ethics, responsibilities, and economic, environmental, societal and political norms.

PSO

PSO-1

Students shall be able to apply creative, innovative, intellectual learning to establish academic and professional excellence in the field of Architecture.

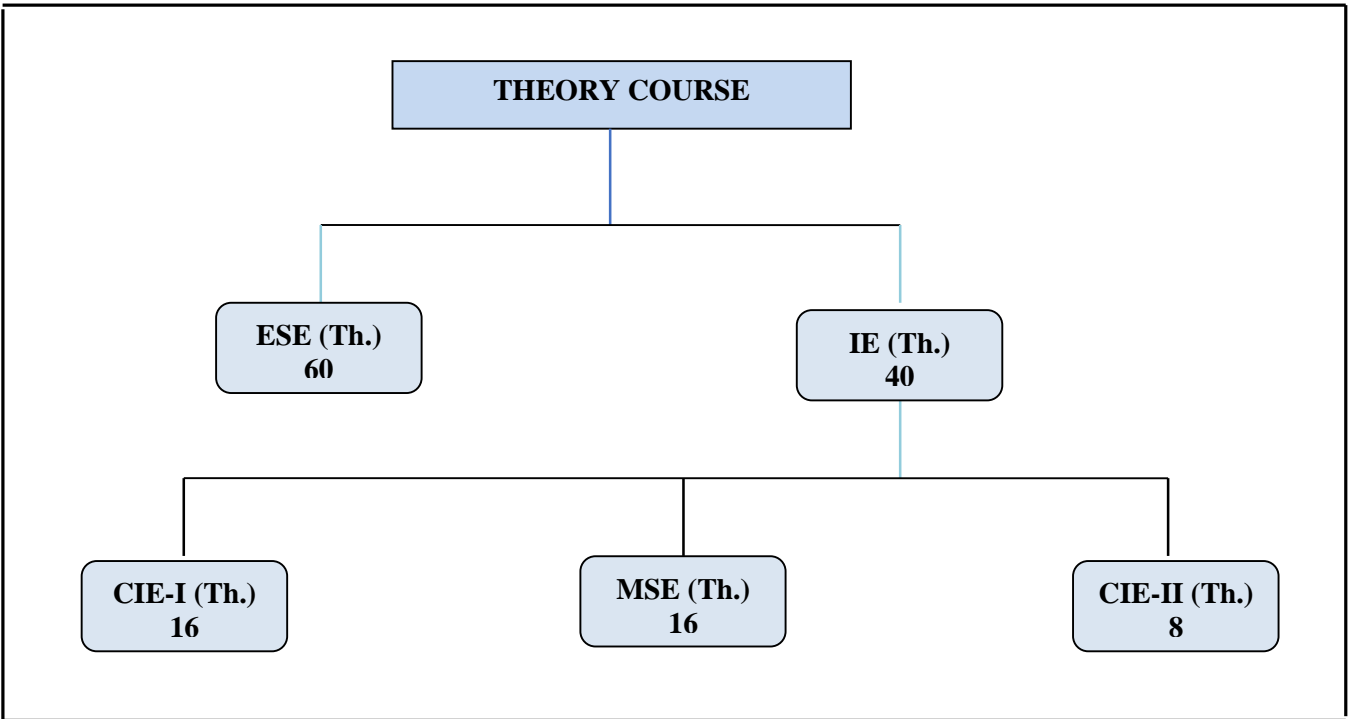
PSO-2

The student shall be able to design high quality indoor environment of every type of space with knowledge of building services like acoustics, lighting, electrical, plumbing and climate modification systems, and energy use

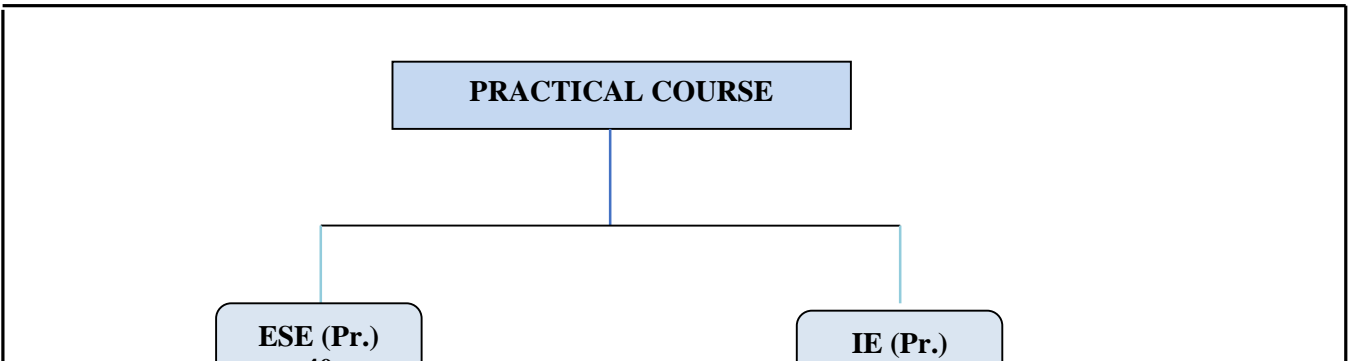
PSO-3

Students shall be able to address environmental compulsions, technological innovations & the IT revolution.

Examination System : Marks Distribution of Theory Course:



A. Marks Distribution of Practical Course :



Th.: Theory, **Pr.:** Practical, **ESE:** End Semester Examination, **MSE:** Mid Semester Examination, **CIE:** Continuous Internal Evaluation.

<u>Exam Entity</u>	Theory Subject		Practical/ Studio Subject	
	Maximum Marks	CO to be Covered	CO to be Covered	Maximum Marks
CIE-I	16 (8 + 8)	1 & 2	1 & 2	24 (12 + 12)

MSE	16 (8 + 8)	3 & 4	3 & 4	24 (12 + 12)
CIE-II (Activity/Assignment)	8 (8)	5	5	12 (12)
ESE	60	-	-	40
TOTAL	100	-	-	100

Minimum Passing Percentage in All Exams:

S. No.	Program Name	Minimum Passing Percentage in		
		IE Component	ESE Component	Total Component
1	Course Work for PhD Registration	-	-	50%
2	B. Arch., FIRE Dept. (BBA, B. Com., MBA)	-	45%	50%
3	MBA, MCA, M.Des., M.Tech., M.Plan, MHA, MPH	-	40%	40%
4	B. Tech., B. Des., BVA, BCA, B.Sc., BBA, B.Com., B.A. & any other program	-	35%	35%

SGPA Calculation

$$SGPA = \frac{C_1G_1 + C_2G_2 + \dots + C_nG_n}{C_1 + C_2 + \dots + C_n}$$

$$SGPA = \frac{\sum_i C_i \times G_i}{\sum_i C_i}$$

where (as per teaching scheme & syllabus):

C_i is the number of credits of subject i ,

G_i is the Grade Point for the subject i and $i = 1$ to n ,

n = number of subjects in a course in the semester

CGPA Calculation

$$CGPA = \frac{C_1G_1 + C_2G_2 + \dots + C_nG_n}{C_1 + C_2 + \dots + C_n}$$

$$CGPA = \frac{\sum_i C_i \times G_i}{\sum_i C_i}$$

where (as per teaching scheme & syllabus):

C_i is the number of credits of subject i ,

G_i is the Grade Point for the subject i and $i = 1$ to n ,

n = number of subjects in a course of all the semesters up to which CGPA is computed

Grading /Table:

Table-A Applicable for B.Arch., FIRE Courses (BBA, B.Com, MBA), & PhD. Course Work			
e		Point	Range (in %)
Outstanding	O	10	$90 \leq x \leq 100$
Excellent	A+	9	$80 \leq x < 90$
Very Good	A	8	$70 \leq x < 80$
Good	B+	7	$60 \leq x < 70$
Above Average	B	6	$50 \leq x < 60$
Fail	F	0	$x < 50$
Absent	Ab	0	Absent

Table-B Applicable for All Courses except Table-A			
Performance		Point	(in %)
Outstanding	O	10	$90 \leq x \leq 100$
Excellent	A+	9	$80 \leq x < 90$
Very Good	A	8	$70 \leq x < 80$
Good	B+	7	$60 \leq x < 70$
Above Average	B	6	$50 \leq x < 60$
Average	C	5	$40 \leq x < 50$
Pass*	P	4	$35 \leq x < 40$
Fail	F	0	$x < 35$
Absent	Ab	0	Absent

* Not applicable for master programs

CGPA to percentage conversion rule:

$$\text{Equivalent \% of Marks in the Program} = \text{CGPA} * 10$$

Award of Class

CGPA	Percentage	Equivalent Division
$7.50 \leq \text{CGPA}$	75% or more	First Division with Distinction
$6.00 \leq \text{CGPA} < 7.50$	$60\% \leq x < 75\%$	First Division
$5.00 \leq \text{CGPA} < 6.00$	$50\% \leq x < 60\%$	Second Division
$4.00 \leq \text{CGPA} < 5.00$	$40\% \leq x < 50\%$	Pass Class

Guidelines for Massive Open Online Courses (MOOCs)

(Session 2025-26)

Poornima University, in its never ending endeavor to equip students with best-of-class learning and knowledge, has undertaken to include MOOC courses as part of its credit scheme from session 2023-24 onwards. The objective behind this is to enable students to study courses designed by the best teachers in the country and to scale their knowledge base with the rest of learners from the nation. The MOOCs which are included under this scheme is can be chosen from SWAYAM-NPTEL.

1. Introduction of MOOCs: SWAYAM-NPTEL

About SWAYAM-NPTEL

NPTEL (National Programme on Technology Enhanced Learning), is a joint venture of the IITs and IISc, funded by the Ministry of Education (MoE) Government of India, and was launched in 2003. Initially started as a project to take quality education to all corners of the country, NPTEL now offers close to 600+ courses for certification every semester in about 22 disciplines.

Some highlights:

- Largest online repository in the world of courses in engineering, basic sciences and selected humanities and management subjects
- YouTube channel for NPTEL – most subscribed educational channel, 1.3 billion views and 40+ lakhs subscribers
- More than 56000 hours of video content, transcribed and subtitled
- Most accessed library of peer-reviewed educational content in the world
- Translation of more than 12000 hrs of English transcripts in regional Indian languages

NPTEL Online Certification:

The objective of enabling students obtain certificates for courses is to make students employable in the industry or pursue a suitable higher education programme. Through an online portal, 4, 8, or 12-week online courses, typically on topics relevant to students in all years of higher education along with basic core courses in sciences and humanities with exposure to relevant tools and technologies, are being offered. Enrolment to and learning from these courses is free. Following these online courses, an in-person, proctored certification exam is conducted and a certificate is provided through the participating institutions and industry, as applicable.

Some statistics regarding the open online courses since March 2014 till Dec 2021

Completed courses: 3496;

Enrollments across courses: 1.58 CRORE +

Number of exam registrations: 15.1 LAKH +

All the statistics pertaining to completed courses are available at <https://beta.nptel.ac.in/courses>. All courses are completely free to enroll and learn from. The certification exam is optional and comes at a fee of Rs 1000/course exam.

2. MOOCs at Poornima University:

MOOCs envelops best in class teaching - learning processes along with meeting the requirements of various courses in terms of quality of teaching and evaluation system. To promote the MOOCs among students of Poornima University, it is decided to consider the credits earned through MOOCs.

(a) MOOCs as Credit Courses

(For this document, only those MOOCs will be considered which are available only on NPTEL platforms)

- Credit and Non-credit SWAYAM-NPTEL MOOCs can be opted by anyone, anytime, anywhere and in any language. However, prior-permission of the University Authorities is mandatory if the credits are to be transferred to regular degree.

- As Open Elective (for batches entered till 2022) / Multidisciplinary Courses (for batches admitted from 2023-24 onwards): Open Elective (for batches entered till 2022) courses were available at University level in offline mode till 2022-23 for which relevant booklets were published. From session 2023-24, Multidisciplinary Courses are introduced in lieu of open elective courses as per NEP 2020. These courses carry 02 credits. These category/type of courses (similar/different) are available as MOOC courses on SWAYAM-NPTEL platform which are being introduced from session 2023-24 onwards for all the students. The respective Deans / HODs shall provide all the information to all the students pertaining to MOOCs as per details given below:
 1. Deans / HODs shall prepare a list of up to 10 appropriate MOOC courses (From NPTEL Only) of Minimum 02/03 credits each, well in advance (at-least 15 days prior to commencement of semester) and take approval from the Office of Dean, Academics / Pro-President, PU.
 2. After approval, the respective Deans / HODs shall circulate a notice to all their respective students so that they can select any one course from the list, the credits (only 02) of which will be counted against Open Elective/ Multidisciplinary courses pertaining to that particular semester.
 3. The tutor of the class shall monitor the progress (assignments, feedback, any problem etc.) on weekly basis and report to Head/Dean and provide the academic support to students as per requirement.

(b) Important points related to MOOCs at Poornima University

- Only one MOOC shall be allowed in a particular semester for the purpose of credit transfer in the beginning.
- No attendance will be taken for MOOC courses.
- The method of assessments of MOOC such as assignments and examination are completely associated with that particular MOOC and no internal exam (IE component) will be conducted by the department as well as by the Examination Cell.
- The respective Dean / HOD must submit the detail of course i.e., code, name and credit of MOOC opted against that particular course in particular semester attached with highlighting in the related examination scheme of syllabus of that semester signed by BOS Convener / HoD and Dean of Faculty to the office of Pro-President before commencement of the classes.
- The center of examination for MOOCs will be finalized by SWAYAM-NPTEL. All the responsibility related to registration for MOOCs, timely submission of assignments, examinations etc. will be borne by the students only.
- NPTEL will award a certificate to all the students passing the examination.
- The list of registered students in MOOC along with name of course will be submitted to the Examination Cell by the Deans / HoDs before commencement of the classes.
- An ESE Exam of each said MOOC course will also be conducted by the University as per University norms.
- The award of marks/grading will be computed as given below:

Award of marks/grading	Remarks
1. 20% weightage taken from MOOC Certificate +80% weightage taken from ESE Exam of Poornima University OR 2. 100% of weightage taken from MOOC Certificate	The Certificate of MOOC to be Submitted as per date notified by COE, Poornima University
Note: The Higher Marks/Grades of the above two will be considered	

- Any student who would not be able to clear/pass the said course, will be required to appear as a back exam candidate of the University as per PU norms. Students who have not passed the MOOC exam are required to register and participate in the next semester for either the same subject or a similar subject (Ensuring at least 60% of the syllabus matches with the back subject and also approved by respective Dean) offered through NPTEL.
- The scorecard and related certificate of MOOC along with a consolidated list of students with marks of assignment and final exam will be submitted to the examination cell by the concerned Dean / HOD for further process. It is also recommended that alteration/changes/scaling in marks obtained by the students in any MOOC will not be considered.

- The exam registration fee of MOOC up to Max. INR 1000/- will be reimbursed to the student only after successful completion of the course in first attempt and submission of the fee receipt, score-card and certificate of the MOOC to the concerned department within stipulated time after declaration of the results.
- There will be no provision of re-evaluation of MOOC.

NOTE: This is to be noted that the procedure for getting approval from BOS, Faculty Board, Academic Council and BoM is to be followed as per regular process.

Attached Items:

Ability Enhancement Courses	Annexure-1
Value Added Course Booklet	Annexure-2

**1st Year B.ARCH.
SCHEME
BATCH: 2025-30**

POORNIMA UNIVERSITY, JAIPUR

Faculty of Planning and Architecture

Name of Program : **B.Arch** Total Duration: 5 years Total Credits: 26

Teaching Scheme for Batch 2025-30

Semester-I

Course Code	Name of Course	Teaching Scheme			Marks Distribution			Credits
		Lecture (L)	Tutorial (T)	Practical (P)	IE	ESE	Total	
A	Major (Core Courses)							
A.1	Theory							
25BARCAR1101	Introduction to Architecture	2	-	-	40	60	100	2
25BARCAR1102	Architectural Structures – I	2	-	-	40	60	100	2
25BARCAR1103	Building Science	2	-	-	40	60	100	2
A.2	Practical							
25BARCAR1201	Basic Design Studio ^{*/**}	2	-	4	60	40	100	8
25BARCAR1202	Architectural Building Construction & Materials – I	2	-	2	60	40	100	3
25BARCAR1203	Architectural Geometry & Drawing–I	2	-	2	60	40	100	3
25BARCAR1204	Computer Application-I	1	-	2	60	40	100	2
B	Minor Stream Courses / Department Electives							
B.1	Theory							
B.2	Practical							
	Nil	-	-	-	-	-	-	-
C	Multidisciplinary Courses							
	Nil	-	-	-	-	-	-	-
D	Ability Enhancement Courses (AEC)							
25BUACHM1101	Language & Conversation	-	-	2	60	40	100	1
E	Skill Enhancement Courses (SEC)							
25BAREAR1201	Arts Studio & Workshop – I	1	-	2	60	40	100	2
F	Value Added Courses (VAC)							
25BUVCVA1201	Performing Arts	-	-	2	60	40	100	1
25BUVCVH1201	Universal Human Values and Professional Ethics Lab							
G	Summer Internship / Research Project / Dissertation							
Total		14	0	16				
Total Teaching Hours		30						26

*Candidates have to work equal to number of teaching hours other than studio teachings.

** Candidates have to work equal to number of teaching hours other than studio teachings and practical credits are calculated as 1.5 for each practical hour.

POORNIMA UNIVERSITY, JAIPUR

Faculty of Planning and Architecture

Name of Program : B.Arch

Duration: 5 years

Total Credits: 26

Teaching Scheme for Batch 2025-30

Semester-II

Course Code	Name of Course	Teaching Scheme			Marks Distribution			Credits
		Lecture (L)	Tutorial (T)	Practical (P)	IE	ESE	Total	
A	Major (Core Courses)							
A.1	Theory							
BARCAR2101	History of Architecture – I	2	-	-	40	60	100	2
25BARCAR2102	Architectural Structures – II	2	-	-	40	60	100	2
25BARCAR2103	Climatology	2	-	-	40	60	100	2
A.2	Practical							
25BARCAR2201	Architectural Design – I ^{*/**}	2	-	4	60	40	100	8
25BARCAR2202	Architectural Building Construction & Materials – II	2	-	2	60	40	100	3
25BARCAR2203	Architectural Geometry & Drawing – II	2	-	2	60	40	100	3
25BARCAR2204	Computer Application-II	1	-	2	60	40	100	2
B	Minor Stream Courses / Department Electives							
B.1	Theory							
B.2	Practical							
C	Multidisciplinary Courses							
D	Ability Enhancement Courses (AEC)							
25BUACHM2208	Language & Communication	-	-	2	60	40	100	1
E	Skill Enhancement Courses (SEC)							
25BAREAR2201	Arts Studio & Workshop – II	1	-	2	60	40	100	2
F	Value Added Courses (VAC)							
25BUVCVA2201	Performing Arts	-	-	2	60	40	100	1
25BUVCVD2201	Entrepreneurship							
G	Summer Internship / Research Project / Dissertation							
Total		14	-	16				
Total Teaching Hours		30						26

*Candidates have to work equal to number of teaching hours other than studio teachings.

** Candidates have to work equal to number of teaching hours other than studio teachings and practical credits are calculated as 1.5 for each practical hour.

POORNIMA UNIVERSITY, JAIPUR

Faculty of Planning and Architecture

Name of Program : B.Arch

Duration: 5 years

Total Credits:

Teaching Scheme for Batch 2025-30

Semester-III

Course Code	Name of Course	Teaching Scheme			Marks Distribution			Credits
		Lecture (L)	Tutorial (T)	Practical (P)	IE	ESE	Total	
A	Major (Core Courses)							
A.1	Theory							
25BARCAR3101	History of Architecture – II	2	-	-	40	60	100	2
25BARCAR3102	Architectural Structures – III	2	-	-	40	60	100	2
25BARCAR3103	Surveying & leveling	2	-	-	40	60	100	2
A.2	Practical							
25BARCAR3201	Architectural Design – II	2	-	4	60	40	100	8
25BARCAR3202	Architectural Building Construction & Materials – III	2	-	2	60	40	100	3
25BARCAR3203	Building Services Studio-I	1	-	2	60	40	100	2
25BARCAR3204	Computer Application-III	1	-	2	60	40	100	2
B	Minor Stream Courses / Department Electives							
B.1	Theory							
B.2	Practical							
C	Multidisciplinary Courses							
25BAREMCE3101	MOOC Course-I	1	-	0	60	40	100	1
D	Ability Enhancement Courses (AEC)							
25BUECVA11-22	Professional skill-I (From AEC booklet)	2	-	0	40	60	100	2
E	Skill Enhancement Courses (SEC)							
25BAREAR3201	Arts Studio & Workshop – III	1	-	2	60	40	100	2
F	Value Added Courses (VAC)							
25BUACHU3208	Performing art/IKS (Introduction to IKS)	-	-	2	60	40	100	1
G	Summer Internship / Research Project / Dissertation							
Total		16	-	14				
Total Teaching Hours			30					28

*Candidates have to work equal to number of teaching hours other than studio teachings.

** Candidates have to work equal to number of teaching hours other than studio teachings and practical credits are calculated as 1.5 for each practical hour.

POORNIMA UNIVERSITY, JAIPUR

Faculty of Planning and Architecture

Name of Program : B.Arch

Duration: 5 years

Total Credits:

Teaching Scheme for Batch 2025-30

Semester-IV

Course Code	Name of Course	Teaching Scheme			Marks Distribution			Credits
		Lecture (L)	Tutorial (T)	Practical (P)	IE	ESE	Total	
A	Major (Core Courses)							
A.1	Theory							
25BARCAR4101	History of Architecture – III	2	-	-	40	60	100	2
25BARCAR4102	Architectural Structures – IV	2	-	-	40	60	100	2
25BARCAR4103	Building Regulation & Bye Laws	2	-	-	40	60	100	2
A.2	Practical							
25BARCAR4201	Architectural Design – III	2	-	4	60	40	100	8
25BARCAR4202	Architectural Building Construction & Materials – IV	2	-	2	60	40	100	3
25BARCAR4203	Building Services Studio-II	1	-	2	60	40	100	2
25BARCAR4204	Computer Application-IV (Intro to AR-VR)	1	-	2	60	40	100	2
B	Minor Stream Courses / Department Electives							
B.1	Theory							
B.2	Practical							
C	Multidisciplinary Courses							
BAREMCE4101	MOOC Course-II	1	-	0	60	40	100	2
D	Ability Enhancement Courses (AEC)							
25BUACHU4212	Human value & Professional ethics (from AEC booklet)	2	-	-	40	60	100	2
E	Skill Enhancement Courses (SEC)							
25BAREAR4201	Arts Studio & Workshop – IV	1	-	2	60	40	100	2
F	Value Added Courses (VAC)							
25BUECVA11-23	Performing art/IKS (IKS in Architecture & Town Planning)	-	-	2	60	40	100	1
G	Summer Internship / Research Project / Dissertation							
Total		16	-	14				
Total Teaching Hours		30						29

*Candidates have to work equal to number of teaching hours other than studio teachings.

** Candidates have to work equal to number of teaching hours other than studio teachings and practical credits are calculated as 1.5 for each practical hour.

POORNIMA UNIVERSITY, JAIPUR

Faculty of Planning and Architecture

Name of Program : B.Arch

Duration: 5 years

Total Credits:

Teaching Scheme for Batch 2025-30

Semester-V

Course Code	Name of Course	Teaching Scheme			Marks Distribution			Credits
		Lecture (L)	Tutorial (T)	Practical (P)	IE	ESE	Total	
A	Major (Core Courses)							
A.1	Theory							
25BARCAR5101	History of Architecture – IV	2	-	-	40	60	100	2
25BARCAR5102	Architectural Structures – V	2	-	-	40	60	100	2
A.2	Practical							
25BARCAR5201	Architectural Design – IV	2	-	4	60	40	100	8
25BARCAR5202	Architectural Building Construction & Materials – V	2	-	2	60	40	100	3
25BARCAR5203	Building Services Studio-III	1	-	2	60	40	100	2
25BARCAR5204	Working Drawing- I	2	-	4	60	40	100	3
B	Minor Stream Courses / Department Electives							
B.1	Theory							
B.2	Practical							
25BAREAR5311	Interior Design	1	-	2	60	40	100	2
25BAREAR5312	Universal Design							
C	Multidisciplinary Courses							
25BAREMCE5201	MOOC Course-III	1	-	0	40	60	100	1
D	Ability Enhancement Courses (AEC)							
25BUACHU6120	Professional skill-II	-	-	1	60	40	100	1
E	Skill Enhancement Courses (SEC)							
	Skill Enhancement Generic Course-V	-	-	2	60	40	100	1
F	Value Added Courses (VAC)							
G	Summer Internship / Research Project / Dissertation							
Total		13	-	17				
Total Teaching Hours		30						25

*Candidates have to work equal to number of teaching hours other than studio teachings.

** Candidates have to work equal to number of teaching hours other than studio teachings and practical credits are calculated as 1.5 for each practical hour.

POORNIMA UNIVERSITY, JAIPUR

Faculty of Planning and Architecture

Name of Program : B.Arch

Duration: 5 years

Total Credits:

Teaching Scheme for Batch 2025-30

Semester-VI

Course Code	Name of Course	Teaching Scheme			Marks Distribution			Credits
		Lecture (L)	Tutorial (T)	Practical (P)	IE	ESE	Total	
A	Major (Core Courses)							
A.1	Theory							
25BARCAR6101	Project Management	2	-	0	40	60	100	2
25BARCAR6102	Architectural Structures – VI	2	-	0	40	60	100	2
25BARCAR6103	Estimation and Costing	2	-	0	40	60	100	2
A.2	Practical							
5BARCAR6201	Architectural Design – V	2	-	4	60	40	100	8
5BARCAR6202	Architectural Advance Building Construction & Materials – VI (Review syllabus contents)	1	-	2	60	40	100	2
5BARCAR6203	Building Services Studio-III	1	-	2	60	40	100	2
5BARCAR6204	Working Drawing- II	2	-	2	60	40	100	3
B	Minor Stream Courses / Department Electives							
B.1	Theory							
B.2	Practical							
25BAREAR6311	Vernacular Architecture							
25BAREAR6312	History of Rajasthan Art & Culture	2	-	-	60	40	100	2
C	Multidisciplinary Courses							
25BAREMCE6201	MOOC Course-IV	1	-	0	60	40	100	1
D	Ability Enhancement Courses (AEC)							
25BUACHU6120	Presentation & Interview Skills	-	-	2	60	40	100	1
E	Skill Enhancement Courses (SEC)							
	Building Information Modeling-I	1		2				2
F	Value Added Courses (VAC)							
G	Summer Internship / Research Project / Dissertation							
Total		16	-	14				
Total Teaching Hours		30						27

*Candidates have to work equal to number of teaching hours other than studio teachings.

** Candidates have to work equal to number of teaching hours other than studio teachings and practical credits are calculated as 1.5 for each practical hour

POORNIMA UNIVERSITY, JAIPUR

Faculty of Planning and Architecture

Name of Program : B.Arch

Duration: 5 years

Total Credits:

Teaching Scheme for Batch 2025-30

Semester-VII

Course Code	Name of Course	Teaching Scheme			Marks Distribution			Credits
		Lecture (L)	Tutorial (T)	Practical (P)	IE	ESE	Total	
A	Major (Core Courses)							
A.1	Theory							
25BARCAR7101	Professional Practice	2	-	0	40	60	100	2
25BARCAR7102	Research Methodology	2	-	0	40	60	100	2
A.2	Practical							
25BARCAR7201	Architectural Design – VI	2	-	4	60	40	100	8
25BARCAR7202	Landscape Planning	2	-	2	60	40	100	3
25BARCAR7203	Human Settlement & Planning	2	-	2	60	40	100	3
25BARCAR7204	Portfolio development & Presentation	1	-	2	60	40	100	2
B	Minor Stream Courses / Department Electives							
B.1	Theory							
B.2	Practical							
25BAREAR7311	Green Building & Ratings Systems	1	-	2	60	40	100	2
25BAREAR7312	Sustainable Design							
25BAREAR7321	Smart Cities	1	-	2	60	40	100	2
25BAREAR7322	Building Automation & Control Systems							
C	Multidisciplinary Courses							
D	Ability Enhancement Courses (AEC)							
E	Skill Enhancement Courses (SEC)							
	Building Information Modeling-II	1		2	60	40	100	2
F	Value Added Courses (VAC)							
G	Summer Internship / Research Project / Dissertation							
Total		14	-	16				
Total Teaching Hours		30						26

*Candidates have to work equal to number of teaching hours other than studio teachings.

** Candidates have to work equal to number of teaching hours other than studio teachings and practical credits are calculated as 1.5 for each practical hour.

POORNIMA UNIVERSITY, JAIPUR

Faculty of Planning and Architecture

Name of Program : B.Arch

Duration: 5 years

Total Credits:

Teaching Scheme for Batch 2025-30**Semester-VIII**

Course Code	Name of Course	Teaching Scheme			Marks Distribution			Credits
		Lecture (L)	Tutorial (T)	Practical (P)	IE	ESE	Total	
A	Major (Core Courses)							
A.1	Theory							
A.2	Practical							
B	Minor Stream Courses / Department Electives							
B.1	Theory							
B.2	Practical							
C	Multidisciplinary Courses							
D	Ability Enhancement Courses (AEC)							
E	Skill Enhancement Courses (SEC)							
F	Value Added Courses (VAC)							
G	Summer Internship / Research Project / Dissertation							
25BARCAR8501	Practical Training (Internship) for 110 Working Days & its Seminar.	-	-	-	60	40	100	26
Total		-	-	-				
Total Teaching Hours		-						26

POORNIMA UNIVERSITY, JAIPUR

Faculty of Planning and Architecture

Name of Program : B.Arch

Duration: 5 years

Total Credits:

Teaching Scheme for Batch 2025-30

Semester-IX

Course Code	Name of Course	Teaching Scheme			Marks Distribution			Credits
		Lecture (L)	Tutorial (T)	Practical (P)	IE	ESE	Total	
A	Major (Core Courses)							
A.1	Theory							
25BARCAR9101	Urban Design	3	-	0	40	60	100	3
A.2	Practical							
25BARCAR9201	Building Information Modeling-III	3	-	2	60	40	100	4
25BARCAR9202	Urban Design Studio	2	-	4	60	40	100	8
25BARCAR9203	Dissertation and Pre-Thesis Seminar	2	-	4	60	40	100	8
B	Minor Stream Courses / Department Electives							
B.1	Theory							
B.2	Practical							
5BAREAR9311	Disaster Resilient Structures	2	-	2	60	40	100	3
5BAREAR9312	Architectural Conservation							
C	Multidisciplinary Courses							
D	Ability Enhancement Courses (AEC)							
E	Skill Enhancement Courses (SEC)							
F	Value Added Courses (VAC)							
G	Summer Internship / Research Project / Dissertation							
Total		12	-	12				
Total Teaching Hours		24						26

*Candidates have to work equal to number of teaching hours other than studio teachings.

** Candidates have to work equal to number of teaching hours other than studio teachings and practical credits are calculated as 1.5 for each practical hour.

POORNIMA UNIVERSITY, JAIPUR

Faculty of Planning and Architecture

Name of Program : B.Arch Duration: 5 years Total Credits:

Teaching Scheme for Batch 2025-30

Semester-X

Course Code	Name of Course	Teaching Scheme			Marks Distribution			Credits
		Lecture (L)	Tutorial (T)	Practical (P)	IE	ESE	Total	
A	Major (Core Courses)							
A.1	Theory							
25BARCAR0101	Finance Management in Architecture	3	-	-	40	60	100	3
A.2	Practical							
25BARCAR0201	Architectural Design Thesis	4	-	8	60	40	100	16
25BARCAR0202	Advanced Study related to Thesis Project	1	-	4	60	40	100	7
B	Minor Stream Courses / Department Electives							
B.1	Theory							
B.2	Practical							
25BAREAR0311	Architectural Journalism	2	-	-	40	60	100	2
25BAREAR0312	Foreign Language							
C	Multidisciplinary Courses							
D	Ability Enhancement Courses (AEC)							
E	Skill Enhancement Courses (SEC)							
F	Value Added Courses (VAC)							
G	Summer Internship / Research Project / Dissertation							
Total		10	-	12				
Total Teaching Hours		22						28

*Candidates have to work equal to number of teaching hours other than studio teachings.

** Candidates have to work equal to number of teaching hours other than studio teachings and practical credits are calculated as 1.5 for each practical hour.

Semester-I

Code: 25BARCAR1101	INTRODUCTION TO ARCHITECTURE	2 Credits [LTP: 2-0-0]
---------------------------	-------------------------------------	-------------------------------

1) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
-------------------------------	---	--------------------	-------------------	--------------------

CO1	Understand the basic principles and concepts of architecture.	L1	PO1	PSO1 & PSO2
CO2	To explore the historical development of architecture and its cultural significance.	L2	PO1	PSO1 & PSO2
CO3	To examine various architectural styles, movements, and their impact on society.	L3	PO1	PSO1 & PSO2
CO4	To develop critical thinking skills through the analysis and interpretation of architectural works.	L4	PO1, PO5	PSO1 & PSO2
CO5	Build relationship between architecture, technology, and the environment.	L5	PO1, PO2	PSO1 & PSO2

2) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO1 0	PO1 1	PO1 2	PSO 1	PSO 2	PSO 3
CO1	1	-	-	-	-	-	-	-	-	-	-	-	2	3	-
CO2	1	-	-	-	-	-	-	-	-	-	-	-	2	3	-
CO3	1	-	-	-	-	-	-	-	-	-	-	-	2	3	-
CO4	1	-	-		1	-	-	-	-	-	-	-	2	2	-
CO5	1	1	-	-	-	-	-	-	-	-	-	-	2	2	-
WT. AV G	1	1	-	-	1	-	-	-	-	-	-	-	2	2.6	-

A. OUTLINE OF THE COURSE

Unit No.	Title of the Unit	Time required for the Unit (Hours)
1.	Organization of forms and spaces	5
2.	Formulation of design	5
3.	Principles and design Philosophies	4
4.	Concept and individual work of Architects	4
5.	Works of Master Architects in India	6

B. DETAILED SYLLABUS

Unit	Unit Details
1.	Organization of forms and spaces
	a) Introduction to Unit b) Primary elements of architecture – point, line, plane, volume, c) Primary forms, properties of form, transformation of forms – dimensional transformation, subtractive, additive forms, organization of additive form– articulation of forms, d) Space defining elements – horizontal, vertical, opening in space defining elements, spatial relationship, spatial organization. <ul style="list-style-type: none"> • Classification of Spaces based on a notion of enclosure. • Conclusion and Summary of Unit
2.	Formulation of design
	a) Introduction to Unit b) Formulation of design through elements and principles of architectural design. c) Applications of Ordering principal such as axis, symmetry, hierarchy, datum, rhythms, repetition, visual perception proximity, repetition, simplest and largest figure, continuity and closure, figure and ground relationship <ul style="list-style-type: none"> • Conclusion and Summary of Unit
3.	Principles and design Philosophies

	<ul style="list-style-type: none"> a) Introduction to Unit b) To appreciate the guiding principles in the words and philosophies of Master Architects c) Study of time, life, works and philosophies of Louis Sullivan, Frank Lloyd Wright, Walter Gropius, and Mies Van der Rohe, Le Corbusier. d) Chicago School <ul style="list-style-type: none"> • Conclusion and Summary of Unit
4.	Concept and individual work of Architects
	<ul style="list-style-type: none"> a) Introduction of Unit b) Concepts of their individual work as entity in itself. c) Louis Sullivan: Guaranty Building, Wainwright building, Auditorium building etc. d) Walter Gropius: Bauhaus, Fagus Shoe Last Factory etc. e) Mies Vander Rohe: Farnsworth Houses, Lake Share Apartment, Seagram Building etc. f) Frank Lloyd Wright: Parie Houses organic Architecture etc. <ul style="list-style-type: none"> • Conclusion and Summary of Unit
5.	Works of Master Architects of India
	<ul style="list-style-type: none"> a) Introduction to Unit b) Le Corbusier: Early and later works in Chandigarh & Ahmadabad as well as specific study of Chandigarh. c) Louis-I-Kahn: IIM Ahmedabad <ul style="list-style-type: none"> • Conclusion and Summary of Unit

B. RECOMMENDED STUDY MATERIAL:

Sr. No	Reference Book	Author	Edition	Publication
1	Glimpses of Wold Histoy	Pt. Jwahaar Lal Nehru	1 January 2004	PENGUIN INDIA
2.	The History of Architecture	Sir Bannister Fletcher	1 January 1999	CBS
3.	Buddist and Hindu Architecture” in India	Satish Grover	2 nd	ASIN
4.	Modern Architecture Since 1900	Curtis W.J.	1982	CB

Code: 25BARCAR1102	ARCHITECTURAL STRUCTURES –I	2 Credits [LTP: 2-0-0]
---------------------------	------------------------------------	-------------------------------

1) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Summarizing knowledge of basic structures	L1	PO1	PSO2 & PSO3
CO2	Determining the various terms and technologies applicable in architectural structures	L2	PO1	PSO2 & PSO3

CO3	Appraising architectural building science	L3	PO1, PO2	PSO2 & PSO3
CO4	Assessing structures as per the fundamentals of architecture & design through conceptualization	L4	PO1, PO2, PO4	PSO2 & PSO3
CO5	Building architectural projects and their structures	L5	PO1, PO2, PO3, PO4, PO5	PSO2 & PSO3

2) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	-	-	-	-	-	-	-	-	-	-	-	-	2	3
CO2	2	-	-	-	-	-	-	-	-	-	-	-	-	2	3
CO3	2	2	-	-	-	-	-	-	-	-	-	-	-	2	3
CO4	2	2	-	1	-	-	-	-	-	-	-	-	-	2	3
CO5	1	1	3	1	3	-	-	-	-	-	-	-	-	2	3
WT. AVG	2.00	1	3.00	1	3									2	3

3) OUTLINE OF THE COURSE

Unit	TITLE OF THE UNIT	Time Required for the Unit (Hours)
1	Forces	5
2	Centroid & moment of inertia	5
3	Simple stresses & strains	4
4	Loads & its types	4
5	Material Testing	6

4) DETAILED SYLLABUS

UNITS	CONTENTS
1	Force
	I A- Concept of force, graphical representation, Coplanar and non-coplanar forces, concurrent and non-concurrent forces, composition and analytical resolution of coplanar forces, numerical problems. I B- Application of forces on building and its components
2	Centroid & moment of inertia
	II A- Centre of gravity, moments of inertia, parallel axis theorem, perpendicular axis theorem, product of inertia, numerical problems. II B- Application of moment of inertia
3	Simple stresses & strains
	III A- Stress and strain, tensile, compressive and shear stresses. Hooks law, modulus of elasticity and their relationship, linear and lateral strains, poissons ratio, compression III B- Application of tensile and compressive stresses on building materials like brick, stone, concrete and their effect on structure. Tension test of mild steel.
4	Loads & its types
	IV A- Types of Loads – dead, live, wind, impact, earthquake, concentrated, uniformly distributed, varying

	loads, Condition of statistical Equilibrium of forces, Concept of beams and various support conditions, determination of support reactions. IV B- Application of various Loads on a building and its components.
5	Material Testing
	V A- Various field and laboratory tests on building materials as per their characteristics and usage; Bricks, Sand, Aggregate, Lime, Cement, Water, Stone, RCC, Steel, Rammed Earth, Adobe & Stabilized Earth Blocks. V B- Application of various building materials

5) RECOMMENDED STUDY MATERIAL:

Sr. N	Reference Book	Author	Edition	Publication
1.	Strength of Materials	R.S. Khurmi		S. Chand Publishing House
2.	Engineering mechanics	D.S. Bisht		Jhunjunwala
3.	Engineering mechanics	D.S. Kumar		S K Kataria and Sons
4	Strength of Materials	S Ramamurthan		Dhanpat Rai Publication

Code: 25BARCAR1103	BUILDING SCIENCE	2 Credits [LTP: 2-0-0]
---------------------------	-------------------------	-------------------------------

1) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Summarize about the significance of our earth's environment.	L1	PO1,	PSO1, PSO3
CO2	Categorize the knowledge of the usage of natural resources, its management and its importance in real life for development.	L2	PO1,	PSO1, PSO3
CO3	Articulate the components of various earth's ecosystems, its structure and functioning.	L3	PO3, PO4	PSO1, PSO3
CO4	Experiment the environment protection act and policies.	L4	PO1, PO2, PO4	PSO1, PSO3

CO5	Build the environment and ecology related policies with the Design and plan for a comprehensive sustainable development.	L5	PO1, PO2, PO3, PO4, PO5	PSO1, PSO3
------------	--	----	-------------------------	------------

2) MAPPING MATRIX OF CO, PO AND PSO

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	-	-	-	1	-	-	-	-	2	1	-	3	-	3
CO2	1	-	1	1	1	-	-	-	1	2	1	-	3	-	3
CO3	-	-	-	-	-	-	-	-	1	3	2	-	3	-	3
CO4	2	-	2	1	2	-	-	1	1	3	1	-	3	-	3
CO5	2	-	3	1	2	-	-	1	1	3	-	-	3	-	3
WT. AVG	1.2	0	2	1	1.5			1	1	2.6	1.25		3	-	3

3) OUTLINE OF THE COURSE

Unit	Title of the unit	Time Required for the Unit (Hours)
1	Introduction to environmental studies	4
2	Ecosystems	6
3	Natural Resources: Renewable and Non-renewable Resources	8
4	Biodiversity and Conservation	6
5	Environmental Pollution and policies	8

4) DETAILED SYLLABUS

Unit	Contents
1	Introduction to environmental studies
	I A- • Multidisciplinary nature of environmental studies; components of environment – atmosphere, hydrosphere, lithosphere and biosphere. Scope and importance; Concept of sustainability and sustainable development II B- Look around the nature resulting in some everyday observation exercise.
2	Ecosystems
	II A- • What is an ecosystem? Structure and function of ecosystem; Energy flow in an ecosystem: food chain, food web and ecological succession. Case studies of the following ecosystems: a) Forest ecosystem b) Grassland ecosystem c) Desert ecosystem d) Aquatic ecosystems (ponds, streams, lakes, rivers, oceans and estuaries) II B- Exercise based on unit.
3	Natural Resources : Renewable and Non-renewable Resources
	III A- Land Resources and land use change; Land degradation, soil erosion and desertification. • Deforestation: Causes and impacts due to mining, dam building on environment, forests, biodiversity and tribal populations. • Water: Use and over-exploitation of surface and ground water, floods, droughts, conflicts over water (international & interstate). • Heating of earth and circulation of air; air mass formation and precipitation. • Energy resources: Renewable and non-renewable energy sources, use of alternate energy sources, growing energy needs, case studies. III B- Exercise on new and alternative sources of energy in architectural practices.
4	Biodiversity and Conservation

	<p>IV A- Levels of biological diversity: genetic, species and ecosystem diversity; Biogeography zones of India; Biodiversity patterns and global biodiversity hot spots</p> <ul style="list-style-type: none"> • India as a mega-biodiversity nation; Endangered and endemic species of India • Threats to biodiversity: habitat loss, poaching of wildlife, man wildlife conflicts, biological invasions; Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity. • Ecosystem and biodiversity services: Ecological, economic, social, ethical, aesthetic and Informational value. <p>IV B- Exercise on research studies/ papers on human impacts on environment.</p>
5	Environmental Pollution and policies
	<p>V A- Environmental pollution: types, causes, effects and controls; Air, water, soil, chemical and noise pollution</p> <ul style="list-style-type: none"> • Nuclear hazards and human health risks • Solid waste management: Control measures of urban and industrial waste. • Pollution case studies. Various government policies to protect the environment <p>V B- Exercise on research studies/ papers on waste management.</p>

5) RECOMMENDED STUDY MATERIAL:

Sr. N	Reference Book	Author	Edition	Publication
1.	The Environment – Principles & Applications	Charis Park	1997	Routledge
2.	Environment and Ecology	S. N. Pandey	2011	Ane Books Pvt. Ltd
3.	Ecology and economics: An approach to sustainable development.	Sengupta	2003	OUP India

Code: 25BARCAR1201	BASIC DESIGN STUDIO	8 Credits [LTP: 2-0-4]
---------------------------	----------------------------	-------------------------------

A) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Summarize the elements of design and their interdependence using various exploratory 2D and 3D exercises.	L1	PO1	PSO2, PSO3
CO2	Articulate the usage of space defining elements of design in arts and architecture using exploratory design exercises in 2D & 3D.	L2	PO1	PSO2, PSO3
CO3	Appraise the principles of design and study of form by doing various designing exercises.	L3	PO3, PO4	PSO2, PSO3
CO4	Experiment the understanding the quality of space by doing various 3D exercises.	L4	PO1, PO2, PO4	PSO2, PSO3
CO5	Build designs based on the understanding of anthropometrics and translating it in the form of drawing.	L5	PO1, PO2, PO3, PO4, PO5	PSO2, PSO3

B) MAPPING MATRIX OF CO, PO AND PSO

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO1 0	PO1 1	PO1 2	PSO 1	PSO2	PSO3
CO1	3	—	—	2	2	—	—	—	—	—	—	—	-	3	2
CO2	2	1	—	3	2	—	—	—	—	—	—	—	-	3	2
CO3	2	1	—	3	2	—	—	—	—	—	—	—	-	3	2
CO4	1	1	—	3	2	—	—	—	—	—	—	—	-	3	2
CO5	1	1	—	2	3	—	—	—	—	—	—	—	-	3	2
WT. AV G	1.8	1		2.6	2.2								-	3	2

C) OUTLINE OF THE COURSE

Unit	Title of the unit	Time Required for the Unit (Hours)
1	Introduction	14
2	Introduction to elements of design	12
3	Study of form	14
4	Study of form and space	16
5	Anthropometrics	16

D) DETAILED SYLLABUS

UNITS	CONTENTS
1	INTRODUCTION
	<p>I A- Elements of design - point/ line/ plane/volumes.</p> <p>a) Point: position and size of a point.</p> <p>b) Line: length, direction, position and thickness of the line.</p> <p>c) Plane: Shape, proportion, orientation and position of a plane (2-D and 3-D)</p> <p>d) Volume: shape, proportion, orientation and position of the volume (2D and 3-D).</p> <p>I B Application of the elements of design and their interdependence using various exploratory 2D and 3D exercises.</p>
2	INTRODUCTION TO ELEMENTS OF DESIGN
	<p>II A Introduction to Elements of design: axis/symmetry/ Hierarchy/Repetition/Rhythm/ transformation, etc.</p> <p>Space defining elements – horizontal, vertical, opening in space defining elements, spatial relationship, spatial organization.</p> <p>II B Application of the elements of design in arts and architecture using Exploratory design exercises and various 2D and 3D exercises.</p>
3	STUDY OF FORM
	<p>III A- principles of design: shape/ size/color/texture/position/ orientation/scale/proportion/position of planes/corners/edges and linear elements.</p> <p>III B- Understanding the principles of design by doing various designing exercises.</p>

4	STUDY OF FORM AND SPACE
	<p>IV A- Quality of space: form/color/texture/pattern/sound/ Proportion /scale /definition/degree of enclosure / view/ outlook/ light /golden ratio. Properties of enclosure: shape/surface/edges/dimensions/ configuration/openings. Spatial organizations, clustering/ configuration. From study: Additive/ subtractive/ transformation. IV B understanding the quality of space by various 3D exercises.</p>
5	ANTHROPOMETRICS
	<p>V A- a) Human scale and Posture b) Functional spaces/ Ergonomics/ sleeping/ cooking/entertainment/parking/storage, etc. c) Standards with respect to human scale. V B - Understanding anthropometrics’ by doing real-time exercises and translating it in the drawing.</p>

E) RECOMMENDED STUDY MATERIAL:

Sr. N	Reference Book	Author	Edition	Publication
1.	Arch. Form, Space, And Order	Francis D. K . Ching	2015	JOHN WILEY
2.	A Visual Dictionary of Architecture	Francis D. K. Ching	2011	JOHN WILEY
Important Web Links				
1.				
2.				

Code: 25BARCAR1202	ARCHITECTURE BUILDING CONSTRUCTION AND MATERIAL-I	3 Credits [LTP: 2-0-2]
---------------------------	--	-------------------------------

1) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Categorizing construction materials, their characteristics, procurement, processing and storage.	L1	PO1, PO2	PSO1 & PSO2
CO2	Articulate the various types of building construction materials based on loading patterns.	L2	PO1, PO2, PO4	PSO1 & PSO2
CO3	Appraise the systems of construction using the properties of traditional building construction materials like mud and earth.	L3	PO1, PO2, PO4	PSO1 & PSO2
CO4	Experiment with the traditional building binding construction materials, the different forms of traditional and modern construction systems using lime.	L4	PO1, PO2, PO4	PSO1 & PSO2
CO5	Solve the various traditional building construction materials and systems in a built structure.	L5	PO1, PO2, PO4, PO5	PSO1 & PSO2

2) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO 7	PO 8	PO 9	PO 10	PO 11	PO12	PSO1	PSO2	PSO3
CO1	1	3	—	—	—	—	—	—	—	—	—	—	2	2	-
CO2	1	3	—	1	—	—	—	—	—	—	—	—	2	2	-
CO3	1	3	—	1	—	—	—	—	—	—	—	—	2	2	-
CO4	1	3	—	2	—	—	—	—	—	—	—	—	2	2	-
CO5	1	2	—	2	3	—	—	—	—	—	—	—	2	2	-

WT. AVG	1	2.8		1.5	3								2	2	-
----------------	----------	------------	--	------------	----------	--	--	--	--	--	--	--	----------	----------	----------

3) OUTLINE OF THE COURSE

Unit	Title of the unit	Time Required for the Unit (Hours)
1	Introduction to materials used in civil construction	12
2	Introduction to build components of a structure	12
3	Traditional Building Binding and Structural Materials – Mud & Earth	12
4	Traditional Building Binding Materials – Lime	12
5	Traditional & Conventional Structural Building Materials – Brick	12

4) DETAILED SYLLABUS

UNITS	CONTENTS
1	INTRODUCTION TO MATERIALS USED IN CIVIL CONSTRUCTION.
	I A- Bricks, Sand, Aggregate, Lime, Cement, Water, Stone and reinforcement Steel Properties of materials, procurement of raw materials, processing and storage. I B- Application of above-mentioned materials in construction industry. Various types and forms of brick, stone and reinforcement steel used in civil construction
2	INTRODUCTION TO BUILD COMPONENTS OF A STRUCTURE
	II A- Overview of types of building construction systems based on loading patterns – Load Bearing structures, Framed structures and composite structures. Structural components of a built form, their nomenclature and their depiction in the form of construction drawings. II B- Sub structure – Foundation systems, footings, retaining wall systems Superstructure – Wall systems, Column Beam systems, Roofing systems
3	TRADITIONAL BUILDING BINDING AND STRUCTURAL MATERIALS – MUD & EARTH
	III A- The nature of material, visual and textural properties, Source of raw material, Processing of material, Properties and characteristics of mud used for binding material in masonry. Different forms of mud construction of past and contemporary innovative systems of mud construction, their nomenclature and their representations & construction drawings III B- Mud construction systems – Cob, Rammed Earth, Adobe & Stabilized Earth Blocks, Wattle & Daub
4	TRADITIONAL BUILDING BINDING MATERIALS – LIME
	IV A- The nature & types of material, visual and textural properties, Source of raw material, Processing of material, Properties and characteristics of lime used for binding material in masonry and ornamentation of buildings. Different forms of lime construction of past and cotemporary innovative systems of lime construction , their nomenclature and their representations & construction drawings IV B- Lime construction systems – Processing of lime of construction. Use of lime for masonry, flooring, plaster, wall finishes and stucco renderings.
5	TRADITIONAL & CONVENTIONAL STRUCTURAL BUILDING MATERIALS – BRICK
	V A- The nature & types of material, visual and textural properties, Source of raw material, Processing of material, Properties and characteristics of the materials used for structural units in masonry. Different forms of Brick used in construction of past and cotemporary innovative development in Bricks Masonry , their nomenclature and their representations & construction drawings V B- Brick Masonry Bonds – Header Bond, Stretcher Bond, English Bond, English Garden Bond, Flemish Bond, Flemish Garden Bond, Rat Trap Bond, Dutch Bond. Along with Right angled junctions, Cross junctions and piers.

5) RECOMMENDED STUDY MATERIAL:

Sr. N	Reference Book	Author	Edition	Publication
1.	Building construction	B.C.Punmia	10th	Laxmi publication
2.	Building construction	S.C.Rangwala	29th	Charatar publication
3.	A Text Book of Building Construction	S.P.Arora, S.P.Bindra	5th	Dhanpat Rai publication
4.	Building Construction Illustrated	Francis D. K . Ching	3rd edition	John Wiley
5.	Building Constructions (1 to 4 vol.)	Mckay, W.B.		Pearson Education India
Important Web Links				
1.				
2.				

Code: 25BARCAR1203	ARCHITECTURAL GEOMETRY AND DRAWING-I	3 Credits [LTP: 2-0-2]
---------------------------	---	-------------------------------

1) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Summarizing the basics of drawings and tools to be able to use them to depict the basic architectural designs	L1	PO1 ,PO3	PSO2
CO2	Determining a habit of hand drawings with different outcomes in terms of drawing lines, grids, dots, free hand	L2	PO1,PO3 &PO4	PSO2
CO3	Appraising a style of lettering with various styles to be used in formal drawings/ presentations, etc.	L3	PO1,PO3 &PO4	PSO2
CO4	Assessing scaled drawings of planes, prism, pyramid, cylinder & cone, and intersections of the same	L4	PO1,PO3 &PO4	PSO2
CO5	Building one point and two-point perspective of simple objects or study models solids & planes and their projections	L5	PO1,PO3 ,PO4 & PO5	PSO2

2) MAPPING MATRIX OF CO, PO AND PSO

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO9	PO 10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	-	1		-	-	-	-	-	-	-	-	-	2	-
CO2	1	-	1	1	-	-	-	-	-	-	-	-	-	2	-
CO3	1	-	1	1	-	-	-	-	-	-	-	-	-	2	-
CO4	1	-	1	1	-	-	-	-	-	-	-	-	-	2	-
CO5	1	-	1	1	1	-	-	-	-	-	-	-	-	2	-
WT. AVG	1	-	1	1	1	-	-	-	-	-	-	-		2	

3) OUTLINE OF THE COURSE

Unit	Title of the unit	Time Required for the Unit (Hours)
1	Familiarization of drawing material and equipment's	12
2	Free hand drawings	12

3	Lettering, fonts and scale	12
4	Plane geometry	12
5	Plane, solid, section and intersection	12

4) DETAILED SYLLABUS

UNITS	CONTENT
1	Familiarization of drawing material and equipment's
	I A- Basic introduction, Stationary and tools, I B- How to use drawing instruments
2	Free hand drawings
	II A- Lines, Types of lines, Basic introduction of lines, Construction of lines, how to divide a line, Curves, Introduction of curve, to find center of an arch, Construction of ogee curve or reverse, curve, Objects, Basic introduction, Types of objects II B- Application of free hand drawings, lines, curves and arches
3	Lettering, fonts and scale
	III A- Introduction of lettering, Types of lettering, Single –stroke letters, Upper case and lower-case letters, Introduction of fonts, Types of fonts , Scale, Scale on drawings, Types of scale, Plane scale, diagonal scale, comparative scale III B- Application of scales in architectural drawings
4	Plane geometry
	IV A- Principles of plane geometry, Plane and their types, Principles, Orthographic projection of a point and line, Principles of projections , Method of projections, Quadrant, First angle projection, third angle projection, Orthographic projection of a point, Orthographic projection of a line IV B- How to use planes and projection methods to represent design drawings
5	Plane, solid, section and intersection
	V A- Orthographic projection of a plane, Types of planes, Traces of planes, Projection of oblique plane, Orthographic projection of solids, Types of solids, Projection of solid in simple position, Projection of solid with inclination, Section of solids, Section of prism, Section of pyramid, Section of cylinder, Section of cone, Intersection of solids, Method of determining the line of intersection, Intersection of two prisms, Intersection of cylinder and cone V B- Use of projections of solids in architectural drawings.

5) RECOMMENDED STUDY MATERIAL:

Sr. N	Reference Book	Author	Edition	Publication
1.	Engineering Drawing, 50th Ed.	Bhatt N.D	50 th ED	Charotar Publishing house Pvt. Ltd.
2.	Architectural Drawing	Dernie, David		LAURENCE KING
3.	Design Drawing, 2nd Ed.	Ching, Francis D. K.	2 nd Ed.	JOHN Wiley
4	Architectural graphics, 5th Ed.	Ching, Francis D. K.	5 th Ed.	John Wiley & Sons,
Important Web Links				
1.	https://www.coursera.org/learn/fundamentals-of-graphic-design?specialization=graphic-design			
2.	https://www.researchgate.net/publication/275155264_Principles_and_elements_of_visual_design_A_review_of_the_literature_on_visual_design_of_instructional_materials			

Code: 25BARCAR1204	COMPUTER APPLICATION –	3 Credits [LTP: 2-0-2]
---------------------------	-------------------------------	-------------------------------

	I (Computer Aided Design Basics- CAD Basics)	
--	---	--

1) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Summarizing the importance of software applications in the field.	L1	PO1,PO4	PSO1 & PSO2
CO2	Determining the usage of various Computer Application tools and software's.	L2	PO1,PO4	PSO1 & PSO2
CO3	Appraising gauge the applications of the software in the field.	L3	PO1,PO4	PSO1 & PSO2
CO4	Assessing the skills both graphically and technically to produce composed design/technical sheets in academics as well as later in the field.	L4	PO1,PO4,PO5	PSO1 & PSO2
CO5	Building drawings and details based on the designs and planning.	L5	PO1,PO4,PO5	PSO1 & PSO2

2) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	-	-	2	-	-	-	-	-	-	-	-	2	3	-
CO2	2	-	-	3	-	-	-	-	-	-	-	-	2	3	-
CO3	3	-	-	3	-	-	-	-	-	-	-	-	2	3	-
CO4	-	-	-	2	3	-	-	-	-	-	-	-	2	3	-
CO5	2	-	-	2	3	-	-	-	-	-	-	-	2	3	-
WT. AVG	2.25			2.40	3.00								2	3	-

3) OUTLINE OF THE COURSE

Un it	Title of the unit	Time Required for the Unit (Hours)
1	Introduction to AutoCAD	6
2	Core Drawing Tools	8
3	Essential Editing Commands	6
4	Managing Layers & Properties	8
5	Blocks & Efficient Reuse	8

4) DETAILED SYLLABUS

UNITS	CONTENTS
1	Introduction to AutoCAD
	<ul style="list-style-type: none"> • What is CAD? A look at Computer Aided Design and its industry applications • Getting to know AutoCAD: the interface, workspace layout, and shortcuts

	<ul style="list-style-type: none"> How to configure drawing units, precision, and default settings
2	Core Drawing Tools
	<ul style="list-style-type: none"> Drawing lines, circles, arcs, and polylines Creating rectangles, polygons, and ellipses Annotating with text and adding dimension lines
3	Essential Editing Commands
	<ul style="list-style-type: none"> Moving, copying, rotating, and scaling objects Using Trimming, Extending, Fillets, and Chamfers Creating repeats and reflections with Offset, Mirror, and Array
4	Managing Layers & Properties
	<ul style="list-style-type: none"> Establishing and organizing layers for clarity Assigning and customizing colors, linetypes, and line weights Overriding object properties individually for flexibility
5	Blocks & Efficient Reuse
	<ul style="list-style-type: none"> Defining and inserting blocks for reusable content Managing block attributes (text, metadata inside blocks)

5) RECOMMENDED STUDY MATERIAL:

Sr. N	Reference Book	Author	Edition	Publication
1.	AutoCAD 2023 and AutoCAD LT 2023 Essentials	Scott Onstott	1st	Wiley
2.	Mastering AutoCAD 2021 and AutoCAD LT 2021	Brian C. Benton, George Omura	1st	Sybex (Wiley)
3.	AutoCAD 2023 for Engineers and Designers	Sham Tickoo	19th	CADCIM Technologies
4.	AutoCAD 2023 Instructor	James A. Leach, Shawna Lockhart	13th	SDC Publications
Important Web Links				
1.				
2.				

Code:BUACHM1101

LANGUAGE AND CONVERSATION

1 Credits [LTP: 0-0-2]

1) COURSE OUTCOMES:

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level
------------------------	--	-------------

CO1	Understand the communication process and communication theory.	Understand
CO2	Identify different types and barriers to communication.	Apply
CO3	Analyze the various elements of listening and reading skills.	Analyze
CO4	Practice professional conversational skills and deliver effective talks.	Apply
CO5	Engage in the learning and application of good telephonic etiquette.	Apply

2) OUTLINE OF THE COURSE

Unit No.	Title of the unit	Time required for the Unit (Hours)
1.	Communication Process	6
2.	Types of Communication & Barriers to Communication	5
3.	Listening Skills & Reading Skills	5
4.	Conversation Skills	4
5.	Telephone Etiquette	4

3) DETAILED SYLLABUS

Unit	Unit Details
1.	Communication Process
	<ul style="list-style-type: none"> ● Introduction to the Unit ● What is communication? ● The communication models ● Elements of communication ● Importance of effective communication skills in the business world ● Components of Communication

	<ul style="list-style-type: none"> ● Process, practicing effective communication, good communication Vs effective communication, styles of communication, intercultural communication skills- need for attitude change and benefits ● Conclusion & Real-Life Application
2.	Types of Communication & Barriers to Communication
	<ul style="list-style-type: none"> ● Introduction to the Unit ● Verbal Communication ● Non-Verbal Communication ● Written Communication ● Do's and don'ts of each type ● Barriers to effective communication and how to overcome them ● Interaction of verbal and non-verbal communication, talents of a corporate communicator, silence- merits and limitations of each type ● Conclusion & Real-Life Application
3.	Listening Skills & Reading Skills

	<ul style="list-style-type: none"> ● Introduction to the Unit ● What is listening ● Various types of listening – Active, passive, selective, listening and note taking, listening and comprehending, listening to speak, ● Principles of good listening ● Techniques to develop effective listening skills ● Reading Skills- skimming, scanning and inferring- common reading techniques, ● Practicing smart reading. ● Conclusion & Real-Life Application
4.	Conversation Skills
	<ul style="list-style-type: none"> ● Introduction to the Unit ● Importance of conversation skills ● Features of a good conversation ● Tips to improve Conversation skills ● Importance of questioning skills, techniques to ask right questions- role play situations to practice the same, discussing issues (social, political and cultural), formal and informal conversation ● Conclusion & Real-Life Application
5.	Telephone Etiquette
	<ul style="list-style-type: none"> ● Introduction to the Unit ● Basic rules of telephone etiquette- formal vs. informal; tone, pitch and vocabulary related to formal ways of speaking over the phone, leaving voice messages; practice sessions (role plays) ● Persuasive communication: What is persuasive communication, different techniques of persuasive communication, How to negotiate using persuasive communication, the act of negotiation, negotiation style and their contexts, fundamentals of negotiation, common hurdles in negotiation and how to overcome them ● Conclusion & Real-Life Application

4) RECOMMENDED STUDY MATERIAL:

Sr. No	Reference Book	Author	Edition	Publication
1	Effective Communication	John Adir	2003	London: Pan Macmillan Ltd.
2.	The Quick and Easy Way to Effective Speaking	Dale Carnegie	1977	New York: Sterling
3.	Speak with Power and Confidence	Collins, Patrick	2009	New York: Sterling
4.	Common Mistakes in English	Fitikides, T. J.	1984	London: Orient Longman

Code: 25BAREAR1201	ART STUDIO & WORKSHOP – I	2 Credits [LTP: 0-0-2]
---------------------------	--------------------------------------	-------------------------------

1) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Summarize and define the basic composition, elements and principles of drawings and the tools used	L1	PO1, PO4	PSO1 & PSO2
CO2	Articulate the study of anthropometry through the study and sketches of various Automobiles	L2	PO4, PO5	PSO1 & PSO2
CO3	Appraise the basics of photography and sketching still life objects using principles of light and shadows	L3	PO1, PO4	PSO1 & PSO2
CO4	Experiment and inspect the characteristics, applications and visual effects of various colors	L4	PO1, PO4	PSO1 & PSO2
CO5	Adapt the influence of art history and visual effects of colors on humans using various works of famous artists	L5	PO1, PO4, PO5	PSO1 & PSO2

2) MAPPING MATRIX OF CO, PO AND PSO

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO1 0	PO1 1	PO1 2	PSO 1	PSO 2	PSO 3
CO1	1	–	–	3	–	–	–	–	–	–	–	–	1	2	-
CO2	–	–	–	2	3	–	–	–	–	–	–	–	1	2	-
CO3	3	–	–	2	–	–	–	–	–	–	–	–	1	2	-
CO4	2	–	–	3	–	–	–	–	–	–	–	–	1	2	-
CO5	1	–	–	2	3	–	–	–	–	–	–	–	1	2	-
WT. AV G	1.75			2.4	3								1	2	-

3) OUTLINE OF THE COURSE

Unit	Title of the unit	Time Required for the Unit (Hours)
1	Drawing & Basics	15
2	Sketching	15
3	Photography	05

4	Color Fundamentals	15
5	Art of Composition and representation	10

4) DETAILED SYLLABUS

UNIT	CONTENTS
1.	Drawing & Basics
	<p>I A- a) Introduction to the basic formal concepts in the two – dimensional arts b) The principles of aesthetic organization: line, shape, form, color, texture, harmony, balance etc. c) Brief knowledge of Anatomy for learning human proportions & scale.</p>
2.	Outdoor Sketching
	<p>II A- a) Outdoor sketching of buildings, building elements, buildings in landscapes, trees & pencils, pen & ink b) Line drawing in various contexts c) Draw existing objects, in pencil, color pencils, glass marking, Derwent and charcoal</p>
3.	Photography
	<p>III A- a) Study of the fundamentals of still photography and the camera b) Lens types, aperture and exposure, shutter speed, depth of field, focus, light conditions, light compensation c) Using camera to enhance visual perception for expressing volume, depth, positive and negative spaces. d) Comparative assessment of traditional SLR and digital photography</p>
4.	Color Fundamentals
	<p>IV A- a) Perception of color and light b) Hue, value, intensity, tints, tones and shades c) Warm and cool colors, Complimentary and split complimentary d) Triad, tetradic, analogous, monochromatic colors</p>
5.	Art of Composition and representation
	<p>V A- a) To learn the art of composition, color balance, aesthetic, light control, proportions, scaling and perspective. b) Presentation to life and works of well-known craftsmen and fine arts</p>

5) RECOMMENDED STUDY MATERIAL:

Sr. N	Reference Book	Author	Edition	Publication
1.	Rendering with pen and ink	Robert W. Gill	Enlarged edition, 1984	Thames Hudson Ltd. United Kingdom
2.	Art fundamental (Theory and practice)	Cover and others	12 th edition	McGraw – Hill Education Europe
3.	Color in sketching and rendering	Guptill, Arthur L.	5 th edition	Reinhold Publishing Corp., New York 1949

Code: 25BUVCVA1201	PERFORMING ARTS (GLOBAL MOVES: A PRACTICE COURSE IN DANCE)	1 Credits [LTP: 0-0-2]
---------------------------	---	-------------------------------

COURSE OUTCOMES:

Students would be able to:

CO1: Gain practical exposure to Indian and international dance styles, fostering cultural appreciation and diversity.

CO2: Develop physical awareness, rhythm, coordination, and stamina through structured training.

CO3: Learn and perform choreographies across diverse genres, enhancing versatility and adaptability.

CO4: Enhance stage presence, group dynamics, and body confidence, crucial for performing arts.

CO5: Create original dance compositions using acquired vocabularies, culminating in a final polished performance and a comprehensive video portfolio.

List of Activities

S.No.	Activity
1	Foundations of Movement <ul style="list-style-type: none"> • Introduction to body alignment, posture, balance, and rhythm • Daily warm-ups, isolations, strength-building, and flexibility training • Introduction to breath and movement synchrony Music and tempo awareness
2	Indian Folk Dance Practices I (dance styles such as Garba, Ghoomar, Bhangra, Kalbeliya)
3	Indian Folk Dance Practices II (dance styles such as Garba, Ghoomar, Bhangra, Kalbeliya)
4	Classical and Semi-Classical Basics I (Bharatanatyam, Kathak, Odissi)
5	Classical and Semi-Classical Basics II (Bharatanatyam, Kathak, Odissi)
6	International Groove Sessions I (Basics of Ballroom, Latin Dances, such as Salsa and Cumbia, Bacchata, Contemporary dance, Hip-Hop)
7	International Groove Sessions II (Basics of Ballroom, Latin Dances, such as Salsa and Cumbia, Bacchata, Contemporary dance, Hip-Hop)
8	International Groove Sessions III (Basics of Ballroom, Latin Dances, such as Salsa and Cumbia, Bacchata, Contemporary dance, Hip-Hop)
9	Choreography Lab 1 <ul style="list-style-type: none"> • Small group choreographies using Indian and global movement vocabularies • Music selection, improvisation games, transitions Peer-to-peer feedback and refinement
10	Choreography Lab 2 + Performance Skills <ul style="list-style-type: none"> • Full choreography creation (3–5 min group piece) • Focus on stage presence, projection, entrances/exits Styling, costumes, and syncing with music
11	Rehearsals and Filming <ul style="list-style-type: none"> • Rehearsal with stage lighting and mock performance runs On-camera performance practice and professional video shoot
12	Final Showcase <ul style="list-style-type: none"> • Public showing or campus performance • Reflection circle and feedback Video portfolio handed over to students

Code: 25BUVCVH1201	UNIVERSAL HUMAN VALUES AND PROFESSIONAL ETHICS LAB	1 Credits [LTP: 0-0-2]
---------------------------	---	-------------------------------

COURSE OUTCOMES:

The student would be able to:

- CO1: Identify what is valuable to human beings and what are the aspirations of life.
- CO2: Apply the understanding of value education in solving various problems.
- CO3: Observe and examine the issues related to harmony in self, society, and nature.
- CO4: Focus on physical and mental fitness.
- CO5: Apply the knowledge to their own self and in day-to-day life.

LIST OF ACTIVITIES

1	<p>Introduce yourself in detail. What are the goals in your life? How do you set your goals in your life? How do you differentiate between right and wrong? What have been your salient achievements and shortcomings in your life? Observe and analyze them.</p>
2	<p>Now-a-days, there is a lot of talk about many techno-genic maladies such as energy and material resource depletion, environmental pollution, global warming, ozone depletion, deforestation, soil degradation, etc. - all these seem to be manmade problems, threatening the survival of life Earth - What is the root cause of these maladies & what is the way out in opinion?</p> <p>On the other hand, there is rapidly growing danger because of nuclear proliferation, arms race, terrorism, breakdown of relationships, generation gap, depression & suicidal attempts etc. - what do you think, is the root cause of these threats to human happiness and peace - what could be the way out in your opinion?</p>
3	<p>Observe that each of us has the faculty of „Natural Acceptance“, based on which one can verify what is right or not right for him. (As such we are not properly trained to listen to our „Natural Acceptance“ and may a time it is also clouded by our strong pre-conditioning and sensory attractions).</p> <p>Explore the following:</p> <p>What is „Naturally Acceptable“ to you in a relationship the feeling of respect or disrespect for yourself and for others?</p> <p>What is „naturally Acceptable“ to you - to nurture or to exploit others? Is your living in accordance with your natural acceptance or different from it?</p> <p>2. Out of the three basic requirements for fulfillment of your aspirations - right understanding, relationship and physical facilities - observe how the problems in your family are related to each. Also, observe how much time & effort you devote to each in your daily routine.</p>
4	<p>1. a. Observe that any physical facility you use, follows the given sequence with time:</p> <p>Necessary and tasteful - unnecessary but still tasteful - unnecessary and tasteless - intolerable</p> <p>b. In contrast, observe that any feeling in you is either naturally acceptable or not acceptable at all. If not acceptable, you want it continuously and if not acceptable, you do not want it any moment!</p> <p>2. List down all your important activities. Observe whether the activity is of „I“ or of Body or with the participation of both or with the participation of both „I“ and Body.</p> <p>Observe the activities within „i“. Identify the object of your attention for different momentss (over a period of say 5 to 10 minutes) and draw a line diagram connecting these points. Try to observe the link between any two nodes.</p>
5	<p>1. Write a narration in the form of a story, poem, skit, or essay to clarify a salient Human Value to the children.</p> <p>2. Recollect and narrate an incident in your life where you were able to exhibit willful adherence to values in a difficult situation.</p>

6	List down some common units (things) of Nature which you come across in your daily life and classify them in the four orders of Nature. Analysis and explain the aspect of mutual fulfillment of each unit with other orders.
7	Identify any two important problems being faced by the society today and analyze the root cause of these problems. Can these be solved on the basis of natural acceptance of human values? If so, how should one proceed in this direction from the present situation?
8	1. Suggest ways in which you can use your knowledge of Science/Technology/Management etc. for moving towards a universal human order. 2. Propose a broad outline for humanistic Constitution at the level of Nation.
9	Project: Every student required to take-up a social project e.g. educating children in needy/weaker section; services in hospitals, NGO's and other such work i.e. social work at villages adopted by respective institute/ college.

Semester-II

Code: BARCAR2101	HISTORY OF ARCHITECTURE – I	2 Credits [LTP: 2-0-0]
-------------------------	------------------------------------	-------------------------------

1) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Summarizing the concepts of progression of Art & Architecture of different river valley civilizations and its impact on human settlements.	L1	PO1, PO2, PO3, PO10	PSO2
CO2	Determining visual and verbal vocabularies of Indian Architecture. To gain knowledge of the development of architectural form, with reference to technology style and character in the Indus valley civilization, Vedic period, manifestation of Buddhist and Hindu Temple architecture in various parts of the country.	L2	PO1, PO2, PO10	PSO2
CO3	Appraising the concepts regarding the historical and architectural development in ancient India as this is an integrated expression of art, culture, vernacular material, techniques and town planning developed during the time of Indus Valley Civilization.	L3	PO1, PO2, PO10	PSO2
CO4	Assessing the town planning concepts of Mauryan period and the diverse artistic and architectural expressions with regard to Vedic and Buddhist Architecture in India.	L4	PO1, PO2, PO10	PSO2
CO5	Building the diversity of Indian Temple Architecture Styles, forts, cities, etc. including the buildings viewed as architectural masterpieces and their urban settings and develop designs according to the concepts of temple architecture.	L5	PO1, PO2, PO5, PO10	PSO2

2) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	2	1	-	-	-	-	-	-	1	-	-	-	3	-
CO2	3	2	1	-	-	-	-	-	-	1	-	-	-	3	-
CO3	3	2	1	-	-	-	-	-	-	1	-	-	-	3	-
CO4	3	2	1	-	1	-	-	-	-	1	-	-	-	2	-
CO5	3	2	1	-	1	-	-	-	-	1	-	-	-	2	-
WT. AVG	3.00	2.00	1.00		1.00					1.00			-	2.6	-

3) OUTLINE OF THE COURSE

Unit	Title of the unit	Time Required for the Unit (Hours)
1	West Asiatic Architecture	2
2	Indo Aryan (Nagara) Architecture	5
3	Buddhist & Jain Architecture in India	5
4	Dravidian Architecture	6
5	Vesara style of Temple Architecture	6

4) DETAILED SYLLABUS

UNITS	CONTENTS
1	West Asiatic Architecture
	<p>IA. Sumerian, Babylonian, Assyrian and Persian Architecture: Ziggurats and town planning aspects.</p> <p>a) Introduction of Unit</p> <p>b) Study of evolution of design concept, philosophy, construction techniques, materials, town planning and structural solution with the help of selected examples. IB – Understanding social, cultural, geographical, political and climate of place and period.</p>
2	Indo Aryan (Nagara) Architecture
	<p>a) Introduction of Unit</p> <p>b) Study of evolution of design concept, philosophy, construction techniques, materials, town planning and structural solution with the help of selected examples</p> <p>c) Development of fortification, walled towns, settlement patterns and the causative factors. Role of Shilpasasthras in settlement planning.</p> <p>D) Study of worshipping places in Indo Aryan / Nagara style, design of buttressed shikharas, rock-cut and structural examples of temples.</p>
3	Buddhist & Jain Architecture in India
	<p>Beginning of Buddhist and Jain Architecture; philosophy and teachings; the Hinayana and Mahayana Sects and their contribution to the development of architecture in India. Ashokan School, Buddhist Rock Cut Architecture: The Chaityas and Viharas at Ajanta and Ellora; the Stupa: Form and Evolution; Buddhist Architecture in Gahdhara.</p> <p>a) Introduction to Unit</p> <p>b) Early Buddhist & Jain Architecture: Rock Cut Architecture, Viharas, Chaityas etc.</p> <p>c) Buddhist & Jain Architecture: Buildings in Brick, Stupas.</p> <p>Conclusion and Summary of Unit.</p>
4	Dravidian Architecture
	<p>a) Development of fortification, walled towns, settlement patterns and the causative factors.</p> <p>b) Role of Shilpasasthras in settlement planning. Study of worshipping places in Dravidian style (Chola, Chalukyas, Pallavas, Satavahana, Hoysala, Vijayanagara etc.), design of Gopuram and Shikharas</p>
5	Vesara style of Temple Architecture
	a) Introduction to Unit.

	b) Unique features of Vesara style of temple Architecture c) Temple examples of Chalukyas, Rashtrakutas and Hoysalas Conclusion and Summary of Unit
--	---

5) **RECOMMENDED STUDY MATERIAL:**

Sr. N	Reference Book	Author	Edition	Publication
1.	History of Architecture	Bannister Fletcher	20 th Edition	CBS
2.	The Architecture of India (Islamic)	Grover's	1981	Vikas Publishing House Pvt. Ltd., New Delhi,
3.	Indian Architecture (Islamic period)	Brown, Percy	Latest	DB Taraporevala Sons & Co, Mumbai
Important Web Links				
1.				
2.				

Code: BARCAR2102	ARCHITECTURAL STRUCTURES - II	2 Credits [LTP: 2-0-0]
-------------------------	--------------------------------------	-------------------------------

1) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Summarize beams for flow of loads through structure	L1	PO1	PSO2 & PSO3
CO2	Articulate the concept of bending with reference to structure and its components	L2	PO1, PO2,	PSO2 & PSO3
CO3	Appraise that how the structure behaves under several pressure conditions caused by different loadings acting on structure.	L3	PO1, PO2, PO3	PSO2 & PSO3
CO4	Experiment the knowledge of and analysis of trusses	L4	PO1, PO2, PO3,PO4	PSO2 & PSO3
CO5	Build the concept of determinacy & indeterminacy	L5	PO1, PO2, PO3, PO4, PO5	PSO2 & PSO3

2) OUTLINE OF THE COURSE

Unit	Title of the unit	Time Required for the Unit (Hours)
1	Analysis of Beams	4
2	Bending of Beams	4
3	Shear Stresses in Beam Sections	4
4	Analysis of Trusses	6
5	Slopes and deflections in determinate beams	6

3) DETAILED SYLLABUS

UNITS	CONTENTS
1	ANALYSIS OF BEAMS
	I A- Shear force and bending moment diagrams in case of simply supported beams, cantilevers and beams with overhangs due to concentrated loads and UDL. Concept of UVL (without numerical) I B- Application of various beams in a structure
2	BENDING OF BEAMS
	II A- Theory of Simple Bending, Bending Equation and Its Derivation, Section Modulus, Distribution of Normal Stress Due to Bending. II B- Concept of bending with reference to structure and its components.
3	SHEAR STRESSES IN BEAM SECTIONS
	III A- Composite beams, shear stress distribution in rectangular, circular, T and I Sections. III B- Application of various sections
4	ANALYSIS OF TRUSSES
	IV A- Pin-jointed plane frames, determination of forces in the members by method of joints & method of sections.

	IV B- Application of various trusses
5	SLOPES AND DEFLECTIONS IN DETERMINATE BEAMS
	V A- Determinacy and indeterminacy, static and kinematic indeterminacy of beams Slopes and deflections in determinate beams by moment area method and the conjugate beam method V B- Concept of determinacy & indeterminacy

4) **RECOMMENDED STUDY MATERIAL:**

Sr. N	Reference Book	Author	Edition	Publication
1	Strength of Materials	R.S. Khurmi		S.Chand Publishing House
2	Engineering Mechanics	D.S. Kumar		S K Kataria and Sons
3	Strength of Materials	Ramamurthan		Dhanpat Rai Publication
Important Web Links				
1.				
2.				

Code: BARCAR2103	CLIMATOLOGY	2CREDITS (LTP:2-0-0)
-------------------------	--------------------	-----------------------------

1) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Summarizing and outline the elements of climate & the macro and micro climatic factors affecting it.	L1	PO1,PO10,PO11	PSO1, PSO2 & PSO3
CO2	Determining the heat balance systems, thermal comfort & its indices, solar & psychometric charts & their applications in building designs.	L2	PO1, PO3, PO4,PO5 PO9,PO10,PO11	PSO1, PSO2 & PSO3
CO3	Appraising the various thermal processes in buildings along with the heat flow, storage & transfer of various building materials & elements.	L3	PO9,PO10,PO11	PSO1, PSO2 & PSO3
CO4	Assessing the active & passive means of climate control, day lighting and ventilation in buildings.	L4	PO1, PO3, PO4,PO5 PO8,PO9,PO10,PO11	PSO1, PSO2 & PSO3
CO5	Building the climatological site analysis in site planning of any design project and design evolution in various climatic zones	L5	PO1, PO3, PO4,PO5 PO8,PO9,PO10	PSO1, PSO2 & PSO3

2) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	-	-	-	1	-	-	-	-	2	1	-	2	1	3
CO2	1	-	1	1	1	-	-	-	1	2	1	-	2	1	3
CO3	-	-	-	-	-	-	-	-	1	3	2	-	2	1	3
CO4	2	-	2	1	2	-	-	1	1	3	1	-	2	1	3
CO5	2	-	3	1	2	-	-	1	1	3	-	-	2	1	3
WT. AVG	1.50		2.00	1.00	1.50			1.00	1.00	2.60	1.25		2	1	3

3) OUTLINE OF THE COURSE

Unit	Title of the unit	Time Required for the Unit (Hours)
1	Introduction to climate	2
2	Effect of climate on man	4
3	Thermal Processes in Buildings	4
4	Day lighting and Ventilation	6
5	Application in Different Climatic Zones	8

4) DETAILED SYLLABUS

UNITS	CONTENTS
1	Introduction to climate
	I A- a) Introduction to Unit b) Elements of climate like solar radiation, terrestrial radiation, temperature, humidity, wind, cloud, precipitation etc. and their measurement c) Factors affecting climate of macro and micro-level I B- Visit to meteorological station
2	Effect of climate on man
	II A- a) Introduction to Unit b) Body heat balances and thermal comfort c) Basic understanding of thermal indices, solar chart and psychometric chart. d) Conclusion and Summary of Unit II B- Making solar chart and sciography exercises.
3	Thermal Processes in Buildings
	III A- a) Introduction to Unit b) Heat flow, heat transfer, heat storage and time lag of various building materials and elements. c) Study of conduction, convection and radiation in buildings III B- Exercise as per unit on building.
4	Day lighting and Ventilation
	IV A- a) Introduction to Unit b) Day lighting, air movement and ventilation c) Active and passive means of climate control d) Conclusion and Summary of Unit IV B- Exercise on climate control elements of building.
5	Applications in Different Climatic Zones
	V A- a) Introduction to Unit b) Data, climatologically site analysis and its application in site planning and design evolution in climatic zones c) Conclusion and Summary of Unit V B- Taking exercises as per design brief of students.

5) RECOMMENDED STUDY MATERIAL:

Sr. N	Reference Book	Author	Edition	Publication
1	Climate Responsive Design: A Study of Buildings in Moderate and Hot Humid Climates	Richard Hyde	2000	Taylor & Francis
2	Climate Responsive Architecture	Arvind Krishan	1999	Tata McGraw Hill
3	Design Primer for Hot Climates	Allan Konya and Mari tz	2011	Archi media Press

		Vandenberg		Limited
Important Web Links				
1.				
2.				

Code: BARCAR2201	ARCHITECTURAL DESIGN-I	8 CREDITS (LTP:2-0-4)
-------------------------	-------------------------------	------------------------------

1) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Summarize of the design process, the various stages of design.	L1	PO1, PO2, PO4, PO5, PO6, PO8,PO9,PO10, PO11	PSO1, PSO2 & PSO3
CO2	Articulate present information and data collected through various studies. Understanding the importance of spatial planning within the constraints of Development Regulations in urban areas	L2	PO1, PO2, PO4, PO5, PO6, PO8,PO9,PO10, PO11	PSO1, PSO2 & PSO3
CO3	Appraise the design problems and evolve architectural programs to address it.	L3	PO1, PO2, PO4, PO5, PO6, PO8,PO9,PO10, PO11	PSO1, PSO2 & PSO3
CO4	Experiment the plan and design at the site level involving multiple units. Recognize the relationship between user, activity, and space.	L4	PO1, PO2, PO3, PO4, PO5, PO6,PO10	PSO1, PSO2 & PSO3
CO5	Build design focusing on form generation and sensitively design open spaces in correlation to build form and space	L5	PO1, PO2, PO3, PO4, PO5, PO6,PO10	PSO1, PSO2 & PSO3

2) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	2	-	1	3	1	-	2	1	1	1	-	2	3	2
CO2	2	1	-	1	3	1	-	2	1	1	1	-	2	3	2
CO3	2	1	-	2	3	2	-	1	1	2	1	-	2	3	2
CO4	1	1	1	3	3	3	-	-	-	2	-	-	2	3	2
CO5	1	1	1	3	2	3	-	-	-	3	-	-	2	3	2
WT. AVG	1.60	1.20	1.00	2.00	2.80	2.00		1.67	1.00	1.80	1.00		2	3	2

3) OUTLINE OF THE COURSE

Unit	Title of the unit	Time Required for the Unit (Hours)
1	Introduction to Design Process	5
2	Pre-Design Studies	15
3	Project Brief	10
4	Site Analysis/ Zoning/ Bubble Diagram and Circulation Diagram/ Site Planning	15
5	Concept Drawing and Design/ Plans/ Sections/	15

	Elevation/ Views and Models	
--	-----------------------------	--

4) DETAILED SYLLABUS

UNITS	CONTENTS
1	INTRODUCTION TO DESIGN PROCESS
	I A- Lecture on basic design process including user needs, program analysis, area analysis, market survey, site analysis etc. I B- Discussion based on the existing exercise and the understanding of students.
2	PRE-DESIGN STUDIES
	II A- Case Studies/ Standards/ Anthropometrics/ Literature Studies/ Bye-Laws. II B- Discussing various laws relevant to exercise.
3	PROJECT BRIEF
	III A- Understanding Project Brief/ Drawing of Spaces & Area/ Requirement and how to read a project brief. III B- Exercises based on project brief.
4	SITE ANALYSIS/ ZONING/ BUBBLE DIAGRAM AND CIRCULATION DIAGRAM/ SITE PLANNING
	IV A- Formulation of design through elements and principles of architectural design. IV B- Applications of Ordering principal such as axis, symmetry, hierarchy, datum, rhythms, repetition, visual perception proximity, repetition, simplest and largest figure, continuity and closure, figure and ground relationship
5	CONCEPT DRAWING AND DESIGN/ PLANS/ SECTIONS/ ELEVATION/ VIEWS AND MODELS
	V A- Concept Drawing and Design/ Plans/ Sections/ Elevation/ Views and Models V B- Design exercises of small scale with architectural drawing.

5) RECOMMENDED STUDY MATERIAL:

Sr. N	Reference Book	Author	Edition	Publication
1	Pattern Language	Christopher Alexander	2015	Oxford
2	Principles of Sociology	Tabussum, Henna	2011	ABD Publishers
3	Architecture Elements, Materials, Form	Prina	2009	Princeton University Press
Important Web Links				
1.				

Code: BARCAR2202	ARCHITECTURAL BUILDING CONSTRUCTION & MATERIALS – II	3 CREDITS (LTP:2-0-2)
-------------------------	---	------------------------------

1) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Summarizing the details of construction, laying, fixing of stone and brick.	L1	PO1,PO2	PSO2
CO2	Determining the techniques and tips of RCC structures.	L2	PO1,PO2,PO4	PSO2
CO3	Appraising the knowledge of the aforesaid materials- details of joinery in timber and study of various basic elements like foundation, walls, roofs/floors and openings along with their principles of construction and architectural details.	L3	PO1,PO2,PO4	PSO2
CO4	Assessing the basic physical & chemical properties of binding materials like- Iron and steel, cement, and concrete.	L4	PO1,PO2,PO4	PSO2
CO5	Building and detail using all the material in the building	L5	PO1,PO2,PO4,PO5	PSO2

2) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	1	-	-	-	-	-	-	-	-	-	-	-	2	-
CO2	1	1	-	1	-	-	-	-	-	-	-	-	-	2	-
CO3	1	2	-	1	-	-	-	-	-	-	-	-	-	2	-
CO4	1	2	-	2	-	-	-	-	-	-	-	-	-	2	-
CO5	1	3	-	2	3	-	-	-	-	-	-	-	-	2	-
WT. AVG	1.00	1.80		1.50	3.00								-	2	-

3) OUTLINE OF THE COURSE

Unit	Title of the unit	Time Required for the Unit (Hours)
1	Traditional & Conventional Structural Building Materials –Stone	10
2	Conventional Structural Building Materials – Reinforced Cement Concrete (RCC)	15
3	Conventional Structural Building Materials – Timber	10

4	Conventional Structural Building Materials – Iron & Steel	15
5	Conventional Building Binding Materials – Cement	10

4) DETAILED SYLLABUS

UNITS	CONTENTS
1	Traditional & Conventional Structural Building Materials –Stone
	I A- The nature & types of material, visual and textural properties, Source of raw material, Processing of material, Properties and characteristics of the materials used for structural units in masonry. Different forms of Stone used in construction of past and cotemporary innovative development in Stone Masonry. II B- Stone Masonry – Rubble and Ashlar, dry stone masonry. Along with Right angled junctions, Cross junctions and piers. Composite Masonry – Stone & Brick
2	Conventional Structural Building Materials – Reinforced Cement Concrete (RCC)
	II A- The nature & types of material, visual and textural properties, Source of raw material, Processing of material, Properties and characteristics of the materials used for RCC. Different forms of RCC used in construction of past and cotemporary innovative development in RCC. II B- RCC – Structural Framed structure, Reinforcement details in RCC built components- Pad Footings, Raft foundations, Columns, Shear walls, Flat roofing Slabs, coffered slabs, Pitched roofing slabs, staircase slabs, cantilevered projections.
3	Conventional Structural Building Materials – Timber
	III A- The nature & types of material, visual and textural properties, Source of raw material, Processing of material, Properties and characteristics of the materials used for construction. Different forms of Timber used in construction of past and cotemporary innovative development in Timber. III B- Timber – Structural Framed structure, Timber wall systems, timber trusses and roofing systems, timber flooring systems, timber staircases.
4	Conventional Structural Building Materials – Iron & Steel
	IV A- The nature & types of material, visual and textural properties, Source of raw material, Processing of material, Properties and characteristics of the materials used for construction. Different forms of Iron& Steel used in construction of past and cotemporary innovative development in Iron & Steel. IV B- Cast Iron – Elements used in construction and Ornamentation Mild Steel – Column & beam structure, Roof trusses, Flat roofs, wall systems, Pre-engineered buildings
5	Conventional Building Binding Materials – Cement
	V A- The nature & types of material, visual and textural properties, Source of raw material, Processing of material, Properties and characteristics of cement used for binding material in masonry and ornamentation of buildings. Different forms of cement construction of past and contemporary innovations in cement. V B- Cement construction systems – Processing of cement for construction. Use of cement for masonry, flooring, plaster, wall finishes and stucco renderings

5) RECOMMENDED STUDY MATERIAL:

Sr. N	Reference Book	Author	Edition	Publication
1.	Building construction	B.C.Punmia	10 th	Laxmi publication
2.	Building construction	S.C.Rangwala	29 th	Charatar publication
3.	A Text Book of Building Construction	S.P.Arora, S.P.Bindra	5 th	Dhanpat Rai publication
4.	BUILDING CONSTRUCTION ILLUSTRATED	FRANCIS D. K .CHING	3 rd edition	Wiley
5.	Building Constructions (1to 4 vol.)	Mckay, W.B.	5 th	Pearson Education India
Important Web Links				
1.				

Code: 25BARCAR2203	ARCHITECTURAL GEOMETRY & DRAWING - II	3 CREDITS (LTP:2-0-2)
---------------------------	--	------------------------------

1) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Summarizing solids & planes and their projections. It also includes the sections of prism, pyramid, cylinder & cone, and intersections of the same.	L1	PO1,PO2	PSO2
CO2	Determining the surface of simple objects and with reference of the model of the previous exercise, the development of surface of the model finalized.	L2	PO1,PO2,PO4	PSO2
CO3	Appraising the sciography of simple objects or study models at different times of the day	L3	PO1,PO2,PO4	PSO2
CO4	Assessing one point and two-point perspective of simple objects or study models.	L4	PO1,PO2,PO4	PSO2
CO5	Building the graphical presentation and rendering of the simple objects, symbols and model.	L5	PO1,PO2,PO4,PO5	PSO2

2) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1													-	3	-
CO2													-	3	-
CO3													-	3	-
CO4													-	3	-
CO5													-	3	-
WT. AVG													-	3	-

3) OUTLINE OF THE COURSE

Unit	Title of the unit	Time Required for the Unit (Hours)
1	Intersection of solids	8
2	Development of surfaces	8
3	Sciography of simple geometric forms	12
4	Perspective	12
5	Graphical presentation and rendering	8

4) DETAILED SYLLABUS

UNITS	CONTENTS
1	Intersection of solids
	Intersection of solids, Method of determining the line of intersection, Intersection of two prisms, Intersection of cylinder and cone
2	Development of surfaces
	Basic introduction, Methods of development, Developments of lateral surfaces of right solids
3	Sciography of simple geometric forms
	Basic introduction of Sciography, Method of drawing Sciography of simple geometric forms, Method of drawing Sciography of building blocks
4	Perspective
	Principle of perspective projections, Perspective elements, one point, two point and three-point perspective, plotting perspective of building form, Plotting
5	Graphical presentation and rendering
	Basic introduction of graphic presentation, use of graphic presentation in architecture, Rendering of architectural drawing with pencil, pen and ink

5) RECOMMENDED STUDY MATERIAL:

Sr. N	Reference Book	Author	Edition	Publication
1.	Engineering material	N.D.Bhatt, V.M. Panchal	50 th	Chartar Publishing House
2.	Architectural Drawing	Rendow Yee	1997	John Willey & Sons, New York
3.	Engineering Drawing	P.S. Gill	2006	S.K. Kataria& Sons, New Delhi
4.	Architectural Graphics	Francis D.K. Ching	2002	JOHN WILEY
Important Web Links				
1.				

Code: 25BARCAR2204	COMPUTER APPLICATION – II (Computer Aided Design Advance-CAD Advance)	3Credits [LTP: 2-0-2]
---------------------------	--	------------------------------

1) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Summarizing the importance of software applications in the field.	L1	PO1,PO4	PSO1 & PSO2
CO2	Determining the usage of various Computer Application tools and software's.	L2	PO1,PO4	PSO1 & PSO2
CO3	Appraising gauge the applications of the software in the field.	L3	PO1,PO4	PSO1 & PSO2
CO4	Assessing the skills both graphically and technically to produce composed design/technical sheets in academics as well as later in the field.	L4	PO1,PO4,PO5	PSO1 & PSO2
CO5	Building drawings and details based on the designs and planning.	L5	PO1,PO4,PO5	PSO1 & PSO2

2) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	-	-	2	-	-	-	-	-	-	-	-	2	3	-
CO2	2	-	-	3	-	-	-	-	-	-	-	-	2	3	-
CO3	3	-	-	3	-	-	-	-	-	-	-	-	2	3	-
CO4	-	-	-	2	3	-	-	-	-	-	-	-	2	3	-
CO5	2	-	-	2	3	-	-	-	-	-	-	-	2	3	-
WT. AVG	2.25			2.40	3.00								2	3	-

3) OUTLINE OF THE COURSE

Un it	Title of the unit	Time Required for the Unit (Hours)
1	Advanced Block Strategies	6
2	External References (Xrefs)	8
3	Hatching & Material Patterns	6
4	Advanced Modification Tools	8
5	Finalizing & Presenting Drawings	8

4) DETAILED SYLLABUS

UNITS	CONTENTS
1	Advanced Block Strategies
	<ul style="list-style-type: none"> Editing blocks, redefining, and using dynamic properties Leveraging attributes for data-driven block management
2	External References (Xrefs)
	<ul style="list-style-type: none"> Linking external drawings Managing and updating Xrefs for collaborative workflows
3	Hatching & Material Patterns
	<ul style="list-style-type: none"> Applying hatch patterns to fill shapes Using gradients to simulate materials or surface textures
4	Advanced Modification Tools
	<ul style="list-style-type: none"> Combining commands for more complex edits Using grips, grips edit previews, and enhanced selecting tools
5	Finalizing & Presenting Drawings
	<ul style="list-style-type: none"> Cleaning up drawings (removing unused layers, purging) Setting up layouts for plotting Creating plot styles and exporting PDFs or printed outputs

5) RECOMMENDED STUDY MATERIAL:

Sr. N	Reference Book	Author	Edition	Publication
1.	AutoCAD 2023 and AutoCAD LT 2023 Essentials	Scott Onstott	1st	Wiley
2.	Mastering AutoCAD 2021 and AutoCAD LT 2021	Brian C. Benton, George Omura	1st	Sybex (Wiley)
3.	AutoCAD 2023 for Engineers and Designers	Sham Tickoo	19th	CADCIM Technologies
4.	AutoCAD 2023 Instructor	James A. Leach, Shawna Lockhart	13th	SDC Publications
Important Web Links				
1.				
2.				

Code: 25BUACHM2208	LANGUAGE AND COMMUNICATION	1 Credits [LTP: 0-0-2]
---------------------------	-----------------------------------	-------------------------------

1) COURSE OUTCOMES:

Course Outcome	At the end of this course, learners will be able to:	Bloom Level
CO1	Identify common errors in spoken and written communication.	Understand
CO2	Employ day-to-day English vocabulary and language proficiency skills.	Apply
CO3	Use sensible official writing and documenting skills.	Apply
CO4	Measure their personal and Technical Communication Skills	Evaluate
CO5	Produce an efficient way of expression in professional and personal spaces.	Apply

2) OUTLINE OF THE COURSE

Unit No.	Title of the unit	Time required for the Unit (Hours)
1.	Everyday Conversations	8
2.	Asking for	7
3.	Reporting/ Describing	7
4.	Meeting People	7
5.	Expressing & Talking about	7

3) DETAILED SYLLABUS

Unit	Unit Details
1.	<p>Everyday Conversations</p> <ul style="list-style-type: none"> ● Introduction to the Unit ● Introducing self/others ● Weather ● Classroom ● Asking about facilities around ● Describing a person/thing ● Points to cover: Vocabulary, grammar, Construction of sentences, listening ● Methodology: Role plays, Videos, Classroom conversation, worksheets ● Conclusion & Real-Life Application

2.	Asking for
	<ul style="list-style-type: none"> ● Introduction to the Unit ● Help/ Suggestion/ ideas ● Clarification/ Directions ● Time/ food ● Advice ● Uses ● Points to cover: Vocabulary, grammar, Construction of sentences, listening ● Methodology: Role plays, Videos, Classroom conversation, worksheets ● Conclusion & Real-Life Application
3.	Reporting/ Describing
	<ul style="list-style-type: none"> ● Introduction to the Unit ● Incidences ● Personalities ● Experiences ● Wants/Needs ● Intentions ● Points to cover: Vocabulary, grammar, Construction of sentences, listening ● Methodology: Role plays, Videos, Classroom conversation, worksheets ● Conclusion Real-Life Application
4.	Meeting People
	<ul style="list-style-type: none"> ● Introduction to the Unit ● Greetings ● Starting the Conversation ● Small talks ● Closing the conversation ● Points to cover: Vocabulary, Grammar, Construction of sentences, listening ● Methodology: Role plays, Videos, Classroom conversation, worksheet ● Conclusion & Real-Life Application
5.	Expressing & Talking about

	<ul style="list-style-type: none">● Introduction to the Unit● Happiness/Displeasure● Preferences● Doubts● Views● Unawareness● Points to cover: Vocabulary, grammar, Construction of sentences, listening● Methodology: Role plays, Videos, Classroom conversation, worksheets Interests● Different Cultures, Clothes, cars, institutes, situations● Schedules, prices● Points to cover: Vocabulary, grammar, Construction of sentences, listening Methodology: Role plays, Videos, Classroom conversation, worksheets● Conclusion & Real-Life Application
--	--

Code: 25BAREAR2201	ART STUDIO & WORKSHOP-II	1 Credits [LTP: 1-0-2]
---------------------------	-------------------------------------	-------------------------------

A. OBJECTIVE

To acquaint the students with the different mediums and methods of craftsmanship through line contemplates and site outlining. Additionally, incorporates material taking care of workshops including metal, wood and so on.

B. COURSE OUTCOMES

- To demonstrate a grip-on understanding of handling the major tools and different rendering technique's application, in order to enhance the visual manifestation of architectural buildings & related elements.
- To build the skills and develop understanding of handling and application of assorted visual art mediums for varied design idea presentations.
- To categorize the idea collection to identify the one which express design idea the most
- To explain and re-model the products in 3-d forms for better interrelation of on same design on paper and it's physical form.
- To adapt the language of visual perception in true sense by working on life size products that can illustrate the comprehension of design and its scale and proportion with respect to various utility platforms.

C. OUTLINE OF THE COURSE

Unit No.	Title of the unit	Time Required for the Unit (Hours)
1	Rendering- I	8
2	Medium Application- I	10
3	Model Making	10
4	Doodling & Dress Designing	10
5	Application of Mediums in Semester Courses	10

D. DETAILED SYLLABUS

UNIT	CONTENTS
1.	Rendering- I
	I A- -Need of Rendering, Types of renderings on different types of drawings, principles of composition of drawings, views, rule of thirds, Rendering with different mediums- Composition and Presentation Techniques on an Architectural Drawings Introduction to rendering, rendering techniques &it's implementation: Graphite &rotring pens
2.	Medium Application- I
	II A- a) Developing skills in manual presentation techniques b) Use of various media of presentation: Color pencils/ charcoal/ Water color c) Incorporating photography skills
3.	Model Making

	III A- a) Developing understanding of various material & technique b) Demonstrating techniques of making models of building materials like mount board, BioPak (compressed thermocol) etc.
4.	Doodling & Dress Designing
	IV A- a) Idea exploration, concept development b) Hands on exercise on product development
5.	Application of Mediums in Semester Courses
	V A- a) Parallel Course identification and analysis of assignment to be utilized b) Hands on exercise

E. RECOMMENDED STUDY MATERIAL:

Sr. N	Reference Book	Author	Edition	Publication
1.	Rendering with pen and ink	Robert W. Gill	Enlarged edition, 1984	Thames Hudson Ltd. United Kingdom
2.	Art fundamental (Theory and practice)	Ocvirk and others	12 th edition	McGraw – Hill Education Europe
3.	Colour in sketching and rendering	Guptill, Arthur L.	5 th edition	Reinhold Publishing Corp., New York 1949
Important Web Links				
1.	Coursera	https://www.coursera.org/learn/sustainable-fashion#about	Podcast/ audio/video	2-07-2020
2.	Research Gate		Publication	2-07-2020

Code: 25BUVCVA2201	PERFORMING ARTS (Global Moves: A practice Course in Dance	2 Credits [LTP: 1-0-2]
---------------------------	--	-------------------------------

COURSE OUTCOMES:

Students would be able to:

CO1: Gain practical exposure to Indian and international dance styles, fostering cultural appreciation and diversity.

CO2: Develop physical awareness, rhythm, coordination, and stamina through structured training.

CO3: Learn and perform choreographies across diverse genres, enhancing versatility and adaptability.

CO4: Enhance stage presence, group dynamics, and body confidence, crucial for performing arts.

CO5: Create original dance compositions using acquired vocabularies, culminating in a final polished performance and a comprehensive video portfolio.

List of Activities

S.No.	Activity
1	Foundations of Movement 6) Introduction to body alignment, posture, balance, and rhythm 7) Daily warm-ups, isolations, strength-building, and flexibility training 8) Introduction to breath and movement synchrony Music and tempo awareness
2	Indian Folk Dance Practices I (dance styles such as Garba, Ghoomar, Bhangra, Kalbeliya)
3	Indian Folk Dance Practices II (dance styles such as Garba, Ghoomar, Bhangra, Kalbeliya)
4	Classical and Semi-Classical Basics I (Bharatanatyam, Kathak, Odissi)
5	Classical and Semi-Classical Basics II (Bharatanatyam, Kathak, Odissi)
6	International Groove Sessions I (Basics of Ballroom, Latin Dances, such as Salsa and Cumbia, Bacchata, Contemporary dance, Hip-Hop)
7	International Groove Sessions II (Basics of Ballroom, Latin Dances, such as Salsa and Cumbia, Bacchata, Contemporary dance, Hip-Hop)
8	International Groove Sessions III (Basics of Ballroom, Latin Dances, such as Salsa and Cumbia, Bacchata, Contemporary dance, Hip-Hop)
9	Choreography Lab 1 <ul style="list-style-type: none"> • Small group choreographies using Indian and global movement vocabularies • Music selection, improvisation games, transitions Peer-to-peer feedback and refinement
10	Choreography Lab 2 + Performance Skills 9) Full choreography creation (3–5 min group piece) 10) Focus on stage presence, projection, entrances/exits Styling, costumes, and syncing with music
11	Rehearsals and Filming 11) Rehearsal with stage lighting and mock performance runs On-camera performance practice and professional video shoot
12	Final Showcase <ul style="list-style-type: none"> • Public showing or campus performance 12) Reflection circle and feedback Video portfolio handed over to students

Code: 25BUVCVD2201	ENTREPRENEURSHIP	1 Credits [LTP: 0-0-2]
---------------------------	-------------------------	-------------------------------

COURSE OUTCOMES:

Students would be able to:

CO1: Apply Business Analysis Techniques to Heritage Management

CO2: Develop strategic plans considering market opportunities, competitive advantages, and long-term sustainability while preserving cultural heritage.

CO3: Evaluate financial feasibility, revenue streams, and funding options like grants and sponsorships tailored for heritage ventures.

CO4: Assess engagement strategies, analyze social, cultural, and economic impacts on local communities, and implement responsible tourism practices.

CO5: Design models balancing economic profitability with cultural preservation, integrating conservation practices, and ensuring ethical management of heritage resources.

LIST OF ACTIVITIES

1	Real-life case studies of heritage businesses, such as ‘Jaipur Darshan Tour’ – Amer Fort, Jantar Mantar, Jal Mahal, Albert Hall Museum, or cultural events, and explore the Heritage city for understanding of business models, challenges, and successes.
2	Provide students with practical experience in assessing heritage sites or businesses to evaluate visitor experience, revenue generation methods, and preservation efforts through on-site assessments.
3	Conduction of market research and surveys to gather data on visitor demographics, preferences, and trends pertaining to heritage tourism and businesses through market research and surveys.
4	Facilitate workshops where students perform SWOT Analysis (Strengths, Weaknesses, Opportunities, and Threats) analyses on heritage businesses.
5	Analysis of financial statements which develop ability to assess the financial health and sustainability of heritage businesses by analyzing their financial statements through practical exercises.
6	Students role-play interactions with various stakeholders which enhances skill set by role-playing interactions with local communities, government bodies, and heritage preservation organizations during visits for Jaipur Darshan.
7	Projects Assignment for assessment of the social, cultural, and economic impact of heritage businesses on local communities, considering factors like employment opportunities, cultural preservation, and infrastructure development.
8	Conduct workshops to develop strategic plans for heritage businesses, considering factors like market positioning, differentiation strategies, and long-term sustainability goals.
9	Identification of suitable funding sources such as grants, sponsorships, or crowdfunding platforms.
10	Reflection paper submission on exploring the Mindset of Marwadi Entrepreneurs and its Applicability on New Startups.

11

Presentation Lab on comprehensive business plans for hypothetical or real heritage ventures, showcasing their analysis, strategies, and recommendations to a panel of experts.

Semester-III

Code: 25BARCAR3101	HISTORY OF ARCHITECTURE – II	2 Credits [LTP: 2-0-0]
--------------------	------------------------------	------------------------

3) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Classify the diversity of Islamic Architecture in India, Mosques, Tombs, Forts, Cities, etc. and its influence through numerous regional adaptations.	L1	PO1,PO2,PO3	PSO2
CO2	Develop an appreciation of the architectural vocabulary which are unique to the era of Mughal Architecture including the buildings viewed as architectural masterpieces	L2	PO1,PO2,PO3	PSO2
CO3	Appreciate the unique features of Egyptian Architecture.	L3	PO1,PO2,PO3,PO10	PSO2
CO4	Gain knowledge on the significance and principles of Greek Architecture.	L4	PO1,PO2,PO3, PO5,PO10	PSO2
CO5	Comprehend the evolution and characteristics of Roman Architecture.	L5	PO1,PO2,PO3, PO5,PO10	PSO2

4) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	2	2	-	-	-	-	-	-	-	-	-	-	3	-
CO2	3	2	2	-	-	-	-	-	-	-	-	-	-	3	-
CO3	3	2	2	-	-	-	-	-	-	1	-	-	-	3	-
CO4	3	2	2	-	1	-	-	-	-	1	-	-	-	2	-
CO5	3	2	2	-	1	-	-	-	-	1	-	-	-	2	-
WT. AVG	3.00	2.00	2.00		1.00					1.00	-	-	-	2.6	-

5) OUTLINE OF THE COURSE

Unit	Title of the unit	Time Required for the Unit (Hours)
1	Islamic Architecture	2

2	Mughal Architecture	2
3	Provincial Style Architecture	8
4	Early Christian Architecture	6
5	Greek & Roman Architecture	6

6) DETAILED SYLLABUS

UNITS	CONTENTS
1	Islamic Architecture:
	a) Introduction to Unit: Evolution of Islamic Architecture in India. b) Islamic Way of Building: Pillars of Islam, Reflection of belief system in Built forms, Salient features of the Mosque c) Delhi Sultanate: Slave Dynasty, Khilji Dynasty, Tughlaq Dynasty, Sayyid Dynasty and Lodhi Dynasty. d) Conclusion and Summary of Unit
2	Mughal Architecture:
	a) Introduction to Unit b) Early Mughal era – and Babar’s dream of Paradise Garden c) High Mughal era- Yamuna Riverfront development with the concept of paradise gardens, tombs, rauza etc. Salient features of Humayun’s Tomb, Taj Mahal, Red fort Agra and Shahjahanabad, and various prominent structures of Fatehpur Sikri d) Conclusion and Summary of Unit
3	Provincial style Architecture
	The Provincial Style of architecture encompasses the trends and developments noticed in different provincial capitals in India. Study about the variation of styles in different provinces. Punjab (1150-1325 A.D.), Bengal (1203-1573 A.D.), Gujarat (1300-1572 A.D.), Jaunpur (1376-1479 A.D.), Deccan (1347-1617 A.D.), Bijapur (1490-1656 A.D.), Kashmir (1410 onwards).
4	Early Christian Architecture
	Study of Architectural character, evolution of Church form, building typologies, and building elements, polymath architecture, Baptisteries, early Basilican churches; settlement planning, and fortification systems.
5	Greek & Roman Architecture
	Study of principles of design, proportion, Optical corrections and Classical Orders. Building types viz., Temples, Sanctuaries, Thermae, Amphitheatres, Circus, Aqueducts etc. Study of planning principles adopted, Agora, Forum and their effect on settlement planning. a) Introduction of Unit b) Study of evolution of design concept, philosophy, construction techniques, materials, town planning and structural solution with the help of selected examples with reference to social cultural, geographical political and climate of place and period. c) Classical orders, public buildings, characteristics d) Conclusion and Summary of Unit

7) RECOMMENDED STUDY MATERIAL:

Sr. N	Reference Book	Author	Edition	Publication
1.	History of Architecture	Bannister Fletcher	20 th Edition	CBS
2.	The Architecture of India (Islamic)	Grover's	1981	Vikas Publishing House Pvt. Ltd., New Delhi,
3.	Indian Architecture (Islamic period)	Brown, Percy	Latest	DB Taraporevala Sons & Co, Mumbai
Important Web Links				
1.				
2.				

Code: 25BARCAR3102	ARCHITECTURAL STRUCTURES - III	2 Credits [LTP: 2-0-0]
--------------------	--------------------------------	------------------------

8) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	To understand the behavior of soil in different conditions & climatic zones where the structure will take place above the soil.	L1	PO1,PO2	PSO2 & PSO3
CO2	To pre-identify the soil support to the structure above it and analysis of structure stability.	L2	PO1,PO3,PO5	PSO2 & PSO3
CO3	To be able to classify and choose the most suitable type of soil for any particular structure.	L3	PO1	PSO2 & PSO3
CO4	To decide the bearing capacity of soil which will help in finalizing the type of foundation and it's best possible design elements.	L4	PO1,PO2,PO4, PO5	PSO2 & PSO3
CO5	To calculate the overall strength of soil and durability of structure and how it can be improved.	L5	PO1,PO2,PO4, PO5	PSO2 & PSO3

9) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	1	-	-	-	-	-	-	-	-	-	-	-	1	2
CO2	2	-	1	-	2	-	-	-	-	-	-	-	-	1	2
CO3	2	-				-	-	-	-	-	-	-	-	1	2
CO4	1	3	-	2	1	-	-	-	-	-	-	-	-	1	2
CO5	1	2	-	1	2	-	-	-	-	-	-	-	-	1	2
WT. AVG	1.80	2.00	1.00	1.50	1.67								-	1	2

10) OUTLINE OF THE COURSE

Unit	Title of the unit	Time Required for the Unit (Hours)
1	Introduction of Soil	5
2	Properties of Soil	5
3	Classification of Soil	4
4	Soil Bearing Capacity	4
5	Retaining Wall	6

11) DETAILED SYLLABUS

UNITS	CONTENTS
1	Introduction of Soil
	IA) Soil and soil-mass constituents, water content, specific gravity, void ratio, porosity, degree of saturation, air void and air content, unit weights, density index etc. Inter-relationships of the above. IB) tutorial based on the same
2	Properties of Soil
	IIA) Determination of index properties of soil: water content, specific gravity, particle size distribution, sieve and sedimentation analysis, consistency limits, void ratio and density index. IIB) tutorial based on the same
3	Classification of Soil
	IIIA) Classification of soil for general engineering purposes: particle size, textural, H.R.B. Unified and I.S. Classification systems. IIIB) tutorial based on the same
4	Foundation
	IVA) Types of foundation: Shallow & deep; Common types of foundations. Introduction to pile and well Foundations. Design of raft foundation & combined footing. IVB) tutorial based on the same.
5	Soil Bearing Capacity
	VA) Terminology related to bearing capacity, Terzaghi theory for bearing capacity, Rankine's method for minimum depth of foundation. Plate load and penetration tests for determining bearing capacity. VB) tutorial based on the same

12) RECOMMENDED STUDY MATERIAL:

Sr. N	Reference Book	Author	Edition	Publication
1.	Soil Mechanics & Foundation Engineering	Arora K.R	Latest	Standard Publishers, Delhi

2.	Soil Engineering in Theory & Practice	Alam Singh	Latest	CBS Publishers, Delhi
3.	Soil Mechanics and Foundations	B. C. Punmia, Ashok Kumar Jain	Latest	Laxmi Pant Publication
Important Web Links				
1.				
2.				

Code: 25BARCAR3103	SURVEYING & LEVELING	2 Credits [LTP: 2-0-0]
--------------------	---------------------------------	------------------------

1) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Summarizing the basic terms, techniques and applications of site surveying.	L1	PO1,PO2	PSO2
CO2	Determining the use of tools and instruments of surveying in the most appropriate manner.	L2	PO1,PO3,PO5	PSO2
CO3	Appraising about the different types of surveying methods and their applications.	L3	PO1	PSO2
CO4	Assessing deep understanding of contours and how they are important in the design process.	L4	PO1,PO2,PO4, PO5	PSO2
CO5	Building the learningS from surveying subject and apply them in practical field.	L5	PO1,PO2,PO4, PO5	PSO2

2) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	1	-	-	-	-	-	-	-	-	-	-	-	1	-
CO2	2	-	1	-	2	-	-	-	-	-	-	-	-	1	-
CO3	2	-				-	-	-	-	-	-	-	-	1	-
CO4	1	3	-	2	1	-	-	-	-	-	-	-	-	1	-
CO5	1	2	-	1	2	-	-	-	-	-	-	-	-	1	-
WT. AVG	1.80	2.00	1.00	1.50	1.67								-	1	-

3) OUTLINE OF THE COURSE

Unit	Title of the unit	Time Required for the Unit (Hours)
1	Chain Survey & Site Planning	5
2	Compass Survey	4
3	Site Analysis : Theodolite	6
4	Plane Table Survey	4
5	Site Contours	5

4) DETAILED SYLLABUS

UNITS	CONTENTS
1	Chain Survey & Site Planning

	IA- Chain Surveying: Principles of chain surveying, Study of instruments used in chain surveying, base line, tie line, Offsets, Obstacles in chain surveying, Errors in chaining. IB- Site Analysis, Preparation of plans and implementation of chain survey on given site.
2	Compass Survey
	IIA- Compass Surveying: Study of prismatic compass; Compass traversing – open and closed traverses, Bearing and its designation, Errors in compass surveying, plotting adjustment of closing error in compass traverse. IIB - Determining various angles between different building blocks of various sites.
3	Site Analysis : Theodolite
	IIIA- Theodolite survey: Study of instrument, Temporary adjustment of theodolite, Measurement of horizontal angle by repetition and reiteration methods, Measurement of vertical angle, Introduction to ‘Total Station’. IIIB- Site Analysis, Preparation of plans and implementation of Theodolite survey on given site.
4	Plane Table Survey
	IVA- Elements of plane table survey working operations, method of plane table survey, intersection, traversing and resection. IV B- Elementary surveying of area by plane table surveying.
5	Site Contours
	VA - Basic ideas on plotting of longitudinal and cross sections, Contouring – Contour interval – Characteristics, uses of contours VB – Determining contours of site plans.

5) **RECOMMENDED STUDY MATERIAL:**

Sr. N	Reference Book	Author	Edition	Publication
1.	Surveying	B.C. Punamia, Ashok Jain	1994	Lakshmi Publication
2.	Surveying and Leveling, Vol. I and II	S. K. Duggal,	Latest	Tata Mc Graw-Hill
3.	Surveying, Vol. I & II	Arora, K.R.	Latest	Standard Book House, Delhi
4.	Surveying and leveling	Rangwala	2005	Charotar Publishing House
5.	Surveying - Volume 1 & 2	Punmia	2005	Firewall Media
Important Web Links				
1.				

2.	
----	--

Code: 25BARCAR3201	ARCHITECTURAL DESIGN –II	8Credits [LTP: 1-0-7]
--------------------	--------------------------	-----------------------

6) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Summarize all the dynamics involved within the design problem introduced.	L1	PO1,PO2, PO4, PO5,PO6, PO8, PO9, PO10, PO11	PSO1, PSO2 & PSO3
CO2	Articulate and present information and data collected through studies	L2	PO1,PO2, PO4, PO5,PO6, PO8, PO9, PO10, PO11	PSO1, PSO2 & PSO3
CO3	Appraise the built environment through the study.	L3	PO1,PO2, PO4, PO5,PO6, PO8, PO9, PO10, PO11	PSO1, PSO2 & PSO3
CO4	Review the importance of spatial planning within the constraints of Development Regulations in urban areas.	L4	PO1,PO2,PO3,PO4, PO5,PO6, PO8, PO10	PSO1, PSO2 & PSO3
CO5	Build buildings as a response to both tangible factors such as geography and intangible factors such as culture.	L5	PO1,PO2,PO3,PO4, PO5,PO6,PO10	PSO1, PSO2 & PSO3

7) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	2	-	1	3	1	-	1	1	1	1	-	2	3	2
CO2	2	1	-	1	3	1	-	2	1	1	1	-	2	3	2
CO3	2	1	-	2	3	2	-	1	1	2	1	-	2	3	2
CO4	1	1	1	3	3	3	-	2	-	2	-	-	2	3	2
CO5	1	1	1	3	2	3	-	-	-	3	-	-	2	3	2
WT. AVG	1.60	1.20	1.00	2.00	2.80	2.00		1.50	1.00	1.80	1.00		2	3	2

8) OUTLINE OF THE COURSE

Unit	Title of the unit	Time Required for the Unit (Hours)
1	Basic architectural design Process	16
2	Learning from Literature & Case studies	16
3	Optimization in Architectural Design	24
4	Learning the basic drawings representing design	16
5	Basics of Measured Drawing and documentation	24

9) DETAILED SYLLABUS

UNITS	CONTENTS
1	Chain Survey & Site Planning
	<ul style="list-style-type: none"> ● To give the students a clear understanding on the basis of basic architectural design process through small to medium design projects. Help student formulate design through methods of inquiry that seeks to clarify the relationship between human behavior and physical environment. ● Principles in Design and Buildings and Site; design parameters with respect to climatic sustainability, functional, aesthetic and basic structural aspect. ● To give the students an introductory view of measured architecture drawing, research and report drafting for a conservation/ heritage project.

10) **RECOMMENDED STUDY MATERIAL:**

Sr. N	Reference Book	Author	Edition	Publication
1.	Graphic Thinking for Architects and Planners	Paul Lassau		
2.	Poetics in Architecture : Theory of Design	Anthony Antoniadis		
3.	Architecture : Form Space and Order	Francis D. K. Ching		
4.	Pattern Language	Christopher Alexander		
5.	Sharpen your team skills & creativity	British Council Library		
6.	Design Source Book	BNCA Library		
Important Web Links				
1.				
2.				

Code: 25BARCAR3202	ARCHITECTURAL BUILDING CONSTRUCTION & MATERIALS – III	3Credits [LTP: 2-0-2]
--------------------	--	-----------------------

11) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Summarize the basic components of a building with its construction details such as Foundation Footing, Wall section, Roofs in RCC and Study design parameters for structural elements in different site and soil conditions	L1	PO1,PO2	PSO2
CO2	Articulate knowledge of properties and construction methods of RCC and be able to design and detail structural and non-structural components of simple buildings using RCC	L2	PO1,PO2, PO4	PSO2
CO3	Appraise different options for design of RCC framed structural and non-structural elements like slabs, roofing, flooring, staircase and their utility for different design complexities, spans and building typology.	L3	PO1,PO2, PO4	PSO2
CO4	Review construction details and constructions techniques through site visits, market surveys and produce detail construction drawing set of building components.	L4	PO1,PO2,PO4,	PSO2
CO5	Adapt knowledge of properties and construction methods of RCC in the design of earthquake resistant framed structure.	L5	PO1,PO2,PO3,PO4	PSO2

12) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	1	–	–	–	–	–	–	–	–	–	–	-	2	-
CO2	1	1	–	1	–	–	–	–	–	–	–	–	-	2	-
CO3	1	2	–	1	–	–	–	–	–	–	–	–	-	2	-
CO4	1	2	–	2	–	–	–	–	–	–	–	–	-	2	-
CO5	1	3	–	2	3	–	–	–	–	–	–	–	-	2	-
WT. AVG	1.00	1.80		1.50	3.00								-	2	-

13) OUTLINE OF THE COURSE

Unit	Title of the unit	Time Required for the Unit (Hours)
1	Foundation	12
2	Superstructure	12
3	Roofing & Flooring	12
4	Staircase	12
5	Earthquake Resistant RCC framed Structure	12

14) DETAILED SYLLABUS

UNITS	CONTENTS
1	Foundation
	<ul style="list-style-type: none"> a) Introduction to Unit, b) Construction details of RCC footing, isolated and combined with their connections with superstructure along with damp proof SUBJECT, c) Construction detailing of RCC Retaining walls, d) Conclusion & Summary of Unit,
2	Superstructure
	<ul style="list-style-type: none"> a) Introduction to Unit, b) Construction detailing of Simple RCC frame with beam and column, Construction details of Shear Walls and RCC walls, c) Conclusion & Summary of Unit,
3	Roofing & Flooring
	<ul style="list-style-type: none"> a) Introduction to Unit, b) Construction details of Flat RCC roof with water proofing details and study of different RCC roof forms and its connection with structure, c) Constructing Detailing of RCC and PCC paving and industrial flooring, d) Conclusion & Summary of Unit,
4	Staircase
	<ul style="list-style-type: none"> a) Introduction to Unit, b) Construction details of waist slab, folded plates, central beam and cantilevered RCC staircases, c) Conclusion & Summary of Unit,
5	Earthquake Resistant RCC framed Structure
	<ul style="list-style-type: none"> a) Introduction to Earthquake Resistant Masonry, stone, wooden and steel Construction, b) Construction details of earthquake resistant brick and stone masonry and additional provisions made to it, c) Dry stone masonry, d) Construction details of earthquake resistant column and beam design, shear walls etc .Special construction details followed for earthquake resistant steel structures, e) Conclusion & Summary of Unit,

15) **RECOMMENDED STUDY MATERIAL:**

Sr. N	Reference Book	Author	Edition	Publication
1.	Building Construction	B.C.Punmia		Laxmi Publication
2.	Building Construction	Sushil kumar		A.K .Jain
3.	Building Construction	S.C.Rangwala		Charatar Publishing House
4.	Building Construction	S.P.Arora, S.P.Bindra		Dhanpat Rai Publication
5.	Construction Technology	Roy chudley and Roger Greeno	Fourth edition	Pearson Education Limited
6.	Explanatory Handbook on Codes for Earthquake Engineering, IS -1893 -1975 & IS - 4326 -1976, Bureau of Indian Standards.			
Important Web Links				
1.				
2.				

Code: 25BARCAR3203	BUILDING SERVICES STUDIO-I	2Credits [LTP: 2-0-2]
--------------------	-----------------------------------	-----------------------

1) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Summarizing the various terms and terminologies related to water supply in simple, multistoried and complex buildings.	L1	PO1,PO3	PSO3
CO2	Determining the supply requirements and distribution based on function, type, location and verticality in various types of buildings.	L2	PO1,PO2, PO3	PSO3
CO3	Appraising the best practices used in waste disposal and sanitation and apply them in real life situations.	L3	PO1,PO2, PO3, PO4	PSO3
CO4	Assessing the design and complexity related to an architectural project starting from supply requirements to designing the pipelines, valves, drains and tanks etc. and ending on the final disposal of waste.	L4	PO1,PO2, PO3, PO4	PSO3
CO5	Building & name the various term and technicalities.	L5	PO3,PO4,PO5	PSO3

2) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	–	1	–	–	–	–	–	–	–	–	–	-	-	2
CO2	2	2	3	–	–	–	–	–	–	–	–	–	-	-	2
CO3	1	2	3	2	–	–	–	–	–	–	–	–	-	-	2
CO4	1	2	2	1	–	–	–	–	–	–	–	–	-	-	2
CO5	–	–	3	2	3	–	–	–	–	–	–	–	-	-	2
WT. AVG	1.75	2.00	2.40	1.67	3.00								-	-	2

3) OUTLINE OF THE COURSE

Unit	Title of the unit	Time Required for the Unit (Hours)
1	Supply of Water	8
2	Distribution	6
3	Refuse	6
4	Sanitation	8
5	Sanitation Fittings and Fixtures	8

4) DETAILED SYLLABUS

UNITS	CONTENTS
1	Supply of Water
	I A-a) Supply of water to different types of buildings; b) Sources of water, modes and methods of conveyance of water, fixtures and appliances. I B- Detailed study on water supply in buildings -Group Submission (PPT)
2	Distribution
	II A-a) Distribution of water, methods of distribution, different distribution systems and their principles of layout, b) Design of water distribution system in a campus, and in a building, overhead and underground water storage tanks. II B- Advanced study of layout and distribution system in water supply. (Graphical Sheets)
3	Refuse
	III A-a) Refuse; different forms of refuse, garbage, sludge, toilet waste and storm water collection and disposal system, b) Requirements for various building types. III B- Identification of types of refuse, garbage, sludge solid waste and water disposal system-Group Submission (PPT)
4	Sanitation
	IV A-a) Sanitation; manholes, grease chambers, etc. Traps, ventilation of drains, b) Principles of design of drainage lines, drainage layouts for building premises, Longitude sections of drains. c) Drainage in non-municipal area – soak wells, septic tanks. IV B- Sanitation layout plans of floors-schematic and graphical presentation with calculation(CAD drafted Sheets)
	Sanitation, Fittings & Fixtures
	V A-a) Sanitation, Fittings & Fixtures; water closets, flushing valves, flushing tanks, basins and its accessories, rain water, drainage pipes, spouts, sizing of rain water pipes system of rain water at ground level, storm water drainage. V B- Study of different sanitary fittings and fixtures. (Reports)

5) RECOMMENDED STUDY MATERIAL:

Sr. N	Reference Book	Author	Edition	Publication
1.	Plumbing Design and Practice	S. G. Deolalikar	2015	Mc Graw Hill Publication
2.	Water Supply & Sanitation	Charanjeet Shah	2002	Galgotia Publishing Co., New

				Delhi
3.	Building Services Handbook	Fred Hall & Roger Greeno	8th edition (2015)	Routledge
4.	Building Services Engineering	David V. Chadderton	2012	Taylor & Francis Group
5.	National Building Code 2016	BIS	2016	Bureau of Indian Standards
6.	Uniform Plumbing Code – India	IAPMO	2014	International Association of Plumbing
7.	A Guide to Good Plumbing Practices	IPA	2015	Indian Plumbing Association
8.	Water Supply & Sanitary Engineering	S.C. Ranwala		Chartar Publishing House Anand (Gujarat)
9.	Water Supply & Engineering	Santosh Kr. Garg		
10.	Water Supply & Sanitation	Charanjeet Shah	2002	Galgotia Publishing Co., New Delhi
Important Web Links				
1.				
2.				

Code: 25BARCAR3204	COMPUTER APPLICATION – III (Introduction to AR/VR)	1Credits [LTP: 0-0-2]
--------------------	---	-----------------------

1) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Summarizing the importance of software applications in the field.	L1	PO1,PO4	PSO1 & PSO2
CO2	Determining the usage of various Computer Application tools and software's.	L2	PO1,PO4	PSO1 & PSO2
CO3	Appraising gauge the applications of the software in the field.	L3	PO1,PO4	PSO1 & PSO2
CO4	Assessing the skills both graphically and technically to produce composed design/technical sheets in academics as well as later in the field.	L4	PO1,PO4,PO5	PSO1 & PSO2
CO5	Building drawings and details based on the designs and planning.	L5	PO1,PO4,PO5	PSO1 & PSO2

2) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	-	-	2	-	-	-	-	-	-	-	-	2	3	-
CO2	2	-	-	3	-	-	-	-	-	-	-	-	2	3	-
CO3	3	-	-	3	-	-	-	-	-	-	-	-	2	3	-
CO4	-	-	-	2	3	-	-	-	-	-	-	-	2	3	-
CO5	2	-	-	2	3	-	-	-	-	-	-	-	2	3	-
WT. AVG	2.25			2.40	3.00								2	3	-

3) OUTLINE OF THE COURSE

Unit	Title of the unit	Time Required for the Unit (Hours)
1	Introduction to SketchUp	6
2	Creating 3D Models	8
3	Manipulating Geometry	6
4	Texturing and Materials	8
5	Presentation and Visualization	8

4) DETAILED SYLLABUS

UNITS	CONTENTS
1	Introduction to SketchUp
	<ol style="list-style-type: none"> 1. Overview of SketchUp and its Applications: <ul style="list-style-type: none"> ● Introduction to SketchUp software and its usage in various industries such as architecture, interior design, and urban planning. ● Understanding the advantages and capabilities of SketchUp for creating 3D models and visualizations. 2. Interface Layout and Customization: <ul style="list-style-type: none"> ● Familiarization with the SketchUp user interface, including menus, toolbars, and panels. ● Customizing the interface to suit individual preferences and workflow requirements. 3. Basic Drawing Tools and Navigation: <ul style="list-style-type: none"> ● Exploring the basic drawing tools in SketchUp, such as the line tool, rectangle tool, circle tool, and polygon tool. ● Learning navigation techniques for moving around the 3D workspace, including orbiting, panning, and zooming.
2	Creating 3D Models
	<ol style="list-style-type: none"> 1. Drawing and Editing Geometry: <ul style="list-style-type: none"> ● Utilizing the push/pull tool to extrude 2D shapes into 3D forms. ● Understanding the importance of grouping and componentizing geometry for efficient modeling. 2. Grouping and Componentizing Geometry: <ul style="list-style-type: none"> ● Creating groups and components to organize and manage geometry effectively. ● Exploring the differences between groups and components and when to use each. 3. Using Guides and Inferencing for Precision: <ul style="list-style-type: none"> ● Employing guides and inference points to ensure accuracy and precision in modeling. ● Understanding how inferencing points aid in aligning, snapping, and resizing geometry.
3	Manipulating Geometry
	<ol style="list-style-type: none"> 1. Move, Rotate, Scale, and Stretch Tools: <ul style="list-style-type: none"> ● Mastering the use of transformation tools for moving, rotating, scaling, and stretching objects in SketchUp. ● Understanding how to apply transformations accurately and efficiently. 2. Advanced Editing Techniques: <ul style="list-style-type: none"> ● Exploring advanced editing tools such as the follow me tool, offset tool, and intersect tool. ● Learning how to use these tools to create complex geometry and perform intricate editing tasks. 3. Creating and Editing Curves:

	<ul style="list-style-type: none"> • Techniques for creating and editing curves in SketchUp using tools like arcs, curves, and bezier curves. • Understanding how to manipulate curves to achieve desired shapes and forms.
4	Texturing and Materials
	<ol style="list-style-type: none"> 1. Textures, Materials, and Customization <ul style="list-style-type: none"> – Learn to apply and manage materials using SketchUp’s library and custom textures. – Use the Material Editor to fine-tune properties like color, transparency, and reflectivity. 2. Visual Setup and Style Enhancements <ul style="list-style-type: none"> – Set up scenes, camera views, and visual styles (e.g., shaded, wireframe, hidden line). – Apply effects like shadows, fog, and sketchy edges to improve visual appeal. 3. Presentation and Rendering Techniques <ul style="list-style-type: none"> – Create effective presentations within SketchUp. – Utilize built-in and plugin-based rendering tools (e.g., V-Ray, Enscape, Lumion) for photorealistic output.
5	Introduction to AR/VR
	<ol style="list-style-type: none"> 1. Introduction to Virtual Reality <ul style="list-style-type: none"> • What is VR? • Types of VR (Non-immersive, Semi-immersive, Fully immersive) • Importance of VR in Architecture & Interiors 2. Role of VR in Design <ul style="list-style-type: none"> • How VR helps in planning and presentation • Real examples of VR in buildings and interiors • Benefits of using VR for clients

5) **RECOMMENDED STUDY MATERIAL:**

Sr. N	Reference Book	Author	Edition	Publication
1.	Online Tutorials – Sketchup	SketchUp Website		Google
2.	Architectural Design with SketchUp: 3D Modeling, Extensions, BIM, Rendering, Making, and Scripting	Alexander C Shreyer		John Wiley and Sons
3.	The SketchUp Workflow for Architecture: Modeling Buildings, Visualizing Design, and Creating Construction Documents with	Michael Brightman		John Wiley and Sons

	SketchUp Pro and LayOut			
4.	Google SketchUp for Site Design: A Guide to Modeling Site Plans, Terrain and Architecture	Daniel Tal		John Wiley and Sons
5.	Sketchup for Architects	Earl Rustia Miranda		Create space Independent Publishing Platform
Important Web Links				
1.				
2.				

Code: 25BARCAR3201	ART STUDIO & WORKSHOP -III	2Credits [LTP: 1-0-0]
--------------------	---------------------------------------	-----------------------

1) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Summarizing & illustrate a grip-on handling the major tools and different rendering technique's application, in order to enhance the visual manifestation of architectural buildings & related elements	L1	PO1, PO2, PO5	PSO1 & PSO2
CO2	Determining & experiment with different mediums for development of creative side of students in an artistic approach	L2	PO1, PO2	PSO1 & PSO2
CO3	Appraising & discover the language of visual perception in true sense by working on life size products that can illustrate the comprehension of design and its scale and proportion with respect to various utility platforms.	L3	PO1, PO2, PO3, PO6, PO7, PO10	PSO1 & PSO2
CO4	Assessing the significant craftsman's strategies and speculations and have the option to evaluate the characteristics of centerpieces and design in their chronicled and social settings.	L4	PO1, PO2, PO3, PO6, PO7, PO10	PSO1 & PSO2
CO5	Building & formulate an arrangement of works that exhibits their composition, rendering techniques and presentation skills.	L5	PO1, PO2, PO3, PO6, PO7, PO10	PSO1 & PSO2

2) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	2	-	-	1	-	-	-	-	-	-	-	1	2	-
CO2	2	2	-	-	-	-	-	-	-	-	-	-	1	2	-
CO3	2	2	1	-	-	1	1	-	-	1	-	-	1	2	-
CO4	2	2	1	-	-	1	1	-	-	1	-	-	1	2	-
CO5	2	3	1	-	-	1	1	-	-	1	-	-	1	2	-
WT. AVG	2.20	2.20	1.00		1.00	1.00	1.00			1.00			1	2	-

3) OUTLINE OF THE COURSE

Unit	Title of the unit	Time Required for the Unit
------	-------------------	----------------------------

		(Hours)
1	Rendering & Presentation Techniques – II	12
2	Medium Application – II	12
3	Model Making	12
4	Studio Design Exercise	12
5	Introduction to unexplored medium	12

4) DETAILED SYLLABUS

UNITS	CONTENTS
1	Rendering & Presentation Techniques-II
	I A- Need of Rendering, Types of renderings on different types of drawings, principles of composition of drawings, views, rule of thirds, Rendering with different mediums- Composition and Presentation Techniques on an Architectural Drawings
2	Medium Application-II
	II A- Introduction & application of different mediums- glass marking, photo colors, soft pastels, uniball and marker pens, Basic differences between mediums, application limitations and scope Outdoor exercises for composition and rendering activities.
3	Model Making
	III A- a) Introduction to Architectural Models- Types of models, usability of models and other relevant details. b) Various Techniques of model making and outcomes c) 3D model making, laser cut machines, CNC cut models, Hot wire machine cut models d) Use of all possible materials for model making like paper, compress Thermocol, mount board, cardboard, discarded material, recycled material, in architectural model making.
4	Studio Design Exercise
	IV A- a) Parallel Course identification and analysis of assignment to be utilized b) Hands on exercise
5	Introduction to unexplored medium
	V A – The student needs to explore an unexplored or unexperienced medium V B – The Studio design exercise or any parallel assignment needs to be done in this medium

5) RECOMMENDED STUDY MATERIAL:

Sr. N	Reference Book	Author	Edition	Publication
1.	Rendering with pen and ink	Robert W. Gill	Enlarged edition, 1984	Thames Hudson Ltd. United Kingdom

2.	Art fundamental (Theory and practice)	Ocvirk and others	12 th edition	McGraw – Hill Education Europe
3.	Color in sketching and rendering	Guptill, Arthu r L.	5 th edition	Reinhold Publishing Corp., New York 1949
4.	Los Logos			Dei Gestalten Verlag
5.	The Power of Limits	Gyorgy Doczi		Shambhala

Important Web Links

1.	https://www.coursera.org/learn/typography?specialization=graphic-design
2.	https://www.arch2o.com/architecture-model-complete-guide/

Semester-IV

Code: 25BARCAR4101	HISTORY OF ARCHITECTURE – III	2 Credits [LTP: 2-0-0]
--------------------	-------------------------------	------------------------

13) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Summarizing the unique architectural style developed during the Egyptian Period.	L1	PO1,PO2,PO3	PSO2
CO2	Determining the development of different styles of architecture in West Asia and its impact across the world.	L2	PO1,PO2,PO3	PSO2
CO3	Appraising the knowledge on the evolution, significance, principles and characteristics of Greek and Roman Architecture.	L3	PO1,PO2,PO3,PO10	PSO2
CO4	Assessing the evolution and characteristics of Christian and Romanesque Architecture and to study its influence on the built form.	L4	PO1,PO2,PO3, PO5,PO10	PSO2
CO5	Building the unique features of Byzantine and Gothic Architecture, in design	L5	PO1,PO2,PO3, PO5,PO10	PSO2

14) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	2	2	-	-	-	-	-	-	-	-	-	-	3	-
CO2	3	2	2	-	-	-	-	-	-	-	-	-	-	3	-
CO3	3	2	2	-	-	-	-	-	-	1	-	-	-	3	-
CO4	3	2	2	-	1	-	-	-	-	1	-	-	-	2	-
CO5	3	2	2	-	1	-	-	-	-	1	-	-	-	2	-
WT. AVG	3.00	2.00	2.00		1.00					1.00			-	2	-

15) OUTLINE OF THE COURSE

Unit	Title of the unit	Time Required for the Unit (Hours)
1	Early Christian Architecture	4
2	Romanesque Architecture	8
3	Byzantine Architecture	4
4	Gothic Architecture	4

5	Renaissance & Baroque Architecture	8
---	------------------------------------	---

16) DETAILED SYLLABUS

UNITS	CONTENTS
1	Early Christian Architecture (313AD-800AD)
	Study of Architectural character, evolution and transformation of Church form, building typologies and building elements viz., Pointed arch, church towers etc. and their influence on the church form; Influence of structural elements on the built form and the resultant settlement planning. Basilica churches of Rome.
2	Romanesque Architecture (9th-15th century)
	IA.–Romanesque Architecture development after the collapse of Roman Empire in Europe countries. Ribs and Panel Vaulting, Pisa Cathedral, Leaning tower of Pisa, The Abbey Church, Cluny a) Introduction of Unit b) Study of evolution of design concept, philosophy, construction techniques, materials, town planning and structural solution with the help of selected examples . IIB – Understanding social, cultural, geographical, political and climate of place and period.
3	Byzantine Architecture
	IA. - a) Introduction of Unit. c) Study of evolution of design concept, philosophy, construction techniques, materials, town planning and structural solution with the help of selected examples IIB – Understanding social, cultural, geographical, political and climate of place and period.
4	Gothic Architecture(12th -16thcentury)
	IA. Early Gothic style. Structural elements like Pendentive, Flying buttress, Stained glass etc. Notre Dame, Paris, King’s College Chapel, Cambridge a) Introduction of Unit b) Study of evolution of design concept, philosophy, construction techniques, materials, town planning and structural solution with the help of selected examples . IIB – Understanding social, cultural, geographical, political and climate of place and period.
5	Renaissance & Baroque Architecture
	IA. - a) Introduction of Unit b) Study of evolution of design concept, philosophy, construction techniques, materials, town planning and structural solution with the help of selected examples . IIB – Understanding social, cultural, geographical, political and climate of place and period.

17) RECOMMENDED STUDY MATERIAL:

Sr. N	Reference Book	Author	Edition	Publication
-------	----------------	--------	---------	-------------

1	History of Architecture	Sir. Bannister Fletcher	20 th Edition	CBS
2	History of Architecture: Setting and Rituals	Spiro Coston		
Important Web Links				
1.				
2.				

Code: 25BARCAR4102	ARCHITECTURAL STRUCTURES - IV	2 Credits [LTP: 2-0-0]
--------------------	--------------------------------------	------------------------

1) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Summarize the types and properties of cement, aggregates, concrete and steel	L1	PO1,PO2	PSO2 & PSO3
CO2	Articulate the design philosophies in RCC and usage of IS codes.	L2	PO1,PO3,PO5	PSO2 & PSO3
CO3	Appraise the design loads using the building codes on singly & doubly reinforced and flanged beams..	L3	PO1	PSO2 & PSO3
CO4	Structurally review a singly & doubly reinforced and flanged beam.	L4	PO1,PO2,PO4, PO5	PSO2 & PSO3
CO5	Build the design loads using the building codes and structurally design a RCC slab.	L5	PO1,PO2,PO4, PO5	PSO2 & PSO3

2) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	3	1	-	-	-	-	-	-	-	-	-	-	1	2
CO2	1	3	-	-	-	-	-	-	-	-	-	-	-	1	2
CO3	1	3	1	1	2	-	-	-	-	-	-	-	-	1	2
CO4	1	3	1	2	1	-	-	-	-	-	-	-	-	1	2
CO5	1	3	1	1	2	-	-	-	-	-	-	-	-	1	2
WT. AVG	1.20	3.00	1.00	1.33	1.67								-	1	2

3) OUTLINE OF THE COURSE

Unit	Title of the unit	Time Required for the Unit (Hours)
1	Materials for RCC	10
2	Design Philosophies	12
3	Design of singly reinforced beam	12
4	Doubly reinforced beam & Flange beam	14
5	RCC Slab Design	16

4) DETAILED SYLLABUS

UNITS	CONTENTS
-------	----------

1	Materials for RCC
	<p>a) Cement:-Types of cements & their properties;</p> <p>b) Types of aggregates & their properties, Grade of concrete, proportioning of ingredients,</p> <p>c) Water content its quality for concrete, water/cement ratio and its role,</p> <p>d) Properties of fresh concrete including workability, air content, Flow ability, Segregation and bleeding</p> <p>e) Introduction to admixtures</p> <p>f) Steel: - Necessity of reinforcement; characteristics of reinforcing material; elastic theory for reinforced concrete design; assumptions made.</p>
2	Design Philosophies
	<p>a) Introduction to various related IS codes.</p> <p>b) Design Philosophies: Working stress, ultimate strength and limit states of design.</p> <p>c) Design concept of factor of safety.</p> <p>d) Limit state of serviceability for deflection, control of deflection as per IS 456:2000.Conclusion and Summary of Unit</p>
3	Design of singly reinforced beam
	Analysis and Design of singly reinforced rectangular beam section for flexure and shear using Limit State Method
4	Doubly reinforced beam & Flange beam
	Analysis and design of doubly reinforced rectangular beams for flexure and shear using Limit State Method.
5	RCC Slab Design
	Analysis and design of one way and two-way slabs using LSM & Detailing of reinforcement.

5) **RECOMMENDED STUDY MATERIAL:**

Sr. N	Reference Book	Author	Edition	Publication
1.	Strength of Materials	R.S. Khurmi	Latest	S.Chand Publishing House
2.	Strength of Materials	D.S. Kumar	Latest	
3.	Strength of Materials	Ramamurth an	Latest	Dhanpat Rai Publication
Important Web Links				
1.				

2.	
----	--

Code: 25BARCAR4103	BUILDING REGULATIONS AND BYE LAWS	3 Credits [LTP: 2-0-0]
--------------------	--	------------------------

16) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Summarize the Indian framework of Building Regulations	L1	PO1,PO2,PO4, PO5	PSO3
CO2	Articulate difference between various regulations and its application.	L2	PO1,PO2,PO4, PO5	PSO3
CO3	Appraise the building codes and its application in building.	L3	PO1,PO2	PSO3
CO4	Review the regulations related to fire protection.	L4	PO1,PO2,PO3, PO4,PO5	PSO3
CO5	Adapt the various services-based regulations for a building.	L5	PO1,PO2,PO3, PO4,PO5	PSO3

17) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	1	-	1	1	-	-	-	-	-	-	-	-	-	3
CO2	3	1	-	1	1	-	-	-	-	-	-	-	-	-	3
CO3	1	1	-	-	-	-	-	-	-	-	-	-	-	-	3
CO4	1	1	3	1	1	-	-	-	-	-	-	-	-	-	3
CO5	3	1	3	1	3	-	-	-	-	-	-	-	-	-	3
WT. AVG	2.20	1.00	3.00	1.00	1.50								-	-	3

18) OUTLINE OF THE COURSE

Unit	Title of the unit	Time Required for the Unit (Hours)
------	-------------------	------------------------------------

1	Indian framework of Building Regulations	2
2	Building Regulations and Bye-Laws	2
3	National Building Code	8
4	Regulations for Fire Protection	6
5	Regulations for Services, Light & Ventilation	6

19) DETAILED SYLLABUS

UNITS	CONTENTS
1	Indian Framework of Building Regulations
	<ul style="list-style-type: none"> ● I A- Terminologies related to Code, standard, Bye-laws, Bill, Act, Regulations, Ordinance, Legislation and Law. ● -Normative and Legal framework of Building codes, regulations, bye-laws and guidelines - Building permit & approval process from various authorities for completion ● I B- Hands on exercise by taking a case of building for understanding the process.
2	Bye-laws & Building Regulations
	<ul style="list-style-type: none"> ● Classification of land uses, buildings and permissible uses ● Regulations, Standard and codes for various building types and land uses ● Fire safety and other building service requirements
3	National Building Code
	<ul style="list-style-type: none"> ● Chapters of NBC ● Their salient features and applications in building design
4	Regulations for Fire protection
	<ul style="list-style-type: none"> ● Material specifications ● Design strategies ● Techniques and technology used ● Firefighting provisions
5	Regulations for Services, Light & Ventilation
	<ul style="list-style-type: none"> ● Minimum sizes and setbacks ● Opening size requirements ● Proportions and sizes of spaces

20) RECOMMENDED STUDY MATERIAL:

Sr. N	Reference Book	Author	Edition	Publication
1.	National Building Codes			Bureau of Indian Standards
2.	Unified Building Byelaws			Jaipur Development Authority,

				GoR
Important Web Links				
1.				
2.				

Code: 25BARCAR4201	ARCHITECTURAL DESIGN –III	8Credits [LTP: 1-0-7]
---------------------------	----------------------------------	------------------------------

1) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Summarize Empathy and Design thinking in relation with to multi-functional spaces, climatology, structural study, application of materials and site planning	L1	PO1,PO2, PO4, PO5,PO6, PO8, PO9, PO10, PO11	PSO1, PSO2 & PSO3
CO2	Articulate the study of codes, standards, byelaws, policies, architectural styles for Research and Analysis and project planning. Inferences to be translated into conceptualization of the design.	L2	PO1,PO2, PO4, PO5,PO6, PO8, PO9, PO10, PO11	PSO1, PSO2 & PSO3
CO3	Appraise the planning of spaces, materials, technology and their interrelation with open spaces. Introduction to sustainable solutions, user need assessment and area program formulation leading to detail design	L3	PO1,PO2, PO3,PO4, PO5,PO6, PO8, PO9, PO10, PO11	PSO1, PSO2 & PSO3
CO4	Experiment conceptual ideas into drawings, detailed design in considerations with all norms and services and application of specific design details in consideration with the concept	L4	PO1,PO2,PO3,PO4, PO5,PO6, PO8, PO9,PO10	PSO1, PSO2 & PSO3
CO5	Build presentation of the overall major and minor design problem through drawings, presentations, walkthroughs, models, rendered as approved and appreciated by the faculty members	L5	PO1,PO2,PO3,PO4, PO5,PO6, PO9,PO10	PSO1, PSO2 & PSO3

2) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	3	-	1	3	3	-	1	1	2	1	-	2	3	2
CO2	2	1	-	2	3	1	-	2	1	1	1	-	2	3	2
CO3	2	1	1	2	3	2	-	1	1	2	1	-	2	3	2
CO4	1	1	1	3	3	3	-	1	2	2	-	-	2	3	2
CO5	1	1	2	3	2	3	-	-	1	3	-	-	2	3	2

WT. AVG	1.60	1.40	1.33	2.20	2.80	2.40		1.25	1.20	2.00	1.00		2	3	2
---------	------	------	------	------	------	------	--	------	------	------	------	--	---	---	---

3) OUTLINE OF THE COURSE

Unit	Title of the unit	Time Required for the Unit (Hours)
1	Basic architectural design Process	16
2	Learning from Literature & Case studies	16
3	Optimization in Architectural Design	24
4	Learning the basic drawings representing design	16
5	Basics of Measured Drawing and documentation	24

4) DETAILED SYLLABUS

UNITS	CONTENTS
1	Chain Survey & Site Planning
	a) To understand the co-relation of visual aesthetics, climatology, seismic response, complex structural study in designing and spaces. b) To understand the impact of Climatic Design Parameter with respect to Human Comfort and energy conservation and application of Building Materials, in various Climate Zones. c) To understand the complexity of site planning in various topographies; especially a Contour Site (Sloping Site). d) To understand the multi-functional, multi-usable spaces.

5) RECOMMENDED STUDY MATERIAL:

Sr. N	Reference Book	Author	Edition	Publication
1	Time Saver Standards for Architectural Design	Martin Zelnik and Julius Panero	Latest	--
2	Neuferts architect's data	Ernst Neuferts	Latest	--
3	Time-Saver Standards for Interior Design and Space Planning	Martin Zelnik and Julius Panero	Latest	--
4	Campus design in India	Kanvinde & Miller		
5	Campus Planning	Richard Dober		

6	Urban Design- The Architecture of Towns and Cities	Paul Sprerein gen		
7	Exterior design in Architecture	AshiharaTos hin ibu		
8	Modern Language of Architecture	Bruno Zevi		
9	Modern Movements in Architecture	Charles Jencks		
10	Language of Post – Modern Architecture	Charles Jencks		
11	Complexities and Contradictions in Architecture	Robert Venturi		
12	Architectural Composition.	Rob Krier		
13	Pattern Language	Christopher Alexander		
14	Town Design	Fredrick Gibber d Alexan der		
Important Web Links				
1.				
2.				

Code: 25BARCAR4202	ARCHITECTURAL BUILDING CONSTRUCTION & MATERIALS - IV	2Credits [LTP: 2-0-2]
--------------------	---	-----------------------

6) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Summarizing & demonstrate the details of construction, laying, fixing of stone and brick	L1	PO1,PO3	PSO2
CO2	Determining the techniques and tips of RCC structures	L2	PO1,PO2, PO4	PSO2
CO3	Appraising the knowledge of the aforesaid materials- details of joinery in timber and study of various basic elements like foundation, walls, roofs/floors and openings along with their principles of construction and architectural details	L3	PO1,PO2, PO4	PSO2
CO4	Assessing the basic physical & chemical properties of binding materials like- Iron and steel, cement, and concrete	L4	PO1,PO2, PO4	PSO2
CO5	Building a design and detail using all the material in the building	L5	PO1,PO2, PO4,PO5	PSO2

7) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	1	-	-	-	-	-	-	-	-	-	-	-	2	-
CO2	1	1	-	1	-	-	-	-	-	-	-	-	-	2	-
CO3	1	2	-	1	-	-	-	-	-	-	-	-	-	2	-
CO4	1	2	-	2	-	-	-	-	-	-	-	-	-	2	-
CO5	1	3	-	2	3	-	-	-	-	-	-	-	-	2	-
WT. AVG	1.00	1.80		1.50	3.00								-	2	-

8) OUTLINE OF THE COURSE

Unit	Title of the unit	Time Required for the Unit (Hours)
1	Foundation	12
2	Structure	12

3	Types of doors and windows in Aluminum and Steel	12
4	Flooring & Roof covering	12
5	Staircase	12

9) DETAILED SYLLABUS

UNITS	CONTENTS
1	Foundation
	a) Introduction of Unit, b) Construction details of Grillage foundation, c) Conclusion and Summary of Unit,
2	Structure
	a) Introduction of Unit, b) Construction details of Steel columns and beam's structure, Structural floor & steel trusses structures, with riveted and welded joints. c) Conclusion and Summary of Unit,
3	Types of doors and windows in Aluminum and Steel
	a) Introduction to metal doors and windows, b) Types of aluminum and steel doors and window as per use, c) Aluminum and steel construction,
4	Flooring & Roof covering
	a) Introduction of Unit, b) Construction details of Industrial Flooring and other forms of steel flooring, c) Construction details of steel trusses, types of trusses and spans achieved, d) Roof Covering materials in G.I., Asbestos and Fiber sheets etc . e) Conclusion and Summary of Unit,
	Staircase
	a) Introduction of Unit, b) Construction detailing of various types of Metal Staircase and circular staircases, c) Conclusion and Summary of Unit,

10) RECOMMENDED STUDY MATERIAL:

Sr. N	Reference Book	Author	Edition	Publication
1.	Building Construction	B.C.Punmia	Latest	Laxmi Publication
2.	Building Construction	Sushil kumar	Latest	A.K .Jain
3.	Building Construction	S.C.Rangwal a	Latest	Charatar Publishing House
4.	Building Construction	S.P .Arora, S.P .Bindra	Latest	Dhanpat Rai Publication

5.	Building Construction	W.B . Maccay	Latest	
6.	Metal Doors, windows & Ventilator Steel & Aluminum			Bureau of Indian Standard, New Delhi
Important Web Links				
1.				
2.				

Code: 25BARCAR4203	BUILDING SERVICE STUDIO – II	2Credits [LTP: 2-0-2]
---------------------------	-------------------------------------	------------------------------

11) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Summarizing & classify the various terms and terminologies related to water supply in simple, multistoried and complex buildings.	L1	PO1,PO3	PSO3
CO2	Articulate the various terms and terminologies related to electrical mains and sub distribution	L2	PO1,PO2, PO3	PSO3
CO3	Appraise the electricity requirements and distribution based on function, type, location and verticality in various types of buildings.	L3	PO1,PO2, PO3, PO4	PSO3
CO4	Review the best practices used in electrical layout system and apply them in real life situations.	L4	PO1,PO2, PO3, PO4	PSO3
CO5	Build the design and complexity related to an architectural project starting from supply requirements to designing the electrical layout, load calculation, supply and distribution.	L5	PO3,PO4,PO5	PSO3

12) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
--	-----	-----	-----	-----	-----	-----	-----	-----	-----	------	------	------	------	------	------

CO1	3	–	1	–	–	–	–	–	–	–	–	–	–	–	3
CO2	2	2	3	–	–	–	–	–	–	–	–	–	–	–	3
CO3	1	2	3	2	–	–	–	–	–	–	–	–	–	–	3
CO4	1	2	2	1	–	–	–	–	–	–	–	–	–	–	3
CO5	–	–	3	2	3	–	–	–	–	–	–	–	–	–	3
WT. AVG	1.75	2.00	2.40	1.67	3.00										3

13) OUTLINE OF THE COURSE

Unit	Title of the unit	Time Required for the Unit (Hours)
1	Electrical Distribution	6
2	Mains and Sub Distribution,	9
3	Layout System	6
4	Service Systems	9
5	Earthing and Lightning protection	6

14) DETAILED SYLLABUS

UNITS	CONTENTS
1	Electrical Distribution
	I Aa) Power Systems- Electrical generation-renewal & non-renewable sources, b) Electricity requirements & distribution c) Distribution planning & optimization- Internal distribution and supply, House wiring, Protective devices, d) Tariffs, Types of layouts-schematic and graphical, I B- Detailed study on electrical resources and generation-Group Submission (PPT)
2	Mains and Sub Distribution
	II A-a)Network for electrical mains and sub distribution, b) Switches, controls, MCB, Fuses, Connectors and other distribution equipment's. II B- Advanced study of layout and distribution system in water supply. (Graphical Sheets)
3	Layout System
	III A-a) Layout System for lighting, fans, telephones. B) Network diagrams, load calculation. III B- Electrical layout plans of floors-schematic and graphical presentation with load calculation (CAD drafted Sheets)
4	Service Systems
	IV A-a) Introduction to mechanical vertical transportation systems – Lifts,

	escalators, elevators b) Minimum standards for grouping of lifts, return time and travel time, Design of lift banks for carrying capacity and travel time, installation requirements. c) IV B-Study of different components and standards of lifts, escalators, elevators. (Reports)
5	Earthing and Lightening protection
	V A-a) Earthing techniques and installation in buildings, V B-Study of different types of earthing systems and installations. (Reports)

15) **RECOMMENDED STUDY MATERIAL:**

Sr. N	Reference Book	Author	Editi on	Publication
1.	Electrical Wiring, Estimation	S.L. Uppal	2005	Khanna Publishers, New Delhi
2.	Electrical illustration, Estimation & Costing	J.B. Gupta	2005	S.K. Kataria& Sons, Delhi
3.	House Wiring Hand Book			International Copper Promotion Council (India), Power
4.	Guide for Electrical Layout in Residential Building		IS464 8-1968	Bureau of India Standards, Delhi
Important Web Links				
1.				
2.				

Code: 25BARCAR4204	COMPUTER APPLICATION – IV (Introduction to AR/VR)	1Credits [LTP: 0-0-2]
--------------------	--	-----------------------

6) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Summarize the transformation of 2D shapes to 3D form seamlessly by learning 3D tools in Revit	L1	PO1,PO4	PSO1 & PSO2
CO2	Articulate 3D forms in Revit and combine them to form complete built structures	L2	PO1,PO4	PSO1 & PSO2
CO3	Appraise different software's catering to 3D design and development	L3	PO1,PO4	PSO1 & PSO2
CO4	Experiment the different commands and applying tips and tricks applicable in Lumion and V-Ray	L4	PO1,PO4,PO5	PSO1 & PSO2
CO5	Build a complete rendered drawing in Lumion and V-Ray	L5	PO1,PO4,PO5	PSO1 & PSO2

7) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	-	-	2	-	-	-	-	-	-	-	-	2	3	-
CO2	2	-	-	3	-	-	-	-	-	-	-	-	2	3	-
CO3	3	-	-	3	-	-	-	-	-	-	-	-	2	3	-
CO4	-	-	-	2	3	-	-	-	-	-	-	-	2	3	-
CO5	2	-	-	2	3	-	-	-	-	-	-	-	2	3	-
WT. AVG	2.25			2.40	3.00								2	3	-

8) OUTLINE OF THE COURSE

Unit	Title of the unit	Time Required for the Unit (Hours)
1	Revit Foundation	6
2	Revit Fundamental	8
3	Revit Advanced	6

4	Rendering in Revit and Sheet Composition	8
5	Rendering with Lumion and V Ray	8

9) DETAILED SYLLABUS

UNITS	CONTENTS
1	Revit Foundation
	I A- Application and advantages, UI, Ribbons, Tabs etc. Site Work, Material manager and Edit Properties. I B- Preparing base file
2	Revit Fundamental
	II A- Creating building elements, Wall Profile, Grid, Modify & Filter commands and Paint & Split Surface. II B- Developing building model
3	Revit Advanced
	III A- Massing and Components in place. Revit family – creating, editing and applying. III B- Creating Revit family
4	Rendering in Revit and Sheet Composition/ Rendering with Lumion and V Ray
	IV A- Camera & Views, Rendering – Software & Cloud. Dimensioning (Annotate), Model Text, Decals, Sheet Composition, Export to CAD and Schedules. IV B- Prepare presentation base file
	V A- Introduction to Lumion – its UI, viewports, settings, lighting and commands, Import Revit models in V Ray & Lumion, Rendering of Revit model in Lumion and V ray using different settings. V B- Creating rendered drawings
5	VR basics
	VR Scene Setup <ul style="list-style-type: none"> 1. Adding lights, environment, camera paths 2. Making the scene realistic Rendering Basics <ul style="list-style-type: none"> 1. What is rendering? 2. Rendering with VRay or Arnold 3. Render settings for 360° views

10) RECOMMENDED STUDY MATERIAL:

Sr. N	Reference Book	Author	Edition	Publication
1	Online Tutorials – Autodesk Revit	Autodesk		Autodesk
2	Autodesk Revit Architecture 2016 Essentials: Autodesk	Ryan Duell, Tobias	1 st	Sybex

	Official Press	Hathorn and Tessa ReistHathorn		
3	Mastering Autodesk Revit Architecture 2016: Autodesk Official Press	James Vandezande, Eddy Krygiel and Brendan Dillon	1 st	Sybex
4	Revit - Family Standards and Best Practices Version 2.0	Shawn Zirbes	2 nd	Integrated Content Solutions
5	Exploring Autodesk Revit 2017 For Architecture	Prof. Sham Tickoo	13 th	BPB Publications
6	Online Tutorials – Lumion	Lumion Website		Lumion 3D
7	Getting Started with Lumion 3D	Ciro Cardoso		Packt Publishing Limited
8	Lumion 3D Cookbook	Ciro Cardoso		Packt Publishing Limited
9	Online Tutorials – V Ray	V Ray Website		V Ray
10	Photography & Rendering with V-Ray	Ciro Sannino	1 st	GC edizioni
Important Web Links				
1.				
2.				

Code: 25BUVCPH4103	PHYSICAL, MENTAL AND COMMUNITY HEALTH	2Credits [LTP: 2-0-0]
---------------------------	--	------------------------------

1) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	To provide the students a basic insight into the main features of Indian health care delivery system and how it compares with the other systems of the world	L1		PSO1
CO2	To understand the concept of physical health in Indian society	L2		PSO1
CO3	Create and implement a comprehensive community wise health promotion	L3		PSO1
CO4	To present students some basic techniques and concepts in population sciences	L4		PSO1
CO5	To provide the students a basic insight into the main features of Indian health care delivery system and how it compares with the other systems of the world	L5		PSO1

2) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1													2	-	-
CO2													2	-	-
CO3													2	-	-
CO4													2	-	-
CO5													2	-	-
WT. AVG													2	-	-

3) OUTLINE OF THE COURSE

Unit	Title of the unit	Time Required for the Unit (Hours)
1	Introduction to Mental Health	4

2	Introduction to Physical Health	5
3	Psychology & Sports	5
4	Introduction to Community Health	5
5	Management Policies	5

4) DETAILED SYLLABUS

UNITS	CONTENTS
1	Introduction to Mental Health
	<ul style="list-style-type: none"> ● Introduction of the Unit ● Mental Health and Mental Illness, Historical perspectives , Trends, issues epidemiology of mental health problems, national mental health act, concept of normal and abnormal behavior. ● National mental health program – Human rights of mentally ill ● Mental Health/ Mental Illness ● Classification of mental illnesses ● Health problems in India, Environment and Health. ● Conclusion & Real life applications
2	Introduction to Physical Health
	<ul style="list-style-type: none"> ● Introduction of the Unit ● Concept, Aims & Objectives of Physical Education ● Changing Trends in Sports- playing surface, wearable gears and sports equipment, technological advancements ● Career Options in Physical Education ● Khelo-India and Fit-India Program ● Conclusion & Real life applications
3	Psychology & Sports
	<ul style="list-style-type: none"> ● Introduction of the Unit ● Definition & Importance of Psychology in Physical Education & Sports ● Adolescent Problems & Their Management ● Team Cohesion and Sports ● Conclusion & Real life applications
4	Introduction to Community Health
	<ul style="list-style-type: none"> ● Introduction of the Unit ● History of Social Medicine and Community Health ● History of Public Health and Its Milestones ● Comprehensive Health Care ● Social Development and Health ● Dimensions and Determinants of Health ● Concepts and Indicators of Health and Wellbeing ● Natural History of Disease ● Levels of Prevention ● Globalization and Its Impact on Health ● Roles and Responsibility of State, Community and Private Sector in Health ● Conclusion & Real life applications
5	Management Policies
	<ul style="list-style-type: none"> ● Introduction of the Unit ● Health Policy:-Understanding, need and goals for various policies related to mental, physical and community health

	<ul style="list-style-type: none"> • Health policy, population policy, nutritional policy-food security, research policy, women policy, child policy etc. Health Policy environment Methods to assess the needs of for the policy development / assessment process. • Frameworks for policy analysis, applying these to the assessment of current policies. Factors influencing the policy: external factors (interest groups as one example), politics, globalization and the like. • Conclusion & Real life applications
--	---

5) **RECOMMENDED STUDY MATERIAL:**

Sr. N	Reference Book	Author	Edition	Publication
1.	Preventive and Social Medicine	K Park	-	Bansaridas Bhanot Publishing House
2.	Public Health & Preventive Medicine	Maxcy-Rosenau-Last	14th Edition	Ed Robert Wallace
3.	Health economics	H P S Rana	2009	Alfa Publications
Important Web Links				
1.				
2.				

Code: 25BARCAR4201	ART STUDIO & WORKSHOP -IV	2Credits [LTP: 1-0-0]
--------------------	---------------------------	-----------------------

6) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Summarizing & demonstrate the ability to observe, analyze and understand the visual information received from the world around	L1	PO1, PO2, PO5	PSO1 & PSO2
CO2	Determining & experiment with murals and sculptures etc, one of the major art forms, for development of creative side of students in an artistic approach	L2	PO1, PO2	PSO1 & PSO2
CO3	Appraising the knowledge in various communications prevailing in life and the role of Graphic Design in communication	L3	PO1, PO2, PO3, PO6, PO7, PO10	PSO1 & PSO2
CO4	Assessing various aspects of design process, conceptualization and visualization of the design	L4	PO1, PO2, PO3, PO6, PO7, PO10	PSO1 & PSO2
CO5	Building & create an arrangement of works that exhibits their composition, rendering techniques, presentation skills.	L5	PO1, PO2, PO3, PO6, PO7, PO10	PSO1 & PSO2

7) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	2	-	-	1	-	-	-	-	-	-	-	1	2	-
CO2	2	2	-	-	-	-	-	-	-	-	-	-	1	2	-
CO3	2	2	1	-	-	1	1	-	-	1	-	-	1	2	-
CO4	2	2	1	-	-	1	1	-	-	1	-	-	1	2	-
CO5	2	3	1	-	-	1	1	-	-	1	-	-	1	2	-
WT. AVG	2.20	2.20	1.00		1.00	1.00	1.00			1.00			1	2	-

8) OUTLINE OF THE COURSE

Unit	Title of the unit	Time Required for the Unit (Hours)
1	Material exploration & its characteristics	15

2	Concept formulation: 2D to 3D	15
3	Mural	5
4	Sculpture	15
5	Model making of Architectural Design project	10

9) DETAILED SYLLABUS

UNITS	CONTENTS
1	Material Exploration & its characteristics
	a) Understanding of basic material's behavior, characteristic and properties of paper and cardboard, fiber, fabric, wood, metal, thermocol, sun board and any other relevant material. b) Exploration and Manipulation of these materials.
2	Concept formulation: 2D to 3D
	I A- a) Exploring ideas through mood board b) Understanding geometry of shapes c) Additive and Subtractive theory
3	Mural
	I A- a) Introduction to murals and sculptures b) Identify the space-Human relation c) Provide a meaning through the design possibilities Create a mural design
4	Sculpture
	II A- a) Introduction to sculptures b) Identify the space-Human relation through objects c) Understand materials and their workability d) Creatively think and provide solutions via sculptures Create a mini sculpture
5	Model making of Architectural Design project
	V A- a) Integration with Architectural design Studio project b) Scale and dimension, material exploration, detailed representation of project site features, nomenclature. c) Model making techniques like surface development, hand cutting, laser cutting and 3D printing.

10) RECOMMENDED STUDY MATERIAL:

Sr. N	Reference Book	Author	Edition	Publication
1.	Rendering with pen and ink	Robert W. Gill	Enlarged edition, 1984	Thames Hudson Ltd. United Kingdom
2.	Art fundamental (Theory and practice)	Ocvirk and others	12 th edition	McGraw – Hill Education

				Europe
3.	Model Making: Conceive, Create and Convince	Arjan Karszen		Thames & Hudson
4.	Architectural Renderings	Schillaci, Fabio		
5.	Color in Sketching and Rendering	Guptill, Arthur L.		
Important Web Links				
1.	https://www.coursera.org/learn/brand-new-brand#syllabus			
2.	https://www.arch2o.com/architecture-model-complete-guide/			

Semester-V

Code: 25BARCAR5101	HISTORY OF ARCHITECTURE – IV	2 Credits [LTP: 2-0-0]
--------------------	------------------------------	------------------------

18) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Summarizing the influence on architecture in India during the colonial period and its fusion with regional architecture.	L1	PO1,PO2,PO3,PO5	PSO2
CO2	Determining the emergence of modern architecture, its significance and influences on the world architecture.	L2	PO1,PO2,PO3,PO5	PSO2
CO3	Appraising the criticism towards modern architecture and the resulting architectural styles that emerged after modernism.	L3	PO1,PO2,PO3, PO5,PO10	PSO2
CO4	Assessing the contributing factors for the fundamental transformation of design development of different architectural movements across the world.	L4	PO1,PO2,PO3, PO5,PO10	PSO2
CO5	Building the development of post-Independence architecture in India with works of Indian and International master architects.	L5	PO1,PO2,PO3, PO5,PO10	PSO2

19) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	2	2	-	1	-	-	-	-	-	-	-	-	3	-
CO2	3	2	2	-	1	-	-	-	-	-	-	-	-	3	-
CO3	3	2	2	-	1	-	-	-	-	1	-	-	-	3	-
CO4	3	2	2	-	1	-	-	-	-	1	-	-	-	2	-
CO5	3	2	2	-	1	-	-	-	-	1	-	-	-	2	-
WT. AVG	3.00	2.00	2.00		1.00					1.00			-	2.6	-

20) OUTLINE OF THE COURSE

Unit	Title of the unit	Time Required for the Unit (Hours)
1	Colonial Architecture in India	4
2	Modern Architecture	4
3	Post Modern Architecture	6
4	Movements in Architecture	6
5	Post-Independence Architecture in India	6

21) DETAILED SYLLABUS

UNITS	CONTENTS
1	Colonial Architecture in India:
	a) British Colonial, Dutch Colonial, French Colonial and Portuguese Colonial Architecture in India b) Planning and Design of New Delhi by Sir Edwin Lutyens, Mumbai Kala Ghoda Precinct.
2	Modern Architecture
	a) International Exhibitions b) Works of Alvar Aalto, Eero Saarinen, Le Corbusier, Louis Kahn, Frank Lloyd Wright, Robert Venturi, Phillip Johnson, Charles Moore Graves, I.M. Pei, Santiago Calatrava.
3	Post Modern Architecture:
	a) Works of Zaha Hadid, Norman Foster, Renzo Piano, Rem Koolhaas, Frank O Gehry, Alvar Aalto b) International & Indian Examples of Post-Modern Architecture
4	Movements in Architecture:
	a) Arts and Crafts Movement. b) Classicism and Neo Classicism. c) Art Nouveau Movement. d) Constructivism and De-constructivism. e) Art Deco and De Stijl.
5	Post-Independence Architecture in India:
	Works of Le Corbusier, Louis Kahn, B.V. Doshi, Stein Doshi Bhalla, Charles Correa, U.C. Jain, Raj Rewal, Anant Raje, A.P Kanvinde, Christopher Benninger.

22) RECOMMENDED STUDY MATERIAL:

Sr. N	Reference Book	Author	Edition	Publication
1	History of Architecture	Sir Banister Fletcher	20 th Edition	CBS Publisher & Distributor
2	Critical History: Modern Architecture	Kenneth Frampton	4 th Edition	Thames & Hudson World of Art
3	History of Western Architecture	David Walker	2005	Laurence King Publishing
Important Web Links				
1.				
2.				

Code: 25BARCAR5102	ARCHITECTURAL STRUCTURES - V	3 Credits [LTP: 2-0-0]
--------------------	------------------------------	------------------------

6) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Summarizing knowledge of RCC beams and their behaviour with respect to different loading conditions for analysing and designing	L1	PO1,PO2	PSO2 & PSO3
CO2	Determining differentiate among various kinds of foundations and their applications according to need and purpose	L2	PO1,PO3,PO5	PSO2 & PSO3
CO3	Appraising design isolated column footing using LSM as per IS 456:2000	L3	PO1,PO3,PO4	PSO2 & PSO3
CO4	Assessing an understanding for retaining walls and their purpose. Also to analyse and design cantilever retaining walls along with their structural behaviour and stability analysis	L4	PO1,PO2,PO4, PO5	PSO2 & PSO3
CO5	Building new technologies for designing structural members and can wisely choose and compare RCC and pre stressed structures along with its concept methods and system in pre stressing	L5	PO1,PO2,PO4, PO5	PSO2 & PSO3

7) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	1	-	-	-	-	-	-	-	-	-	-	-	1	2
CO2	1	-	1	-	2	-	-	-	-	-	-	-	-	1	2
CO3	2	-	2	2		-	-	-	-	-	-	-	-	1	2
CO4	1	3	-	2	1	-	-	-	-	-	-	-	-	1	2
CO5	1	2	-	1	3	-	-	-	-	-	-	-	-	1	2
WT. AVG	1.20	2.00	1.50	1.67	2.00								-	1	2

8) OUTLINE OF THE COURSE

Unit	Title of the unit	Time Required for the Unit (Hours)
1	Design of R.C.C. Columns	14
2	Introduction of RCC Foundation	12
3	Design of foundation	12

4		24
5	Pre-stressing	12

9) DETAILED SYLLABUS

UNITS	CONTENTS
1	Design of R.C.C. Columns
	Short and long columns, their structural behavior. Analysis and design of axially loaded short columns, using LSM. Analysis of uniaxially eccentrically loaded short columns.
2	Introduction of RCC Foundation
	Types of foundation: Shallow foundation-isolated footing ,combined footing, spread footing ,Strap Footing, Mat/Raft Foundation. Deep foundation-Pile foundation, well foundation, caisson foundation Purpose, depth of foundation, Sequence of construction activity and co- ordination, site clearance, marking, foundation plan
3	Design of foundation
	Design of Isolated column footing using LSM
4	Prestressing
	Concepts of Prestressing & Material properties, Method and systems in pre-stressing, Losses in prestressing, Comparison of RCC and pre-stressing.
5	Circular Domes and Retaining walls
	Circular Domes: Analysis and design of Circular domes with u.d.l. & concentrated load at crown. Retaining walls: Analysis of Cantilever Retaining Walls: Introduction to counterfort and buttress type retaining walls, their structural behaviour and stability analysis

10) RECOMMENDED STUDY MATERIAL:

Sr. N	Reference Book	Author	Edition	Publication
1.	Design of RCC Structures (Limit State)	Ramarmutha m	2004	Oxford & IBH Publishing Co. P. Ltd., New Delhi
2.	Design of R.C.C. Structures	B.C. Punmia		Laxmi publications
3.	IS Codes			Bureau of Indian Standard, New Delhi
Important Web Links				
1.				
2.				

Code: 25BARCAR5201	ARCHITECTURAL DESIGN –IV	8Credits [LTP: 1-0-7]
--------------------	--------------------------	-----------------------

6) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Summarizing the complex relationship between user experience and built environment in large scale campus design	L1	PO1,PO2, PO4, PO5,PO6, PO8, PO9, PO10, PO11	PSO1, PSO2 & PSO3
CO2	Determining and present information and data collected through studies	L2	PO1,PO2, PO4, PO5,PO6, PO8, PO9, PO10, PO11	PSO1, PSO2 & PSO3
CO3	Appraising of building services in multilevel planning in the design of service intensive buildings	L3	PO1,PO2, PO3,PO4, PO5,PO6, PO8, PO9, PO10, PO11	PSO1, PSO2 & PSO3
CO4	Assessing the importance of spatial planning within the constraints of Development Regulations in urban areas	L4	PO1,PO2,PO3,PO4, PO5,PO6, PO8, PO9,PO10	PSO1, PSO2 & PSO3
CO5	Building design focusing on form generation and appropriate structural system	L5	PO1,PO2,PO3,PO4, PO5,PO6, PO8, PO9,PO10	PSO1, PSO2 & PSO3

7) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	3	-	1	3	3	-	1	1	2	1	-	2	3	2
CO2	2	1	-	2	3	1	-	2	1	1	1	-	2	3	2
CO3	2	2	3	2	3	2	-	1	1	2	1	-	2	3	2
CO4	1	1	1	3	3	3	-	1	2	2	-	-	2	3	2
CO5	1	1	2	3	2	3	-	2	1	3	-	-	2	3	2
WT. AVG	1.80	1.60	2.00	2.20	2.80	2.40		1.40	1.20	2.00	1.00		2	3	2

8) OUTLINE OF THE COURSE

Unit	Title of the unit	Time Required for the Unit (Hours)
1	Basic architectural design Process	16
2	Learning from Literature & Case studies	16
3	Optimization in Architectural Design	24
4	Learning the basic drawings representing design	16
5	Basics of Measured Drawing and documentation	24

9) DETAILED SYLLABUS

UNITS	CONTENTS
1	
	Large Scale Institutional Projects (Colleges/ Central Library/ Hospitals/ Commercial Complexes/ Malls/ Museums).

10) RECOMMENDED STUDY MATERIAL:

Sr. N	Reference Book	Author	Edition	Publication
1	Time Saver Standards for Architectural Design	Martin Zelnik and Julius Panero	Latest	--
2	Neuferts architect's data	Ernst Neuferts	Latest	--
3	Time-Saver Standards for Interior Design and Space Planning	Martin Zelnik and Julius Panero	Latest	--
4	Campus design in India	Kanvinde & Miller		
5	Campus Planning	Richard Dober		
6	Urban Design- The Architecture of Towns and Cities	Paul Spreirein gen		
7	Exterior design in Architecture	AshiharaTos hin ibu		
8	Modern Language of Architecture	Bruno Zevi		
9	Modern Movements in Architecture	Charles Jencks		
10	Language of Post – Modern Architecture	Charles Jencks		
11	Complexities and Contradictions in Architecture	Robert Venturi		
12	Architectural Composition.	Rob Krier		
13	Pattern Language	Christopher Alexander		

14	Town Design	Fredrick Gibber d Alexan der		
Important Web Links				
1.				
2.				

Code: BARCAR5202	ARCHITECTURAL BUILDING CONSTRUCTION & MATERIALS - V	3Credits [LTP: 2-0-2]
------------------	--	-----------------------

16) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Summarize the details of wall finishes.	L1	PO1,PO3	PSO2
CO2	Articulate the details of floor finishes.	L2	PO1,PO2, PO4	PSO2
CO3	Appraise the knowledge of the aforesaid materials used in false ceiling and help the students to explore more about them.	L3	PO1,PO2, PO4	PSO2
CO4	Review the basic physical & chemical properties of water proofing materials	L4	PO1,PO2, PO4	PSO2
CO5	Build and detail the partitions used for the same	L5	PO1,PO2, PO4,PO5	PSO2

17) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	1	-	-	-	-	-	-	-	-	-	-	-	2	-
CO2	1	1	-	1	-	-	-	-	-	-	-	-	-	2	-
CO3	1	2	-	1	-	-	-	-	-	-	-	-	-	2	-
CO4	1	2	-	2	-	-	-	-	-	-	-	-	-	2	-
CO5	1	3	-	2	3	-	-	-	-	-	-	-	-	2	-
WT. AVG	1.00	1.80		1.50	3.00								-	2	-

18) OUTLINE OF THE COURSE

Un it	Title of the unit	Time Required for the Unit (Hours)
1	Wall Finishes	10
2	Floor Finishes	16
3	False Ceiling	10
4	Water Proofing	10
5	Partitions	14

19) DETAILED SYLLABUS

UNITS	CONTENTS
1	Wall Finishes
	a) Introduction of Unit, b) Details of application of wall finishes, c) Application of plaster, putty, veneer, laminates, aluminum, d) Conclusion and Summary of Unit,
2	Floor Finishes
	a) Introduction of Unit, b) Typical details of application of floor finishes, c) stones,)inlay work(, vinyl floor, wooden flooring, d) file flooring, cement concrete block flooring, e) Glass flooring etc. f) Conclusion and Summary of Unit,
3	False Ceiling
	a) Introduction of Unit, b) Typical details, c) various types of false ceiling, d) Application of various types of materials in false ceiling. e) Conclusion and Summary of Unit,
4	Water Proofing
	a) Introduction of Unit, b) Typical details of terrace water proofing, c) treatment of parapet wall cost between parapet walls on roof, d) Damp proof SUBJECT at plinth level. e) Conclusion and Summary of Unit,
	Partitions
	a) Introduction of Unit, b) Types of partitions, typical details, c) Fixtures of various details in partitions and its specifications. d) Conclusion and Summary of Unit,

20) RECOMMENDED STUDY MATERIAL:

Sr. N	Reference Book	Author	Edition	Publication
1.	Architectural Graphic Standards	Ramsay Sleeper	2007	John Willey & Sons,
2.	Building Construction	W.B .Mackay	2005	Orient Longman, Mumbai
3.	Hand Book son Building Construction Practices		2004	Bureau of Indian Standards, New Delhi
4.	Architectural Graphic Standards	Ramsay Sleeper	2007	John Willey & Sons,
Important Web Links				
1.				
2.				

Code: BARCAR5204	WORKING DRAWING – I	3Credits [LTP: 2-0-2]
------------------	----------------------------	-----------------------

21) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Summarizing the basics of working drawing for Load Bearing Structure and understand various terms used in working drawing along with graphical representation and annotations	L1	PO1,PO2,PO3,PO4, PO5,PO7,PO8	PSO2 & PSO3
CO2	Determining and detailing the graphical representation in working drawing.	L2	PO1,PO2, PO3,PO4	PSO2 & PSO3
CO3	Appraising the various drawings and its co-relation with each other	L3	PO1,PO2, PO3, PO4	PSO2 & PSO3
CO4	Assessing the students with the methodology and sequence of various working drawings and its importance in professional practice	L4	PO1,PO2, PO3, PO4	PSO2 & PSO3
CO5	Building a working drawing set of an architectural design and Create and document the entire set of working drawings with the aim of presenting the same for securing placement for practical training.	L5	PO1,PO2, PO3, PO4,PO6 PO7,PO8,PO9,PO11	PSO2 & PSO3

22) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	3	1	1	1	-	2	1	-	-	-	-	-	2	2
CO2	2	2	1	1	-	-	-	-	-	-	-	-	-	2	2
CO3	1	2	2	1	-	-	-	-	-	-	-	-	-	2	2
CO4	2	3	3	3	-	-	-	-	-	-	-	-	-	2	2
CO5	2	3	3	3	-	1	1	2	2	-	1	-	-	2	2
WT. AVG	1.80	2.60	2.00	1.80	1.00	1.00	1.50	1.50	2.00		1.00		-	2	2

23) OUTLINE OF THE COURSE

Unit	Title of the unit	Time Required for the Unit (Hours)
1	Designing of 3BHK residence	10
2	Preparation of structural drawings	10
3	Preparation of elevation(s) and sectional details	10
4	Preparation of submission drawings & details	10
5	Preparation of other drawings & details	20

24) DETAILED SYLLABUS

UNITS	CONTENTS
1	DESIGNING OF 3BHK RESIDENCE
	I A. <u>Introduction to assignment 1</u> - Preparation of submission drawing of a residence I B. Design of a 3bkh residence in provided site Drafting of plans – floor, terrace & location; sections and elevations of 3BHK
2	PREPARATION OF STRUCTURAL DRAWINGS
	II A. <u>Introduction to assignment 2</u> - Preparation of structural plans & details. II B. Column and grid placement in the final plans Drafting/conversion of floor plans to working plans
3	PREPARATION OF ELEVATION(S) AND SECTIONAL DETAILS
	III A. <u>Introduction to assignment 3</u> - Demonstration of working elevations and sections III B. Drafting/conversion of sections & elevations to working drawings Drafting of detailed drawing – Plans, Elevations and Sections & detailing of Staircase.
4	PREPARATION OF SUBMISSION DRAWINGS & DETAILS
	IV A. <u>Introduction to assignment 4</u> - Lecture on formatting of submission drawings

	<p>Location Plans, Floor Plans, Elevations, Sections Lecture on detailed drawings IV Elevations, site plan, area calculations, & opening schedules Compiling/formatting of submission drawing</p>
5	PREPARATION OF OTHER DRAWINGS & DETAILS
	<p>V B. <u>Introduction to assignment 5-</u> Drafting of detailed drawing – Plans, Elevations, Sections and Details of Boundary wall Drafting of detailed drawing – Plans, Elevations, Sections and Details of Washroom(s) Drafting of detailed drawing – Plans, Elevations, Sections and Details of Kitchen</p>
	<u>PROJECT 2 –Design (Major) Project of Current Semester</u>
	<p>VI B. <u>Introduction to assignment 6-</u> Preparation of current semester Design drawings according to exercise done under <u>Project 1</u></p> <ul style="list-style-type: none"> • Column and grid placement in the final plans Drafting/conversion of floor plans to working plans • Drafting/conversion of sections & elevations to working drawings • Compiling/formatting of submission drawing including location plan, floor plans, sections, elevations, site plan, area calculations, & opening schedules

25) **RECOMMENDED STUDY MATERIAL:**

Sr. N	Reference Book	Author	Edition	Publication
1.	Working Drawing Handbook	Keith Syles	1998	Architectural Press Oxford
2.	Arch. Drawing and Light Construction	Edward J. Muller, James G. Gausett	1999	Grav – Prentice Hall, New Jersey
3.	Unified Building Regulation, Rajasthan		2017	Jaipur Development Authority
4.	Working Drawing Manual (P/L Custom Scoring Survey)	Fred A. Stitt	1998	McGraw-Hill Education
Important Web Links				
1.				
2.				

Code: 25BARCAR5203	BUILDING SERVICES STUDIO-III	1Credits [LTP: 0-0-2]
--------------------	-------------------------------------	-----------------------

11) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Summarizing the fundamentals and terminology used in acoustical treatment of buildings and its surrounding.	L1	PO1,PO3	PSO3
CO2	Determining detailed and technical definition of components of acoustics. To learn and adopt various terminologies like RT, echo, noise rating, etc. and their values for different materials along with their application	L2	PO1,PO2,PO3	PSO3
CO3	Appraising the concept of noise and how it affects any interior/exterior space along with understanding the means and methods of reducing it to the maximum possible extent	L3	PO1,PO2,PO3,PO4	PSO3
CO4	Assessing knowledge of various acoustical materials and their properties, also help to understand the market trends and new materials	L4	PO1,PO2,PO3,PO4	PSO3
CO5	Building the knowledge gained in practical examples for achieving maximum efficiency of acoustics	L5	PO3,PO4,PO5	PSO3

12) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	–	1	–	–	–	–	–	–	–	–	–	-	-	3
CO2	2	2	3	–	–	–	–	–	–	–	–	–	-	-	3
CO3	1	2	3	2	–	–	–	–	–	–	–	–	-	-	3
CO4	1	2	2	1	–	–	–	–	–	–	–	–	-	-	3
CO5	–	–	3	2	3	–	–	–	–	–	–	–	-	-	3
WT. AVG	1.75	2.00	2.40	1.67	3.00								-	-	3

13) OUTLINE OF THE COURSE

Unit	Title of the unit	Time Required for the Unit (Hours)
------	-------------------	------------------------------------

1	Introduction to acoustics	6
2	Basic definitions	9
3	Noise	6
4	Acoustical materials	6
5	Acoustical design process	9

14) DETAILED SYLLABUS

UNITS	CONTENTS
1	INTRODUCTION TO ACOUSTICS
	I A-a) Introduction to acoustics b) Physics of sound, behavior of sound in an enclosed space. c) Criteria for acoustic environment- location of building, geometry and shape, I B- Identification of Acoustics terminology, components and typology of acoustical treatments.(PPT)
2	BASIC DEFINITIONS
	II A- a) Basic definitions b) Basic understanding of echo, reverberation time, sound absorption coefficient, Noise rating curves. II B- Detailed study of the calculations of reverberation time, frequency, etc.(Report- class assignments)
3	NOISE
	III A-a) Noise b) Noise- physiological and psychological effects, transmission loss, flanking of sound, c) Structure borne sound and noise from different mechanical equipment's, d) Noise control techniques and their applications, III B- Detailed study of types of noise and noise effect on human and its e) surroundings.(Report-class assignments)
4	ACOUSTICAL MATERIALS
	IV a) Acoustical Materials b) Selection of acoustic materials, construction details and fixing. IV B- Advanced study of acoustical treatments, material specifications and study with case studies and market surveys. (Graphical Sheets)
5	ACOUSTICAL DESIGN PROCESS,
	V A-a) Acoustical design process) Predictions of acoustical conditions, b) Approach to designing enclosure for predetermined acoustical responses, corrective of existing deficient enclosures, c) Introduction to sound reinforcing system- amplification and distribution.

15) RECOMMENDED STUDY MATERIAL:

Sr. N	Reference Book	Author	Edition	Publication
-------	----------------	--------	---------	-------------

1	National Building Codes	-----	2005	Bureau of Indian Standards
2	National Building Codes Part-VIII – Building Services	-----	2005	Bureau of Indian Standards
3	Architectural Acoustics	David Egan	2007	J Ross Publishing
4	Acoustics in Building Design	M. A. Siraskar	1979	Sangam Books Ltd
5	Auditorium Acoustics and Architectural Design	Michael Barron	2009	Taylor and Francis
6	Environmental Acoustics	Leslie L Doelle	1972	McGraw Hill Higher Education
Important Web Links				
1.				
2.				

Code: 25BARCAR5311	INTERIOR DESIGN	2Credits [LTP: 0-0-2]
--------------------	-----------------	-----------------------

6) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Summarizing the elements of Interior design and its effect on space planning.	L1	PO1,PO5,PO9	PSO1, PSO2 & PSO3
CO2	Determining the various types of false ceilings, lighting, plumbing and flooring, their specifications and methods of installation/application.	L2	PO1,PO2,PO3,PO4, PO5,PO6,PO8, PO9,PO11	PSO1, PSO2 & PSO3
CO3	Appraising furniture according to anthropometrics study, analyses the use of different materials and produce detailed construction drawings.	L3	PO1,PO2,PO3,PO4, PO5,PO6,PO8, PO9,PO11	PSO1, PSO2 & PSO3
CO4	Assessing the design guidelines for interior landscaping, landscape elements, indoor plants and their use.	L4	PO1,PO2,PO3,PO4, PO5,PO6,PO7,PO8, PO9,PO10	PSO1, PSO2 & PSO3
CO5	Building the knowledge of different wall finishes materials, their application, material options and specifications to formulate interior project estimates.	L5	PO1,PO2,PO3,PO4, PO5,PO6,PO7,PO8, PO9,PO10,PO11	PSO1, PSO2 & PSO3

7) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	-	-	-	2	-	-	-	2	-	-	-	2	3	2
CO2	1	2	3	2	3	1	-	2	2	-	1	-	2	3	2
CO3	1	3	2	2	3	1	-	2	1	-	1	-	2	3	2
CO4	1	2	1	2	3	2	1	2	1	2	-	-	2	3	2
CO5	1	3	1	2	1	3	2	2	2	1	1	-	2	3	2
WT. AVG	1.00	2.50	1.75	2.00	2.40	1.75	1.50	2.00	1.60	1.50	1.00		2	3	2

8) OUTLINE OF THE COURSE

Unit	Title of the unit	Time Required for the Unit (Hours)
1	Introduction to Interior Design and Space planning	9
2	False Ceiling & Lighting, Plumbing, Flooring details	6
3	Furniture Detailing with Respect to Anthropometry	6
4	Introduction to Interior Landscape	6
5	Wall Finishes, Furnishings and material study	9

9) DETAILED SYLLABUS

UNITS	CONTENTS
1	<p>Introduction to Interior design</p> <p>IA. Introduction to Interior Design and Space planning Introduction to the unit, Elements of interior design, Apply the Principles of Space planning in interior spaces, Understanding the spatial relationships.</p> <p>I.B Interior layout of the different spaces with proper functionality – Design of a small interior space</p> <ul style="list-style-type: none"> eg. Kitchen, Toilet, Study Room, Conference Room etc.
2	<p>False Ceiling, Lighting & Flooring Detail</p> <p>IIA. False Ceiling & Lighting,</p> <ul style="list-style-type: none"> Introduction to false ceiling, types of false ceiling materials and construction details. Understanding the importance of lighting and electrification with respect to furniture and false ceiling layouts, uses of various lighting fixtures. Finishing material details Types of lighting fixtures in the ceiling. <p>IIB. Plumbing - Plumbing fixtures and detailing.</p> <p>IIC. Flooring details</p> <ul style="list-style-type: none"> Types of Interior flooring materials with respect to their use in interior spaces. Construction details of flooring materials. <ul style="list-style-type: none"> Put into practice of the latest material and finishes available in market in the above list.
3	<p>Furniture Detailing with Respect to Anthropometry</p> <p>IIIA. Furniture Detailing with Respect to Anthropometry</p> <ul style="list-style-type: none"> Study of anthropometry in interior spaces. <p>Applying the design parameters for preparing the detailed drawing for any given piece of furniture.</p> <ul style="list-style-type: none"> Understanding the basic design parameters and guideline for different spaces in a residence. Construction detailing of the different materials for furniture. <p>IIIB. Understanding the furniture works of Great Masters – Ludwig Mies Van Der Rohe, Frank Gehry, Alvar</p>

	<ul style="list-style-type: none"> Alto, Frank Lloyd Wright
4	<p>Interior Landscape</p> <p>IVA. Introduction to Interior Landscape - Definition and importance of interior landscape in a space.</p> <p>IVB. Interior Landscape and its use-</p> <ul style="list-style-type: none"> Definition, classification of plants, indoor plants and their functions, layout & components, Various interior landscaping elements- water bodies - pools, fountains, cascades <p>Plants, rocks, artifacts, paving & lighting.</p> <ul style="list-style-type: none"> Design guidelines- plant texture & colour, plant height, plant spacing
5	<p>Wall Finishes, Furnishings and material study with project estimation</p> <p>VA. Wall Finishes, Furnishings and material study</p> <ul style="list-style-type: none"> Types of wall finishes, their applications Furnishing materials and their applications Various materials available in market and their prices <ul style="list-style-type: none"> VB. Making estimates for the designed projects

10) **RECOMMENDED STUDY MATERIAL:**

Sr. N	Reference Book	Author	Edition	Publication
1.	An introduction to Art, Craft, Technique, Science & Profession of Interior Design	A Kasu		
2.	Spatial strategies for interior design	Ian Higgins		
3.	Building systems for interior designers	Corky Binggeli		
4	Interior Design Principles and Practice	M. Pratap Rao		
5	Interior design illustrated	D.K. Ching		
Important Web Links				
1.				
2.				

Code: 25BARCAR5312	UNIVERSAL DESIGN	2Credits [LTP: 1-0-0]
--------------------	-------------------------	-----------------------

11) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Summarize the significance of Universal Design, its need and role in various design fields	L1	PO1, PO5,PO9,PO10,PO11	PSO1, PSO2 & PSO3
CO2	Articulate Disability and its types and understand the necessary design requirements	L2	PO1,PO2,PO3,PO4, PO5,PO6 PO8,PO9,PO10,PO11	PSO1, PSO2 & PSO3
CO3	Appraise the knowledge on different guidelines and legal provisions of Universal Design	L3	PO1,PO2,PO3,PO4, PO5,PO6 PO8,PO9,PO10,PO11	PSO1, PSO2 & PSO3
CO4	Experiment spaces by understanding the design standards for accessibility and their usage in various building typologies	L4	PO1,PO2,PO3,PO4, PO5,PO6 PO8,PO9,PO10,PO11	PSO1, PSO2 & PSO3
CO5	Build the knowledge of different urban level design standards and integrate it the project	L5	PO1,PO2,PO3,PO4, PO5,PO6 PO8,PO9,PO10,PO11	PSO1, PSO2 & PSO3

12) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	-	-	-	2	1	-	-	2	1	3	-	1	2	1
CO2	1	3	2	1	2	2	-	1	2	1	2	-	1	2	1
CO3	1	3	2	2	3	1	-	2	2	1	2	-	1	2	1
CO4	2	2	2	1	3	1	-	1	1	1	2	-	1	2	1
CO5	3	2	1	2	2	1	-	1	2	2	2	-	1	2	1
WT. AVG	1.60	2.50	1.75	1.50	2.40	1.20		1.25	1.80	1.20	2.20		1	2	1

13) OUTLINE OF THE COURSE

Unit No.	Title of the unit	Time Required for the Unit (Hours)
1	Introduction to Universal Design	6
2	Understanding Disability	6
3	Universal Design: Guidelines and Legal Provisions	9
4	Universal Design: Building Level	9
5	Universal Design: Urban Level	6

14) DETAILED SYLLABUS

UNITS	CONTENTS
1	Introduction to Universal Design
	<ul style="list-style-type: none"> ● Universal design and its significance ● Need and role in various design fields in current context for people with different abilities. ● Seven International principles: Equitable use, Flexibility in Use, Simple & Intuitive use, Perceptible information, Tolerance for Error, Low Physical effort, Size & Space for Approach & Use. ● Five Indian Principles: Equitable, Usable, Cultural, Economic & Aesthetic.
2	Understanding Disability
	<ul style="list-style-type: none"> ● Types of disabilities based on mental, physical, function, age and extreme physical proportions. ● Study of groups comprising of people with disabilities and the necessary design requirements with respect to aspects of anthropometrics i.e. visibility, access and usage.
3	Universal Design: Guidelines and Legal Provisions
	<ul style="list-style-type: none"> ● United Nations Convention on the Right of Persons with Disabilities; ● UNCPRD, 2008, Disability Act 1995 ● CPWD Guidelines for Barrier Free Built Environment for Disabled & Elderly
4	Universal Design: Building Level
	<ul style="list-style-type: none"> ● Design standards for accessibility and usage in various building typologies both constructed as well as existing buildings: Residential, Commercial, Institutional, Hospital & Health facilities, Public Transit Buildings, Recreational Buildings ● Building Interior: Floor, Walls, Doors, Windows, Counters, Railings, Sanitary fixtures and signage ● Building exterior: Pathways, Parking, Entrance/Exit, approach to plinth
5	Universal Design: Urban Level
	<ul style="list-style-type: none"> ● For streets, pathways, pedestrian crossings, foot over bridges, curb ramps, parking, public toilets, parks, bus stops, street furniture

15) RECOMMENDED STUDY MATERIAL:

Sr. N	Reference Book	Author	Edition	Publication
1	Universal Design Handbook	Korydon Smith, Preiser Wolfgang	McGraw Hill Professional, 2001	1
2	Handbook of Speciality Elements in Architecture McGrawhill Co., USA, 1982	Andrew Alpern		2
3	Accessible Home: Designing for All Ages and Abilities	Deborah Pierce	Atlantic Publishers and Distributor	3

			S	
4	CPWD, Guidelines and space standards for barrier free built environment for Disabled & Elderly persons			4
Important Web Links				
1.				
2.				

Semester-VI

Code: 25BARCAR6101	PROJECT MANAGEMENT	2 Credits [LTP: 2-0-0]
---------------------------	---------------------------	-------------------------------

23) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Summarizing about the terminology used in project management.	L1	PO1,PO2,PO4	PSO1,PSO 2 & PSO3
CO2	Determining the application of project management principles in the planning phase of an architectural project.	L2	PO1,PO2,PO3,PO4	PSO1,PSO 2 & PSO3
CO3	Appraising the potential risks in interior design projects and propose mitigation strategies.	L3	PO1,PO2,PO4	PSO1,PSO 2 & PSO3
CO4	Assessing the success of an interior design project based on predefined criteria.	L4	PO1,PO2,PO3,PO4	PSO1,PSO 2 & PSO3
CO5	Building a comprehensive project management plan for an interior design project, integrating various project components.	L5	PO2,PO3,PO4,PO5	PSO1,PSO 2 & PSO3

24) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	3	–	1	–	–	–	–	–	–	–	–	1	1	2
CO2	1	1	1	1	–	–	–	–	–	–	–	–	1	1	2
CO3	1	2	–	1	–	–	–	–	–	–	–	–	1	1	2
CO4	3	1	1	1	–	–	–	–	–	–	–	–	1	1	2
CO5	–	1	1	1	3	–	–	–	–	–	–	–	1	1	2
WT. AVG	2.00	1.60	1.00	1.00	3.00								1	1	2

25) OUTLINE OF THE COURSE

Unit No.	Title of the unit	Time Required for the Unit (Hours)
1	Introduction to Project Management	4
2	Scheduling Procedures And Techniques	6
3	Project Network Analysis	6
4	Project Network Analysis	4
5	Project Cost Analysis	4

26) DETAILED SYLLABUS

UNITS	CONTENTS
1	Introduction to Project Management
	I A- a) Project management: Relevance in industry functions and scope. b) Project lifecycle, planning process. Responsibilities of a project manager c) Project management- Concept, Objectives, Planning, Scheduling, Controlling c) Suitability of architect as construction / project manager
2	Scheduling Procedures and Techniques
	II A- a) Basic Concepts in the Development of Construction Plans b) Choice of Technology and Construction Method c) Defining project activities and precedence relationships among activities d) Methods of Activity Duration Estimation Project work breakdown, Modelling and analyzing networks
3	Project Network Analysis
	III A- a) Work scheduling process. Bar charts and Mile stone charts. b) Relevance Of Project Schedules- PERT & CRT c) The Critical Path Method (CPM) - scheduling, activity float, critical path identification and schedules. c) III B- Preparing scheduling process, activity float, critical path identification and schedules.
4	Project Network Analysis
	IV A- a) Network analysis fundamentals, CPM Network analysis procedure. Program evaluation review Techniques (event, activity, dummy network rules, graphical guidelines for network – PERT network). IV B- Network analysis and event, activity, dummy network rules, graphical network – PERT network
5	Project Cost Analysis
	V A- a) PERT - network, time estimates, probability distribution, critical path, slack and probability of achieving completion date. V B- Estimating time and probability distribution, critical path, slack and probability of achieving completion date in PERT.

27) RECOMMENDED STUDY MATERIAL:

Sr. N	Reference Book	Author	Edition	Publication
1	Construction Project Management.	Chitkara, K.K	1998	Tata McGr aw Hills Publishing Co. Ltd. New Delhi
2	Scheduling Construction projects	Willis., E.M	1986	John Wiley and Sons

3	Project Management with CPM ", PERT and Precedence Diagramming	Moder.J., C.Phillips and Davis	1983	Van Nostrand Reinhold Co.
4	Building, Planning, Designing and Scheduling	Gurchar an Singh	2009	Standard Publications
5	Project Management for Architects and Civil Engineers	Mukhopadh ya y,S.P	1981	Firma KLM Pvt. Ltd., Calcutta
Important Web Links				
1.				
2.				

Code: 25BARCAR6102	ARCHITECTURAL STRUCTURES - VI	2Credits [LTP: 2-0-0]
--------------------	--------------------------------------	-----------------------

11) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Summarize about the structural design of steel connections	L1	PO1,PO2,PO4,PO5, PO8,PO9,PO10,PO11	PSO2 & PSO3
CO2	Articulate the knowledge of compound section of beam & its design	L2	PO1,PO2,PO3,PO4,PO5, PO8,PO9,PO10,PO11	PSO2 & PSO3
CO3	Appraise the importance and functions of grillage foundation and be able to produce its structural design	L3	PO1,PO2,PO3,PO4,PO5, PO8,PO9,PO10,PO11	PSO2 & PSO3
CO4	Experiment elementary design for compression member & buckling analysis	L4	PO1,PO2,PO3,PO4,PO5, PO8,PO9,PO10	PSO2 & PSO3
CO5	Build the concept of understanding gantry girder & plate girder and carry out the wind analysis of roof trusses for stability	L5	PO1,PO2,PO3,PO4,PO5, PO8,PO9,PO10	PSO2 & PSO3

12) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	3	-	1	3	1	-	1	1	2	1	-	-	1	2
CO2	2	3	1	2	3	1	-	2	1	1	1	-	-	1	2
CO3	2	2	3	2	3	2	-	1	1	2	1	-	-	1	2

CO4	1	1	1	3	3	3	-	1	2	2	-	-	-	1	2
CO5	1	1	2	3	2	3	-	2	1	3	-	-	-	1	2
WT. AVG	1.80	2.00	1.75	2.20	2.80	2.00		1.40	1.20	2.00	1.00		-	1	2

13) OUTLINE OF THE COURSE

Unit No.	Title of the unit	Time Required for the Unit (Hours)
1	Design of steel Connections	6
2	Design of Beams	4
3	Foundation – Grillage Foundation	4
4	Design of Compression member	6
5	Plate Girder and Gantry Girder and Roof Trusses	4

14) DETAILED SYLLABUS

UNITS	CONTENTS
1	Design of steel Connections
	Types of Steel, Types of Bolts, Types of Connections ,Design of Axially Loaded Bolted Connection, Welded Connection with Numerical.
2	Design of Beams
	Design of beams: simple and compound sections, main and subsidiary beams and their connections. Laterally supported beam design
3	Foundation – Grillage Foundation
	Concept of Grillage foundation, design of Grillage Foundation with Numerical.
4	Design of Compression member
	Types of buckling. Column buckling curves, Imperfection factor, Buckling curves for different cross sections. Design of compression member; Axially loaded compression members.
5	Plate Girder And Gantry Girder and Roof Trusses
	Design Steps of Plate Girder and Gantry Girder Without Numerical Wind loads & calculation of wind load on structures.

15) RECOMMENDED STUDY MATERIAL:

Sr. N	Reference Book	Author	Edition	Publication
1.	Design of Steel Structure (Vol. I)	Prof. R. Chandra	2005	Standard Publisher & Distributors, Delhi

CO4	2	3	-	1	-	-	-	-	-	-	-	-	-	2	-	
CO5	1	-	-	-	-	-	-	-	-	-	-	-	-	2	-	
WT. AVG	1.80	2.00	1.50	1.00	1.50									1	2	1

23) OUTLINE OF THE COURSE

Unit	Title of the unit	Time Required for the Unit (Hours)
1	Introduction and Methods of Estimation	2
2	Components of Estimation	2
3	Specifications	8
4	Schedule of Rates	6
5	Types of Tenders and their Applications	6

24) DETAILED SYLLABUS

UNITS	CONTENTS
1	Introduction and Methods of Estimation
	<ul style="list-style-type: none"> ● Procedure of estimation ● Data requirement ● Types of estimation
2	Components of Estimation
	<ul style="list-style-type: none"> ● Composition of Rate percentage ● Distribution of material and labor ● Tools plants and contractors' profit
3	Specifications
	<ul style="list-style-type: none"> ● Significance of specification in building cost ● Approximate & detailed estimate ● Abstract of estimates ● Bills of estimate bills of quantities ● Contingencies taking of quantities for principal building & electric works
4	Schedule of Rates
	<ul style="list-style-type: none"> ● Analysis of Rate of Principal Civil works ● Item rates ● Labor wages ● PWD schedule rates
5	Types of Tenders and their Applications
	<ul style="list-style-type: none"> ● Types of Tender documentation ● Mode of measurement ● General & detailed specifications

25) **RECOMMENDED STUDY MATERIAL:**

Sr. N	Reference Book	Author	Edition	Publication
1.	Estimating, Costing and Valuation	S.C. Rangwala	2005	Chartar Publishing House, Anand (Gujrat)
2.	Estimating & Costing Engineering Theory and Practice	B.N. Dutta	2016	UBS Publishers, New Delhi
3	Handbook of method of measurement of Building Work	BIS	2005	Bureau of Indian Standards – Distributor Pvt. Ltd. New Delhi
Important Web Links				
1.				
2.				

Code: 25BARCAR6201	ARCHITECTURAL DESIGN –V	8Credits [LTP: 1-0-7]
--------------------	--------------------------------	-----------------------

11) **COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING**

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Summarizing & demonstrate the learning of Form oriented Design with interrelated disciplines of architecture.	L1	PO1,PO2, PO4, PO5,PO6, PO8, PO9, PO10, PO11	PSO1, PSO2 & PSO3
CO2	Determining the techniques involved during the process of design evolution w.r.t. site context & Building byelaws.	L2	PO1,PO2, PO3, PO4, PO5,PO6, PO8, PO9, PO10, PO11	PSO1, PSO2 & PSO3
CO3	Appraising the architectural design process and comprehend architecture as impacted by the elements of a space through the more extensive ramifications of design choices.	L3	PO1,PO2, PO3,PO4, PO5,PO6, PO8, PO9, PO10, PO11	PSO1, PSO2 & PSO3
CO4	Assessing the students to equip themselves, with Professional Competency and Capabilities to incorporate, detail design & execute by using this acquired knowledge.	L4	PO1,PO2,PO3,PO4, PO5,PO6, PO8, PO9,PO10	PSO1, PSO2 & PSO3
CO5	Building the design ideas into presentable 2-D and 3-D drawings, presentations, models,	L5	PO1,PO2,PO3,PO4, PO5,PO6, PO8, PO9,PO10	PSO1, PSO2 & PSO3

	views, etc. to the end users (in case of live projects)			
--	---	--	--	--

12) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	3	-	1	3	1	-	1	1	2	1	-	2	3	2
CO2	2	3	1	2	3	1	-	2	1	1	1	-	2	3	2
CO3	2	2	3	2	3	2	-	1	1	2	1	-	2	3	2
CO4	1	1	1	3	3	3	-	1	2	2	-	-	2	3	2
CO5	1	1	2	3	2	3	-	2	1	3	-	-	2	3	2
WT. AVG	1.80	2.00	1.75	2.20	2.80	2.00		1.40	1.20	2.00	1.00		2	3	2

13) OUTLINE OF THE COURSE

Unit	Title of the unit	Time Required for the Unit (Hours)
1	Basic architectural design Process	16
2	Learning from Literature & Case studies	16
3	Optimization in Architectural Design	24
4	Learning the basic drawings representing design	16
5	Basics of Measured Drawing and documentation	24

14) DETAILED SYLLABUS

UNITS	CONTENTS
1	<ul style="list-style-type: none"> To clarify the Design Process in progressively complex spaces and buildings. To understand the urban context of a project and its inter-relationship to site, climate, social structure, culture, architecture, built typologies, construction technologies, Urban Fabric, Economy, Structural and Services Complexities etc. To understand and bring to design implementation issues such as sustainability, earthquake, disaster management, barrier free environment etc.

15) RECOMMENDED STUDY MATERIAL:

Sr. N	Reference Book	Author	Edition	Publication
-------	----------------	--------	---------	-------------

1	Time Saver Standards for Architectural Design	Martin Zelnik and Julius Panero	Latest	--
2	Neuferts architect's data	Ernst Neuferts	Latest	--
3	Time-Saver Standards for Interior Design and Space Planning	Martin Zelnik and Julius Panero	Latest	--
4	Campus design in India	Kanvinde & Miller		
5	Campus Planning	Richard Dober		
6	Urban Design- The Architecture of Towns and Cities	Paul Spreirein gen		
7	Exterior design in Architecture	AshiharaTos hin ibu		
8	Modern Language of Architecture	Bruno Zevi		
9	Modern Movements in Architecture	Charles Jencks		
10	Language of Post – Modern Architecture	Charles Jencks		
11	Complexities and Contradictions in Architecture	Robert Venturi		
12	Architectural Composition.	Rob Krier		
13	Pattern Language	Christopher Alexander		
14	Town Design	Fredrick Gibber d Alexander		
Important Web Links				
1.				
2.				

Code: 25BARCAR6202	ARCHITECTURAL BUILDING CONSTRUCTION & MATERIALS VI	3Credits [LTP: 2-0-2]
--------------------	---	-----------------------

26) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Summarize the details of construction, laying, fixing of Ferro cement and other sustainable materials.	L1	PO1,PO3	PSO2
CO2	Articulate the techniques and tips of Pre-cast construction.	L2	PO1,PO2, PO4	PSO2
CO3	Appraise the techniques and tips of Pre-stressed construction and understanding its application in the field by doing different case studies and learnings based on the same.	L3	PO1,PO2, PO4	PSO2
CO4	Experiment the different glazing and composite panels available in the market to explore their use and feasibility.	L4	PO1,PO2, PO4	PSO2
CO5	Adapt the different cost-effective building materials	L5	PO1,PO2, PO4,PO5	PSO2

27) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	1	-	-	-	-	-	-	-	-	-	-	-	2	-
CO2	1	1	-	1	-	-	-	-	-	-	-	-	-	2	-
CO3	1	2	-	1	-	-	-	-	-	-	-	-	-	2	-
CO4	1	2	-	2	-	-	-	-	-	-	-	-	-	2	-
CO5	1	3	-	2	3	-	-	-	-	-	-	-	-	2	-
WT. AVG	1.00	1.80		1.50	3.00								-	2	-

28) OUTLINE OF THE COURSE

Un it	Title of the unit	Time Required for the Unit (Hours)
1	Ferro cement	6
2	Precast Construction	9
3	Pre-stressed Construction	6
4	Structural Glazing & Aluminum Composite Panels	9
5	Cost Effective Building Material	6

29) DETAILED SYLLABUS

UNITS	CONTENTS
1	Ferro Cement
	<ul style="list-style-type: none"> ● Introduction to Ferro cement ● Properties of Ferro cement ● Comparison between RCC and Ferro cement ● Casting and manufacturing of ferro cement sections ● Ferro cement products ● Merits, demerits and Application in construction industry ● Conclusion of unit
2	Precast Construction/ Prefab
	<ul style="list-style-type: none"> ● Introduction to Precast construction & Prefab construction ● Market forms of Precast products and their properties ● Comparative analysis between RCC Precast and Cast in situ construction system ● Casting and manufacturing of Precast RCC sections ● Merits, demerits and Application in construction industry ● Conclusion of unit
3	Pre-stressed Construction
	<ul style="list-style-type: none"> ● Introduction to Pre-stressed construction ● Concept of prestressing, types-post and pre tensioning ● Comparative analysis between RCC Pres-stressed and regular construction system ● Casting and manufacturing of Precast pre-tensioned RCC sections ● Merits, demerits and Application in construction industry ● Conclusion of unit
4	Structural Glazing, Aluminum Composite Panels & Space frame
	<ul style="list-style-type: none"> ● Introduction to glazing materials and ACP's ● Composition of glazing materials, types and available market forms ● Composition of Aluminum Composite panels, types and available market forms ● Manufacturing process of ACP's ● Merits, demerits and Application in construction industry ● Space frame ● Conclusion of unit
	Cost Effective Building Material
	<ul style="list-style-type: none"> ● Introduction to unit ● Concept of Alternate Building Materials, Fly Ash, Stabilized Earth Blocks ● Need for search of Cost-Effective material ● Characteristic requirements of a cost-effective material ● Conclusion to unit

30) RECOMMENDED STUDY MATERIAL:

Sr.	Reference Book	Author	Edition	Publication
-----	----------------	--------	---------	-------------

N				
1.	Handbook on Building Construction			Bureau of Indian Standards, New Delhi
2.	Practical Handbook on Building Construction	M.K. Gupta		
3.	Hand Book on Construction, Reinforcement & Detailing			Bureau of Indian Standards, New Delhi
4.	Building Construction	J.C. Mackay	2005	Orient Longman, Mumbai
5.	The Construction of Building	R. Barry	2004	Affiliated East & West Press, New Delhi
Important Web Links				
1.				
2.				

Code: 25BARCAR6204	WORKING DRAWING – II	3Credits [LTP: 2-0-2]
--------------------	-----------------------------	-----------------------

31) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Summarizing & demonstrate the importance of working drawings to advance level of drawings & details for a given building Design.	L1	PO1,PO2,PO3,PO4	PSO2 & PSO3
CO2	Determining the working details of structural layout with necessary details based on the structure of the building typology.	L2	PO1,PO2, PO3,PO4	PSO2 & PSO3
CO3	Appraising the relation between Architectural drawings and detailed	L3	PO1,PO2, PO3, PO4	PSO2 & PSO3

	service drawing including electrical & plumbing layout along with schedules.			
CO4	Assessing the interior finishes and specifications for preparing working drawings.	L4	PO1,PO2, PO3, PO4,PO5,PO6	PSO2 & PSO3
CO5	Building and convert the design intent into a set of good for construction drawings.	L5	PO1,PO2, PO3, PO4,PO5,PO6, PO7,PO8,PO9, P010,PO11,PO12	PSO2 & PSO3

32) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	2	2	2	-	-	-	-	-	-	-	-	-	2	2
CO2	1	2	2	3	-	-	-	-	-	-	-	-	-	2	2
CO3	1	1	3	3	-	-	-	-	-	-	-	-	-	2	2
CO4	2	2	2	2	1	1	-	-	-	-	-	-	-	2	2
CO5	3	2	3	2	3	2	1	2	2	1	1	1	-	2	2
WT. AVG	1.80	1.80	2.40	2.40	2.00	1.50	1.00	2.00	2.00	1.00	1.00	1.00	-	2	2

33) OUTLINE OF THE COURSE

Unit	Title of the unit	Time Required for the Unit (Hours)
1	Designing of 3BHK residence	10
2	Preparation of structural drawings	10
3	Preparation of elevation(s) and sectional details	10
4	Preparation of submission drawings & details	10
5	Preparation of other drawings & details	20

34) DETAILED SYLLABUS

UNITS	CONTENTS
1	3BHK RESIDENCE (Continued from V semester)
	IA. <i>Introduction to assignment 1</i>- Introduction about site layout and development
	II B. - Preparation of Centre Line plan - Trench/Excavation and footing Plan with details
2	PREPARATION OF STRUCTURAL DRAWINGS
	II A. <i>Introduction to assignment 2</i>- Introduction about Column Beam layout. II B. – Preparation of Column Layout drawing and details - Beam and Slab Drawing and details

	- Shuttering Plan and details
3	PREPARATION OF SERVICE DRAWINGS
	III A. <u>Introduction to assignment 3</u>- Preparation of Supporting Drawing. III B. Preparation of Door Window Schedule and Details - Electrical Layout of all floors - Plumbing and Drainage Plan of All floors and terrace
4	PREPARATION OF OTHER DRAWINGS
	IV A. <u>Introduction to assignment 4</u>- For any single space or room in the project, the following set of drawings need to be produced: IV B. - Flooring detail (Any single space or room) - False Ceiling detail, Wall finishes drawing, Specification's sheet
5	PREPARATION OF BOQ
	PREPARATION OF BOQ
	PROJECT 2 – MAJOR DESIGN PROJECT OF V SEMESTER (Continued from V semester)
6	Structural Drawings – excavation, footing, column, beam and slab
7	Service Drawings – Electrical and Plumbing
8	Detail Drawings – Flooring & details, Wall Finish & details, False Ceiling & details and Specifications (of any single space or room in the project)

35) RECOMMENDED STUDY MATERIAL:

Sr. N	Reference Book	Author	Edition	Publication
1.	Working Drawing Handbook	Keith Syles	1998	Architectural Press Oxford
2.	Arch. Drawing and Light Construction	Edward J. Muller, James G. Gaussett	1999	Grav – Prentice Hall, New Jersey
3.	Unified Building Regulation, Rajasthan	Jaipur Development Authority	2017	Jaipur Development Authority
4	Working Drawing Manual (P/L Custom Scoring Survey)	Fred A. Stitt	1998	McGraw-Hill Education
5	The Professional Practice of Architectural Working Drawings	Osamu A. Wakita, Richard M. Linde and Nagy R. Bakhom	4 th edition (2011)	John Wiley & Sons
6	Architectural Working Drawings	Ralph W. Liebing	3 rd edition	John Wiley & Sons

			(1990)	
7	Detail in Contemporary Residential Architecture 2	David Phillips and Megumi Yamashita	2014	Laurence King Publishing
8	Architectural Detailing: Function, Constructability, Aesthetics	Edward Allen and Patrick Rand	3 rd edition (2016)	John Wiley & Sons
9	Construction Drawings and Details for Interiors	Rosemary Kilmer and W. Otie Kilmer	3 rd edition (2016)	John Wiley & Sons
Important Web Links				
1.				
2.				

Code: 25BARCAR6203	BUILDING SERVICES STUDIO-IV	1Credits [LTP: 0-0-2]
--------------------	------------------------------------	-----------------------

16) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Summarizing the importance of light, its properties, types and application in architecture	L1	PO1,PO3	PSO3
CO2	Determining and adopt the ingress of day-lighting in design by manipulating various building elements	L2	PO1,PO2,PO3	PSO3
CO3	Appraising the concept of artificial lighting and its needs along with learning about its types, fittings, installation schemes, and supplementary lighting concept	L3	PO1,PO2,PO3,PO4	PSO3
CO4	Assessing knowledge of various materials related to electrical supply and their properties	L4	PO1,PO2,PO3,PO4	PSO3
CO5	Building the knowledge gained about lighting in practical examples for achieving maximum efficiency	L5	PO3,PO4,PO5	PSO3

17) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	–	1	–	–	–	–	–	–	–	–	–	-	-	2
CO2	2	2	3	–	–	–	–	–	–	–	–	–	-	-	2
CO3	1	2	3	2	–	–	–	–	–	–	–	–	-	-	2
CO4	1	2	2	1	–	–	–	–	–	–	–	–	-	-	2
CO5	–	–	3	2	3	–	–	–	–	–	–	–	-	-	2
WT. AVG	1.75	2.00	2.40	1.67	3.00								-	-	2

18) OUTLINE OF THE COURSE

Un it	Title of the unit	Time Required for the Unit (Hours)
1	Introduction to Light	6
2	Day-lighting	9
3	Artificial Lighting	6
4	Principles of electrical installation in buildings	9
5	Illumination design process	9

19) DETAILED SYLLABUS

UNITS	CONTENTS
1	Introduction to Light
	I A -Electromagnetic radiation, Visual task requirements, Units of Light, Light, Vision and Buildings, Standards of Lighting and Visual comfort. I B -understand the definition and basics of light.(PPT)
2	Day-lighting
	II A -The sky as a source of light, Daylight factor, Lighting - Windows, Room proportions and other building elements, Daylight penetration, Calculation of daylight factor. II B -Detailed study of the day lighting, its sources, affecting factors etc.(Report-class assignments)
3	Artificial Lighting
	III A -Artificial lighting - requirements. Types of electrical lamps. Electrical fittings / equipment used in buildings. Design of general lighting schemes. Study of lighting systems used in different types of buildings. Preparation of lighting layout for different types of spaces / buildings. Supplementary artificial lighting for buildings. III B -Detailed study of artificial lighting, lighting scheme and its related component study.(Report-class assignments)
4	Principles of electrical installation in buildings
	IV A - Distribution, Circuits and elements of building wiring systems. Safety

	<p>methods and measures to be adopted, study of relevant I.S. Codes. Electrical load estimation, branch circuit design and electrical wiring design for different types of buildings.</p> <p>IV B- study of practical execution of electrical fittings with help of drawings. (Drawings- CAD drafted sheets)</p>
5	Illumination design process,
	<p>V A-a) Design for lighting, b) Classification of lighting, V B- layout preparation and load calculation of lighting in different spaces.(CAD drafted sheets)</p>

20) **RECOMMENDED STUDY MATERIAL:**

Sr. N	Reference Book	Author	Edition	Publication
1	National Building Codes		2005	Bureau of Indian Standards
2	National Building Codes Part-VIII –Building Services		2005	Bureau of Indian Standards
Important Web Links				
1.				
2.				

Code: 25BAREAR6311	VERNACULAR ARCHITECTURE	2Credits [LTP: 2-0-0]
--------------------	-------------------------	-----------------------

11) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Summarize the concept of Vernacular Architecture of Indian Vernacular Architecture in detail.	L1	PO1,PO4,PO5,PO6, PO9,PO10,PO11	PSO1,PSO 2 & PSO3
CO2	Articulate vernacular architecture in terms of its Functional aspects, Cultural aspects, Climatic considerations, Construction methods and techniques, Materials.	L2	PO1,PO2,PO3,PO4, PO5,PO6,PO8,PO9, PO10,PO11	PSO1,PSO 2 & PSO3
CO3	Appraising the reinterpretation of vernacular architecture in Modern construction.	L3	PO1,PO2,PO3,PO4, PO5,PO6,PO8,PO9, PO10,PO11	PSO1,PSO 2 & PSO3
CO4	Assessing the study of Architects who worked on contemporary vernacular architecture & their projects.	L4	PO1,PO2,PO3,PO4, PO5,PO6,PO9, PO10,PO11	PSO1,PSO 2 & PSO3
CO5	Building design for different climatic conditions vernacular architecture in relation with climate types, emphasis on vernacular arch in Indian Context	L5	PO1,PO2,PO3,PO4, PO5,PO6,PO9, PO10,PO11	PSO1,PSO 2 & PSO3

12) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	-	-	1	2	1	-	-	2	3	2	-	1	2	1
CO2	1	3	3	2	3	1	-	1	2	3	2	-	1	2	1
CO3	1	3	3	2	3	2	-	2	2	3	1	-	1	2	1
CO4	1	3	3	3	1	3	-	-	3	3	1	-	1	2	1
CO5	2	3	3	3	3	3	-	1	3	3	1	-	1	2	1
WT. AVG	1.20	3.00	3.00	2.20	2.40	2.00		1.33	2.40	3.00	1.40		1	2	1

13) OUTLINE OF THE COURSE

Unit	Title of the unit	Time Required for the Unit (Hours)
1	Introduction to Interior Design and Space planning	9
2	False Ceiling & Lighting, Plumbing, Flooring details	6
3	Furniture Detailing with Respect to Anthropometry	6

4	Introduction to Interior Landscape	6
5	Wall Finishes, Furnishings and material study	9

14) DETAILED SYLLABUS

UNITS	CONTENTS
1	INTRODUCTION TO VERNACULAR ARCHITECTURE
	Factors contributed to its evolution with examples Approaches and concepts to the study of Vernacular architecture The advantages of studying it and possible application today. Introduction to Kutcha architecture and Pucca architecture
2	VERNACULAR ARCHITECTURE AROUND THE WORLD
	Factors that contributed to their evolution. Few Examples for the same. Factors influencing the planning aspects, materials of construction & constructional details of the above. Religious practices, beliefs, culture & climatic factors influencing the planning of the above.
3	VERNACULAR ARCHITECTURE IN INDIA
	Planning aspects, Materials used, Constructional details, Climatic factors influencing the planning of Kashmir – Typical Kutcha houses, mosque, Dhoongas(Boathouses), Ladakhi houses, bridges Himachal Pradesh – Kinnaur houses Bengal – Bangla (Rural house form), AatChala houses – change from Bangla to Bungalow, Kutcha & Pucca architecture of Bengal. Nagaland – Naga houses & Naga village, Khasi houses Pol houses of Ahmedabad - Primitive forms, Symbolism, Colour, Folk art etc in the architecture of the deserts of Kutch & Gujarat state. Kerala – Nair houses (Tarawads), Kerala Muslim houses (Mappilah houses), Temples, Palaces and theaters – Thattchushastra. TamilNadu – Toda Huts, Chettinad Houses (Chettiars) & Palaces
4	VERNACULAR ARCHITECTURE OF RAJASTHAN
	Factors influencing the planning aspects, materials of construction & constructional details of the following: Jat houses for farming caste, Bhungas(Circular Huts) Havelis(Pukka houses) of Rajasthan etc Settlement planning strategies, regional and occupation wise variation.
5	INFLUENCE ON MODERN ARCHITECTURE
	Examples from the works of Frank Llyod Wright, Green Broken & Hasan Fatty. GeofferyBawa, Laurrie Baker, SuhasiniIyer, Satprem Maini, Chitra Vishwanathan, Revathi Kamath, Anupama Kundu, etc. Possible applications of vernacular architectural techniques today.

15) RECOMMENDED STUDY MATERIAL:

Sr. N	Reference Book	Author	Edition	Publication
-------	----------------	--------	---------	-------------

1.	Havelis: A Living Tradition of Rajasthan	Shikha Jain	2004	Surbhi publications
2.	Encyclopedia of vernacular architecture of the world	Paul Oliver	1997	Cambridge University press, U.K
3.	The painted towns of Shekhawati	Ilay Cooper	1994	Mapin India
4	Vernacular traditions: contemporary architecture	Aishwarya Tipnis	2012	TERI Publications
5	Havelis: A Living Tradition of Rajasthan	Shikha Jain	2004	Surbhi publications
Important Web Links				
1.				
2.				

Code: 25BAREAR6312	HISTORY OF RAJASTHAN ART & CULTURE	2Credits [LTP: 1-0-0]
---------------------------	---	------------------------------

16) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Summarize the user needs of the past times and how they translate into program and manifestation in design in terms of space, materials and culture.	L1	PO6, PO8, PO9, PO10, PO11	PSO2
CO2	Articulate and learn about the different classifications of arts and crafts based on nature and materials used.	L2	PO2, PO6, PO8, PO9, PO11	PSO2
CO3	Appraise the process of building stone formations and its wide usage in Rajasthan.	L3	PO1, PO6	PSO2
CO4	Experiment and learn the new artisans and craftsmanship innovation and the role of technology and applications in stone.	L4	PO2, PO5, PO6, PO9	PSO2

CO5	Build a design that represents the Rajasthan Art and culture.	L5	PO1,PO2,PO5,PO6	PSO2
-----	---	----	-----------------	------

17) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	-	-	1	-	1	1	1	1	-	-	3	-
CO2	-	1	-	-	-	1	-	1	1	-	2	-	-	3	-
CO3	-	1	-	-	-	1	-	-	-	-	-	-	-	3	-
CO4	-	2	-	-	1	1	-	-	1	-	-	-	-	2	-
CO5	1	1	-	-	3	1	-	-	-	-	-	-	-	2	-
WT. AVG	1.00	1.25			2.00	1.00		1.00	1.00	1.00	1.50	-	-	2.6	-

18) OUTLINE OF THE COURSE

Unit No.	Title of the unit	Time Required for the Unit (Hours)
1	Background & regional formation of Rajasthan	9
2	Classification of Arts & Crafts based on nature and material used	3
3	Building stone craft tradition in Rajasthan	9
4	Building elements in stone	9
5	Reinterpretation of stone craftsmanship	6

19) DETAILED SYLLABUS

UNITS	CONTENTS
1	BACKGROUND & REGIONAL FORMATION OF RAJASTHAN
	<ul style="list-style-type: none"> Traditional geographical, political and cultural divisions Pre-and proto history of Rajasthan focusing on various prehistoric cultures Inter-religious interactions- Aspects of arts and crafts, literature and cultural relations with neighboring states during respective historical eras.
2	CLASSIFICATION OF ARTS & CRAFTS BASED ON NATURE AND MATERIAL USED
	<ul style="list-style-type: none"> The <i>Chhatiskarkhana</i> of Jaipur; Crafts - Jewelry, metal, wood, lac-based crafts, textiles, paper crafts Miscellaneous arts – Miniature painting, frescoes, Araish etc.; Tribal crafts; Influence of arts and crafts on built form
3	BUILDING STONE CRAFT TRADITION IN RAJASTHAN
	<ul style="list-style-type: none"> Stone types of Rajasthan Shaping the stone – quarrying, selection, dressing, finishing, carving and patterning; Stone craft clusters in Rajasthan;

	<ul style="list-style-type: none"> ● Stone Masonry (walls; dry and with lime mortar / cladding and finishes).
4	BUILDING ELEMENTS IN STONE
	<ul style="list-style-type: none"> ● Architectural elements in stone (jharokhas, copings, railings, jaalis); Landscape elements in stone (fountains, water bodies, benches, signage, lamps) ● Interior elements/sculptures/artifacts of various sorts; Maintenance of Stone Buildings.
5	REINTERPRETATION OF STONE CRAFTSMANSHIP
	<ul style="list-style-type: none"> ● The new generation artisan ● Innovations and adaptations to new tools and applications in stone ● Contemporary use of stone while studying works of Raj Rewal, Charles Correa, Ashok B Lall and Nimish Patel.

20) **RECOMMENDED STUDY MATERIAL:**

Sr. N	Reference Book	Author	Edition	Publication
1	Rima Hooja, History of Rajasthan, Rupa Co., New Delhi		2006	
2	The Stone Crafts of Rajasthan- A Manual, CDOS, Jaipur		2011	
3	V.S. Bhatnagar, Life and times of Sawai Jai Singh, Impex India, New Delhi		1979	
4	Rajasthan Sate Gazeteers, Volume – 2, History and culture, Directorate District Gazetteers, GoR& Volume-3, Economic Structure and Activities			
5	Jadunath Sarkar, History of Rajasthan			
Important Web Links				
1.				
2.				

Code: 2025BARCAR	BUILDING INFORMATION MODELLING-I	2Credits [LTP: 1-0-2]
------------------	---	-----------------------

1) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Summarize the various types of Researches, characteristics, types of research designs, Steps involved in research, ethics of research	L1	PO1,PO6,PO9,PO11	PSO1, PSO2 & PSO3
CO2	Articulate between the various systems of inquiry and quality of research	L2	PO1,PO4,PO6, PO9,PO11	PSO1, PSO2 & PSO3
CO3	Appraise and evaluate the different systems of Inquiry and Standards of Research Quality	L3	PO1,PO4,PO6, PO8,PO9,PO11	PSO1, PSO2 & PSO3
CO4	Experiment and evaluate the systems of research paper writing and various styles of referencing.	L4	PO1,PO4,PO6, PO8,PO9,PO11	PSO1, PSO2 & PSO3
CO5	Build a research statement for any academic project i.e. thesis, dissertation, documentation of design projects	L5	PO1,PO4,PO6, PO8,PO9,PO11	PSO1, PSO2 & PSO3

2) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	-	-	-	-	1	-	-	1	-	2	-	2	1	2
CO2	1	-	-	1	-	1	-	-	1	-	2	-	2	1	2
CO3	3	-	-	2	-	2	-	1	2	-	3	-	2	1	2
CO4	2	-	-	2	-	3	-	2	2	-	3	-	2	1	2
CO5	2	-	-	2	-	3	-	3	3	-	3	-	2	1	2
WT. AVG	1.80			1.75		2.00		2.00	1.80		2.60		2	1	2

3) OUTLINE OF THE COURSE

Unit No.	Title of the unit	Time Required for the Unit (Hours)
1	Introduction to BIM	4
2	BIM Software Overview	8
3	Architectural Modeling – Basic Elements	20
4	Building Envelope & Curtain Systems	12
5	Interior & Circulation Modeling	4

4) DETAILED SYLLABUS

UNITS	CONTENTS
1	Introduction to BIM
	<ul style="list-style-type: none"> ● Fundamentals of Building Information Modelling ● Overview of BIM tools and their roles in creating 2D/3D architectural, structural, and MEP drawings, energy modeling, and construction planning
2	BIM Software Overview
	<ul style="list-style-type: none"> ● Introduction to key BIM applications: Revit (Architecture, Structure, MEP), Ecotect 11, Navisworks, Excel, and MS Office ● Understanding their use in preparing architectural deliverables
3	Architectural Modeling – Basic Elements
	<ul style="list-style-type: none"> ● Hands on modeling for a small design project ● Building core elements: exterior/interior walls, floors, roofs, doors, windows, footings, columns, and beams
4	Building Envelope & Curtain Systems
	<ul style="list-style-type: none"> ● Developing detailed wall types, doors/windows, and wall openings ● Roof modeling: shapes and slopes ● Designing curtain wall systems: grid patterns, mullions, and panel types
5	Interior & Circulation Modeling
	<ul style="list-style-type: none"> ● Creating stairs, ramps, and elevators ● Customizing stair shapes and detailed interior/circulation elements

5) RECOMMENDED STUDY MATERIAL:

Sr. N	Reference Book	Author	Edition	Publication
1	BIM Handbook: A Guide to Building Information Modeling for Owners, Designers, Engineers, Contractors, and Facility Managers	Chuck Eastman, Paul Teicholz, RafaelSacks, KathleenLis ton	2011	Wiley Publication, New Jersey
2	Building Information Modeling for Dummies	Stefan Mordue, Paul Swaddle, David Philp	2016	John Wiley and sons Ltd., West Sussex

Semester-VII

Code: 25BARCAR7101	PROFESSIONAL PRACTICE	2 Credits [LTP: 2-0-0]
--------------------	-----------------------	------------------------

28) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Summarizing the duties and liabilities of an Architect and laws governing their legal responsibilities	L1	PO1,PO12	PSO1 & PSO2
CO2	Determining the Architects Registration Act 1972, legal provisions of the act , Council of Architecture and the Architectural competitions	L2	PO1	PSO1 & PSO2
CO3	Appraising the duties and liabilities of an Architect and laws governing their legal responsibilities	L3	PO1,PO12	PSO1 & PSO2
CO4	Assessing the components of Tender document and Contract document, type of Contracts, termination of contract and Arbitration	L4	PO1,PO7	PSO1 & PSO2
CO5	Building & create a draft of the tender report, detail project report.	L5	PO1,PO6	PSO1 & PSO2

29) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	-	-	-	-	-	-	-	-	-	-	3	1	2	-
CO2	1	-	-	-	-	-	-	-	-	-	-	-	1	2	-
CO3	1	-	-	-	-	-	-	-	-	-	-	3	1	2	-
CO4	2	-	-	-	-	-	3	-	-	-	-	-	1	2	-
CO5	2	-	-	-	-	3	-	-	-	-	-	-	1	2	-
WT. AVG	1.40					3.00	3.00					3.00	1	2	-

30) OUTLINE OF THE COURSE

Unit No.	Title of the unit	Time Required for the Unit (Hours)
1	Basics of Office Management & Accounting in Architect's office	2

2	Architects Registration Act 1972 and Architectural Competitions.	2
3	Duties and liabilities in profession	8
4	Tendering procedures for Architectural Consultancy	6
5	Components of a tender document & Contracts	6

31) DETAILED SYLLABUS

UNITS	CONTENTS
1	Basics of Office Management & Accounting in Architect's office
	<ul style="list-style-type: none"> a. The architect and his office, relationship with clients, consultants and contractors b. Human relation and personnel management c. Brief idea about accounting and book keeping d. Business correspondence e. Information storage and retrieval systems.
2	Architects Registration Act 1972 and Architectural Competitions.
	<ul style="list-style-type: none"> a. Introduction to Architects Registration Act 1972, registration of Architects b. The legal provisions within the act and constitution of Council of Architecture c. Architect's Services and scale of normal and partial fees d. Code relation to Architectural Competition e. Copy-rights of drawings.
3	Duties and liabilities in profession
	<ul style="list-style-type: none"> a. Legal responsibility of architect to Employer; Government bodies and local bodies; b. Express and implied authority of the Architect; c. Architect's relationship with the client and the contractor; d. Duration of liability; c. Consumer Protection Act 1986.
4	Tendering procedures for Architectural Consultancy
	<ul style="list-style-type: none"> a. Brief understanding of Types of tenders and tenders document, tender draft notices and invitation of tenders b. Procedure for opening and selection of tenders. c. Notice Inviting Tender; Expression of Interest (EOI) and Request for Proposal (RFP) d. Technical and Financial Bid e. Procedure for opening and selection of tenders, pre-bid meetings f. Work order, contracts, agreements and memorandum of understanding (MOU) g. Consortium of professionals
5	Components of a tender document & Contracts
	<ul style="list-style-type: none"> a. Terminologies: Earnest Money, Security Deposit, Retention Money, Mobilization Fund, Bank Guarantee. b. Schedule of Quantities, Variation and extras c. Defects after completion d. Certificates and payments, Insurance and fire Insurance, Liquidate damage

e.	Contract, Type of contracts and contract documents
f.	Termination of the contract.
g.	Arbitration clause. Arbitration, Conciliation and Mediation. Arbitration proceedings

32) RECOMMENDED STUDY MATERIAL:

Sr. N	Reference Book	Author	Edition	Publication
1	Professional Practice	Roshan Namavati	1993	Laxmi Book Depot, Mumbai
2	Handbook of Professional Practice	Compiled by Indian Institute of Architects	1988	Architects Publishing Corporation, Mumbai
3	Architectural Practice in India	Madhav Deobhakta	2007	Council of Architecture, New Delhi -
4	The Architect in Practice	Wills, Arthur	1974	Crossby Lockwood Staples, London
5	Project Management for Architects and Civil Engineers	Mukhopadhyay, S.P	1981	Firma KLM Pvt. Ltd., Calcutta

Important Web Links

Sr. N	Name of the resource	link for the Resource	Date referred
1.	The Architecture Student's Handbook of Professional Practice	https://book.asia/book/3517625/76e109	3-06-2020
2.	The Professional Practice of Architectural Working Drawings	https://book.asia/book/2709261/dbdad4	

33) MODEL EXERCISE/ ASSIGNMENTS/ PROJECTS:

- Student presentations on various aspects of professional practice
- Interview of practicing professionals

25BARCAR7102	RESEARCH METHODOLOGY	2 Credits [LTP: 2-0-0]
--------------	----------------------	------------------------

34) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Summarize the various types of Researches, characteristics, types of research designs, Steps involved in research, ethics of research	L1	PO1,PO12	PSO1 & PSO2
CO2	Articulate between the various systems of inquiry and quality of research	L2	PO1	PSO1 & PSO2
CO3	Appraise and evaluate the different systems of Inquiry and Standards of Research Quality	L3	PO1,PO12	PSO1 & PSO2
CO4	Experiment and evaluate the systems of research paper writing and various styles of referencing.	L4	PO1,PO7	PSO1 & PSO2
CO5	Build a research statement for any academic project i.e. thesis, dissertation, documentation of design projects	L5	PO1,PO6	PSO1 & PSO2

35) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	-	-	-	-	1	-	-	1	-	2	-	1	2	-
CO2	1	-	-	1	-	1	-	-	1	-	2	-	1	2	-
CO3	3	-	-	2	-	2	-	1	2	-	3	-	1	2	-
CO4	2	-	-	2	-	3	-	2	2	-	3	-	1	2	-
CO5	2	-	-	2	-	3	-	3	3	-	3	-	1	2	-
WT. AVG	1.80			1.75		2.00		2.00	1.80		2.60		1	2	-

36) OUTLINE OF THE COURSE

Unit No.	Title of the unit	Time Required for the Unit (Hours)
1	Introduction to Research	4
2	Research Strategies	6
3	Systems of Inquiry	6
4	Introduction to Research paper writing	4
5	Development of Research Statement	4

37) DETAILED SYLLABUS

UN IT	CONTENTS
-------	----------

1.	Introduction to Research
	Introduction to research - types of research- elements of research, characteristic of good research – research methodology
2.	Research Strategies
	Research Strategies; Domain of Architectural Research, Case Studies and Combined Strategies
3.	Systems of Inquiry
	Systems of Inquiry and Standards of Research Quality; Surveys- Qualitative and Quantitative; Literature Review; Theory in Relation to Method
4.	Introduction to Research paper writing
	Introduction to report and research paper writing; different styles of report writing – APA and MLA style of Report writing; Relevance of referencing and systems of referencing.
5.	Development of Research Statement

38) RECOMMENDED STUDY MATERIAL:

S. N	Reference Book	Author	Edition
1.	Research Methods in Behavioral Sciences	R. S. Dwivedi	2001
2	Research Methods Process of Inquiry	Anthon Graziano	1989
3	Architectural Research Methods	Linda Groat & David Wang	2002
4	Research Methodology: Methods & Techniques	C.R. Kothari	1990
5	The Practice of Social Research	E. Babbie	1983
6	Methods of Architectural Programming	H. Sanoff	1977

Code: 25BARCAR7201	ARCHITECTURAL DESIGN-VI	2Credits [LTP: 2-0-0]
--------------------	--------------------------------	-----------------------

26) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Summarizing critical/ philosophical/ ideological positions relating to specific design situations in the current scenario by enabling an understanding of urban context as a continuous experience involving the	L1	PO1,PO2,PO4,PO5, PO6,PO8,PO9,PO10, PO11	PSO1, PSO2 & PSO3

	interrelated disciplines of architecture and design			
CO2	Determining the process of researching and analyzing the design process involved in the existing design forms in various parts of the country considering climate, the methods adopted by famous architects and experts and its results, and drawing inferences from the studies conducted in order to open the mind for newer innovations and alternatives	L2	PO1,PO2,PO3,PO4,PO5, PO6,PO8,PO9,PO10, PO11	PSO1, PSO2 & PSO3
CO3	Appraising architectural design decisions in the context of the site and environment conditions by applying various techniques and develop the final design from the conceptual theme	L3	PO1,PO2,PO3,PO4,PO5, PO6,PO8,PO9,PO10, PO11	PSO1, PSO2 & PSO3
CO4	Assessing inclusivity into the architectural design process and understand architecture as influenced by the dynamics of a space through the wider implication of design decisions and their interdependency with larger processes of society	L4	PO1,PO2,PO3,PO4,PO5, PO6,PO8,PO9,PO10	PSO1, PSO2 & PSO3
CO5	Building & Design buildings as contributing to transforming the urban fabric with ability to take creative, critical and informed decisions in the context of significant projects that could shape society in positive ways	L5	PO1,PO2,PO3,PO4,PO5, PO6,PO8,PO9,PO10	PSO1, PSO2 & PSO3

27) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	1	-	1	3	1	-	1	1	2	1	-	2	3	2
CO2	2	3	1	2	3	1	-	2	1	3	1	-	2	3	2
CO3	2	2	3	2	3	2	-	1	1	3	1	-	2	3	2
CO4	1	1	2	3	3	3	-	1	2	2	-	-	2	3	2
CO5	1	1	2	3	2	3	-	2	1	3	-	-	2	3	2
WT. AVG	1.80	1.60	2.00	2.20	2.80	2.00		1.40	1.20	2.60	1.00		2	3	2

28) OUTLINE OF THE COURSE

U	Title of the unit	Time required for the Unit
1		
2		
3		
4		
5		

29) DETAILED SYLLABUS

UNITS	CONTENTS
1	General building economic concepts
	<ul style="list-style-type: none"> To expose students to full- fledged architectural projects with holistic approach and design program, covering a detailed Pre-Design research including Site Investigation, Program Formulation and Design Demonstration; a) To introduce the area of Large-Scale Group Housing and Vertical Development.

30) RECOMMENDED STUDY MATERIAL:

Sr. N	Reference Book	Author	Edition	Publication
1.	Town Planning	Abir Bandopadhyay		
2.	Urban Housing Forms			Architectural Press
3.	Forms En Formations	Christian Darles		
4.	Time Saver Standards for Architectural Design	Martin Zelnik and Julius Panero	Latest	--
5.	Neuferts architect's data	Ernst Neuferts	Latest	--
6.	Architecture – Form, Space & Order	Francis D.K. Ching		
Important Web Links				
1.				

2.	
----	--

31) MODEL EXERCISE/ ASSIGNMENTS/ PROJECTS:

- a. Township/ Multi-use Commercial Complex, Mixed- use High Rise Buildings, Large Scale: Health Care, Hospitality Facility, University etc. Small Scale Industrial Projects with sufficient Housing Components.

Code: 25BARCAR7202	LANDSCAPE DESIGN PLANNING	8Credits [LTP: 1-0-7]
--------------------	----------------------------------	-----------------------

16) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Summarizing the elements and principles of landscape, its history and flora applicable in landscape design and site planning	L1	PO1,PO2, PO3,PO4, PO5, PO10	PSO1, PSO2 & PSO3
CO2	Determining the principles of design elements of history and characteristics of flora and fauna in the concept development of landscape design	L2	PO1 ,PO4, PO5, PO10	PSO1, PSO2 & PSO3
CO3	Appraising the construction techniques, site elements and contextual application of landscape design with respect to its architecture and site design	L3	PO1,PO2, PO3,PO4, PO5, PO10	PSO1, PSO2 & PSO3
CO4	Assessing the appropriate elements, principles and techniques applicable in site planning and landscape design in an architectural or planning project	L4	PO1,PO2, PO3,PO4, PO5, PO10	PSO1, PSO2 & PSO3
CO5	Building landscape design for an architectural or planning project where the elements of design, principles, history, flora are applied with justified implementation of construction techniques, site analysis and visual elements of landscape design	L5	PO1,PO2, PO3,PO4, PO5, PO10	PSO1, PSO2 & PSO3

17) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	2	1	1	1	-	-	-	-	1	-	-	2	1	1
CO2	1	-	-	1	1	-	-	-	-	2	-	-	2	1	1
CO3	2	3	1	1	2	-	-	-	-	1	-	-	2	1	1
CO4	2	2	1	2	3	-	-	-	-	2	-	-	2	1	1
CO5	3	3	2	2	3	-	-	-	-	3	-	-	2	1	1
WT. AVG	1.80	2.50	1.25	1.40	2.00					1.80			2	1	1

OUTLINE OF THE COURSE

	Title of the unit	Time Required for the Unit (Hours)
1	Introduction to Landscape Design Theory	8
2	History of Landscape Architecture	8
3	Flora and Fauna	8
4	Construction Techniques, Site Analysis and Visual Landscape	12
5	Landscape Design	24

18) DETAILED SYLLABUS

UN IT	CONTENTS
1.	Introduction to Landscape Design Theory:
	IA - Introduction to Landscape & its relevance to architecture. IB - Elements and Principles of landscape design and their relation to built environment.
2.	History of Landscape Architecture:
	IIA - Study and understand different Garden Typologies: Egyptian/Persian/English/ Chinese/ Mughal/ Japanese/ Italian/19 th & 20 th Centaury Gardens etc. IIB - To study and understand the various Contemporary Gardens (Examples: Healing/ Sensory etc.). IIC - To understand and analyze the applications of History of Landscape Architecture and implementation in Design Field.
3.	Flora and Fauna:
	3A - Plant Characteristics: The structure, color, form and foliage of various trees and shrubs and climbers and ground covers. 3B - Study and identification of Indian plants and trees etc. 3C - Plant propagation.
4.	Construction Techniques, Site Analysis and Visual Landscape:

	<p>4A - Construction techniques – Details of pavements, grass laying, outdoor furniture.</p> <p>4B–(a) Site Analysis and Site Planning (Campus/ Commercial/ Residential etc.). (b) Site Zoning and Site Development. (c) Cognitive Study: Residential Layout, Commercial Campus etc. (Material/ Layout/ Plant Palette/ Soil etc.)</p> <p>4C - Analysis and implementation of Landscape in Context of Architectural Design.</p>
5.	Landscape Design:
	<p>5A - Studio Design Exercise (Campus/ Commercial/ Residential etc.).</p> <p>(c) Cognitive Study: Residential Layout, Commercial Campus etc. (Material/ Layout/ Plant Palette/ Soil etc.)</p> <p>4C - Analysis and implementation of Landscape in Context of Architectural Design.</p>

19) RECOMMENDED STUDY MATERIAL:

Sr. N	Reference Book	Author	Edition	Publication
1.	Form and Fabric in Landscape Architecture	Katherine Dee		
2.	Drawing for Landscape architects	Sabrina Wilk		
3.	Landscape Design	Hannebaum		
4.	Detail In Contemporary Landscape Architecture			
5.	Placing nature culture and landscape ecology	Nassauer		
6.	Jungle Trees of Central India	Pradip Krishen		Penguin India
7.	Trees of Delhi: A Field Guide	Pradip Krishen		Pengun India
Important Web Links				
1.				
2.				

20) MODEL EXERCISE/ ASSIGNMENTS/ PROJECTS:

- a. Cognitive Study.
- b. Student Seminars.

Code: 25BARCAR7203	HUMAN SETTLEMENT AND PLANNING	3Credits [LTP: 2-0-2]
--------------------	--------------------------------------	-----------------------

36) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Summarize morphology of settlements and their generating forces and characteristics	L1	PO1,PO4	PSO1, PSO2 & PSO3
CO2	Articulate the role of planning processes in making positive changes to settlements.	L2	PO1,PO4	PSO1, PSO2 & PSO3
CO3	Appraise of planning interventions with respect to the current world.	L3	PO1,PO4	PSO1, PSO2 & PSO3
CO4	Experiment and explore different land use and zoning concepts.	L4	PO1,PO4	PSO1, PSO2 & PSO3
CO5	Building insight about the concept of neighborhood planning, role of housing agencies and housing finance mechanism in India	L5	PO1,PO4,PO5	PSO1, PSO2 & PSO3

37) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	–	–	1	–	–	–	–	–	–	–	–	2	1	1
CO2	2	–	–	1	–	–	–	–	–	–	–	–	2	1	1
CO3	2	–	–	2	–	–	–	–	–	–	–	–	2	1	1
CO4	2	–	–	2	–	–	–	–	–	–	–	–	2	1	1
CO5	2	–	–	2	3	–	–	–	–	–	–	–	2	1	1
WT. AVG	2.20			1.60	3.00								2	1	1

38) OUTLINE OF THE COURSE

Unit	Title of the unit	Time Required for the Unit (Hours)
1	Introduction to Settlement Planning	12
2	Theories in Settlement Planning	12
3	Master Plan Document	12
4	Zoning & Land Use	12
5	Urban Renewal & Redevelopment	12

39) DETAILED SYLLABUS

UNITS	CONTENTS
1	Introduction to Settlement Planning
	a) Definition of planning, Role of Planner b) Focus on various Planning Disciplines- Multidisciplinary Nature c) Planning as an architectural expression and form of developing a human settlement d) History of city planning e) Various city planning concepts and models f) City Beautiful Movement and Humanization
2	Theories in Settlement Planning
	a) Theories of city planning: Concentric Zone/ Sector/ Multi-nuclei/ Theory Of Design/ TDR b) New Towns and Cities c) Urban and rural housing d) Significant historical movements in urban transformations
3	Master Plan Document
	a) Purpose & Need of Master Plan Document b) Components & Content of a Master Plan: Typologies and Hierarchy of Plans; c) Basic understanding of Process of preparation of a Master Plan Document; d) Various types of Secondary Plans to Master Plan- Development Plans, Zonal Plans
4	Zoning & Land Use
	a) Concepts of urban space, Zoning and land use b) Techniques and tools for carrying out survey c) Concept of Division of urban land into districts, sectors, neighborhoods
5	Urban Renewal & Redevelopment
	a) Introduction to Present day settlement planning framework in India. b) Various agencies involved in urban and rural planning and implementation and their role. c) Concepts of Urban transportation, issues and mitigation models d) Various Governmental investment and urban renewal schemes, like AMRUT, HRIDAY, PRASAD etc. ● Guidelines for Site Planning, like UDPFI.

40) RECOMMENDED STUDY MATERIAL:

Sr. N	Reference Book	Author	Edition	Publication
1.	Te City Reader	Richard T.	1997	Legate Federic Start- Raut Ledge, London
2.	Town & Square	Paul Zocker		
3.	Chandigarh	Ravi Kala	2002	Oxford University Press, New Delhi

4.	Ancient Cities & Sacred Skies	J. Mckin Malville & Lalit Gural		
5.	The City in History	Wis Mumford		
Important Web Links				
1.				
2.				

A. RECOMMENDED ONLINE STUDY MATERIAL:

i) MOOCS

S r · N	MOO Cs Platfo rm / Journ al	Reference / Link	Mo de/ /	Date refe rred
1	NPTE L Swaya m	Housing Policy and Planning https://onlinecourses.nptel.ac.in/noc20_ar14/previous	Vid eos	14-09- 2020

ii) Journals

S r · N	Name of Journal	Reference Link	Volum e /pp/ Imp act Fact or	Dat e of Pub lic atio n	Date referr ed
1	Science Direct IIMB management Review	https://www.sciencedirect.com/science/article/pii/S0970389615000336		19 th M ay 20 15	
2	International Journal of Engineering Research & technology(IJERT)	https://www.ijert.org/research/affordable-housing-in-india-IJERTV6IS060375.pdf	IJERT V 6IS06 03 75	Ju ne 20 17	Vol 6,Issu e 6

3	Other journals	www.researchgate.net , www.elsevier.com www.arcjournals.org			
---	----------------	--	--	--	--

41) MODEL EXERCISE/ ASSIGNMENTS/ PROJECTS:

- Student presentations on various aspects of urban planning
- Cases study of urban renewal and redevelopment initiatives
- Study of Master plan document and comparative study of best master plan documents

Code: 25BARCAR7204	PORTFOLIO DEVELOPMENT & PRESENTATION	2Credits [LTP: 1-0-2]
--------------------	---	-----------------------

42) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Summarizing the reflective learning theory to develop and articulate your learning philosophy congruent with current educational practice;	L1	PO1,PO4, PO9, PO11	PSO2
CO2	Determining the learning philosophies and consider the influence of organizational compliance on self-ownership of the content and structure of a professional resume;	L2	PO1,PO11	PSO2
CO3	Appraising explore and analyze the purpose of a professional portfolio, possible content, and the methods available for creating a record of reflective practice;	L3	PO1,PO4,PO11	PSO2
CO4	Assessing a professional portfolio by reflecting on, and record the ways in which a could be used to inform and support reflective practice, e.g., performance review, personal growth and professional development processes.	L4	PO1,PO4,PO11	PSO2

CO5	Building the professional skills through communication by evaluating and applying cognitively acquired skills.	L5	PO1,PO4,PO8,PO11	PSO2
-----	--	----	------------------	------

43) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	-	-	1	-	-	-	-	1	-	1	-	-	2	-
CO2	2	-	-	-	-	-	-	-	-	-	2	-	-	2	-
CO3	2	-	-	3	-	-	-	-	-	-	1	-	-	2	-
CO4	2	-	-	1	-	-	-	-	-	-	2	-	-	2	-
CO5	1	-	-	3	-	-	-	1	-	-	1	-	-	2	-
WT. AVG	1.80			2.00				1.00	1.00		1.40		-	2	-

44) OUTLINE OF THE COURSE

Unit	Title of the unit	Time Required for the Unit (Hours)
1	Introduction to Resume & CV	2
2	Resume making	4
3	Introduction to Portfolio design	4
4	Portfolio designing	8
5	Professional communication	6

45) DETAILED SYLLABUS

UNITS	CONTENTS
1	Introduction to Resume & CV
	I A- Understanding Bio data, Resume & Curriculum Vitae, Difference between Bio data, Resume & CV I B - Hands on practise for Resume & CV design
2	Resume making
	II A - Essential components of a Resume, Composition and designing of Resume II B - Designing resume for professional training
3	Introduction to Portfolio design
	III A- Introduction to Professional Portfolio IIIB - Hands on practise for Portfolio
4	Portfolio designing
	IV A - Essential components of a Portfolio - Composition and designing of Portfolio IVB - Designing Portfolio for professional training
5	Professional communication
	V A - Introduction to Professional Communication

	<ul style="list-style-type: none"> - Process of applying for Architect's office online - Professional ethics for personal interview <p>V B - Mock Interviews and communication to Architect's office</p>
--	---

46) RECOMMENDED STUDY MATERIAL:

Sr. N	Reference Book	Author	Edition	Publication
1.	Working Drawing Handbook	Keith Syles	1998	Architectural Press Oxford
2.	Arch. Drawing and Light Construction	Edward J. Muller, James G. Gaussett	1999	Grav – Prentice Hall, New Jersey
3.	Unified Building Regulation, Rajasthan	Jaipur Development Authority	2017	Jaipur Development Authority
4	Working Drawing Manual (P/L Custom Scoring Survey)	Fred A. Stitt	1998	McGraw-Hill Education
5	The Professional Practice of Architectural Working Drawings	Osamu A. Wakita, Richard M. Linde and Nagy R. Bakhom	4 th edition (2011)	John Wiley & Sons
6	Architectural Working Drawings	Ralph W. Liebing	3 rd edition (1990)	John Wiley & Sons
Important Web Links				
1.				
2.				

21) RECOMMENDED ONLINE STUDY MATERIAL:

i) MOOCS

Sr. N	MOOCs Platform/ Journal	Reference / Link	Mode/	Date referred

1	<u>Effective-business-communication</u>	https://www.coursera.org/specializations/effective-business-communication	Video	31-08-2020
2	<u>Communication- skills</u>	https://www.coursera.org/learn/wharton-communication-skills	Video	31-08-2020
3	<u>Creative-thinking-techniques-and-tools-for-success</u>	https://www.coursera.org/learn/creative-thinking-techniques-and-tools-for-success	Video	31-08-2020

22) MODEL

EXERCISES/ASSIGNMENTS/PROJECTS

- Presentation by 4th yearites for sharing experiences of practical training and importance of CV & Portfolio.
- Resume and Portfolio designing and communication in Architecture offices
- Mock interviews with professionals

Code: 25BAREAR7311	GREEN BUILDINGS & RATING SYSTEMS	2Credits [LTP: 1-0-2]
--------------------	---	-----------------------

21) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Summarizing the appropriate materials for constructing a green building	L1	PO1,PO2, PO3, PO4, PO5,PO8,PO9,PO10, PO11	PSO1, PSO2 & PSO3
CO2	Determining the Energy and Resource Conservation in Green Buildings	L2	PO1,PO2, PO3, PO4, PO5,PO8,PO9,PO10	PSO1, PSO2 & PSO3
CO3	Appraising systems to incorporate sustainable & recyclable strategies	L3	PO1,PO2, PO3, PO4, PO5,PO8,PO9,PO10, PO11	PSO1, PSO2 & PSO3
CO4	Assessing the buildings using climatic factors	L4	PO1,PO2, PO3, PO4, PO5,PO8, ,PO10, PO11	PSO1, PSO2 & PSO3
CO5	Building the Plan for effective green building rating system	L5	PO1,PO2, PO3, PO4, PO5,PO8,PO9,PO10, PO11	PSO1, PSO2 & PSO3

22) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	3	1	1	1	-	-	1	1	2	1	-	2	3	3
CO2	1	2	2	1	2	-	-	1	1	2	-	-	2	3	3
CO3	2	2	2	1	2	-	-	1	1	2	1	-	2	3	3
CO4	2	1	1	2	2	-	-	2	-	3	2	-	2	3	3
CO5	3	3	3	3	3	-	-	2	2	3	1	-	2	3	3
WT. AVG	1.80	2.20	1.80	1.60	2.00			1.40	1.25	2.40	1.25		2	3	3

23) OUTLINE OF THE COURSE

Unit	Title of the unit	Time Required for the Unit (Hours)
1	Concepts of sustainability	6
2	Sustainable planning & Design	6
3	Sustainable Building Materials and Construction	6
4	Recycling and Reuse	6
5	Case Studies and Rating systems	12

24) DETAILED SYLLABUS

UNITS	CONTENTS
1	Concepts of sustainability
	IA ● Introduction to Sustainability, Definition of sustainable development, its back ground ● Sustainable Development Goals (SDG), Millennium development Goal(MDG) ● Sustainable Aspects- Energy, Water, Environmental etc. ● Concept of Sustainability - Principles of conservation -synergy with nature ● Bioregionalism - community basis shelter technology within bioregional patterns and scales IB ● A group discussion/hand on exercise on sustainable development.
2	Sustainable planning & Design
	IIA ● Introduction to Sustainable planning & design. ● Sustainable approach to site planning and design - site inventories- relationships between site factors Development impacts from one area of the site on the other areas ● Model ecosystem of the site, phasing of development - limits of change ● Design facility within social and environmental thresholds IIB ● A hand on exercise on sustainable master planning with block model.
3	Sustainable Building Materials and Construction

	<p>IIIA</p> <ul style="list-style-type: none"> ● Introduction to Sustainable & Futuristic building materials & construction technologies. <p>Properties, Uses and Examples of -Primary, secondary and Tertiary Sustainable Materials,</p> <ul style="list-style-type: none"> ● Principles to improve the energy efficiency - siting and vernacular design, shade, ventilation, earth shelter, thermal inertia and air lock entrances. ● Techniques of sustainable construction - technologies, methods of effectiveness, and design synthesis ● Alternative materials and construction methods. IIIB ● PPT presentation/video lecture on futuristic material & construction.
4	<p>Recycling and Reuse</p> <p>IVA</p> <ul style="list-style-type: none"> ● Pre building, Building, Post building stages - Architectural Reuse, Waste prevention, ● Construction and Demolition recycling- Conservation of natural and building resources- ● Energy and material savings ● Types of wastes ● Elimination of waste and minimize pollution- various Decomposing methods ● Innovative reuse of various wastes IVB ● A case study/site visit of recycling, segregation & landfill site/plant.
5	<p>Case Studies and Rating systems</p> <p>VA</p> <ul style="list-style-type: none"> ● lecture on how to do and what to do on cases study & rating system VB ● Sustainable Development Case Studies: illustrated examples of the planning, development, and construction. ● Indian systems – GRIHA, LEED, IGBC & Gem (Assocham) case study.

25) **RECOMMENDED STUDY MATERIAL:**

Sr. N	Reference Book	Author	Edition	Publication
1	Integrated approach to sustainable Development	B.C.Bose		Rajat Publications, Delhi
2	Environmental control systems Heating, Cooling, Lighting	Fuller Moore		McGraw Hill, Newyork.
3	Sustainable practices in built environment	Caring A.Langston, Grace K.C.Ding	2 nd Edition	Butterworth-Heinmann Linacre

				House Jordanhill Oxford
4	Sustainable Building Design Manual Vol I & II			TERI, New Delhi
5	GRIHA Manual			TERI, New Delhi
Important Web Links				
1.				
2.				

26) MODEL EXERCISES/ ASSIGNMENTS/ PROJECTS:

- a. Audit exercises to identify sustainability of existing paces
- b. Seminars and presentation on sustainable materials and construction technologies
- c. Study of best practices case studies
- d. Designing of a completely sustainable building prototype for public domain
- e. MCQs mandatory for all units
- f. Seminar presentations of minimum two units.
- g. Report writing of any 1 topic as per subject requirement.

Code: 25BAREAR7312	SUSTAINABLE DESIGN	2Credits [LTP: 1-0-2]
--------------------	--------------------	-----------------------

16) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Summarize the concepts of Sustainable architecture design	L1	PO1, PO5, PO9, PO10, PO11	PSO1, PSO2 & PSO3
CO2	Articulate the use of sustainable development in design	L2	PO1, PO3, PO4, PO5, PO8, PO9, PO10, PO11	PSO1, PSO2 & PSO3
CO3	Appraise and apply the Techniques of sustainable construction - technologies, methods of effectiveness, and design synthesis	L3	PO1, PO2, PO3, PO4, PO5, PO8, PO9, PO10, PO11	PSO1, PSO2 & PSO3
CO4	Review the dynamics involved in the process of designing and green architecture and various international rating systems for sustainability	L4	PO1, PO2, PO3, PO4, PO5, PO8, PO9, PO10, PO11	PSO1, PSO2 & PSO3
CO5	Build a project considering Universal design concepts	L5	PO1, PO2, PO3, PO4, PO5, PO8, PO9, PO10, PO11	PSO1, PSO2 & PSO3

17) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	-	-	-	1	-	-	-	1	2	1	-	2	3	3
CO2	2	-	2	1	2	-	-	1	1	2	1	-	2	3	3
CO3	2	2	2	1	2	-	-	1	2	3	2	-	2	3	3
CO4	2	2	3	2	3	-	-	2	2	3	2	-	2	3	3
CO5	3	1	3	2	3	-	-	3	2	3	2	-	2	3	3
WT. AVG	1	-	-	-	1	-	-	-	1	2	1	-	2	3	3

18) OUTLINE OF THE COURSE

Unit	Title of the unit	Time Required for the Unit (Hours)
1	Introduction to Interior Design and Space planning	9
2	False Ceiling & Lighting, Plumbing, Flooring details	6
3	Furniture Detailing with Respect to Anthropometry	6
4	Introduction to Interior Landscape	6

5	Wall Finishes, Furnishings and material study	9
---	---	---

19) DETAILED SYLLABUS

UNITS	CONTENTS
1	Introduction to passive building designs & Environmental impact of building materials
	IA Introduction to passive building designs ➤ Life cycle costing of building materials ➤ Embodied energy in building materials ➤ Renewable materials & recycled materials ➤ Impact of Construction on environment IBA hand on exercise on life cycle costing & impact of construction on environment
2	Solar Passive Heating
	IIA Introduction to passive heating technics ➤ Heating cycle ➤ Solar Geometry & Shading ➤ Solar Gains IIBA small design exercise/case study on solar passive heating technology.
3	Solar Passive Cooling
	IIIA Introduction to passive cooling technics ➤ Natural Ventilation ➤ Air circulation routes ➤ Evaporative cooling ➤ Solar Cooling ➤ Ground Cooling IIB A small design exercise/case study on solar passive cooling technology.
4	Lighting and day lighting
	IIVA Factors affecting daylight in buildings; room shapes; window shape, size and position; ➤ Daylight factors; ➤ Daylight distribution and uniformity; ➤ Combination of artificial and day lighting IVB Guest lecture or workshop on day lighting simulation software.
5	Assessment of Building Energy Performance
	VA Assessment of Building Energy Performance ➤ Energy storage and restitution ➤ Energy Efficiency standards for Building Design in India ➤ Indian energy rating systems – GRIHA rating by GRIHA and LEED India rating by IGBC ➤ Summary & conclusion of unit VB Guest lecture or workshop on energy simulation software.

20) RECOMMENDED STUDY MATERIAL:

Sr. N	Reference Book	Author	Edition	Publication
-------	----------------	--------	---------	-------------

1.	Passive Building Design	N.K. Bansal		
2.	Passive design building technologies applied in Belo Horizonte, Brazil	Angela Negromonte Scheibe		
3.	Green Building illustrated	D.K. Ching		
4.	Green Building Materials	SPIEGEL	3 rd edition	
5.	Solar Energy for Building	Keith Robertson & Andreas Athienitis		
Important Web Links				
1.	Architecture Sustainable Building Design- https://b-ok.asia/book/561981/c51e00			
2.	A Handbook of Sustainable Building Design and Engineering- https://b-ok.asia/book/2077935/a14ab9			

Code: 25BAREAR7321	SMART CITIES	2Credits [LTP: 1-0-0]
--------------------	---------------------	-----------------------

21) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Summarize the user needs of the past times and how they translate into program and manifestation in design in terms of space, materials and culture.	L1	PO1,PO2	PSO1,PSO 2 & PSO3
CO2	Articulate and learn about the different classifications of arts and crafts based on nature and materials used.	L2	PO1,PO2	PSO1,PSO 2 & PSO3
CO3	Appraise the process of building stone formations and its wide usage in Rajasthan.	L3	PO1,PO2,PO4	PSO1,PSO 2 & PSO3
CO4	Experiment and learn the new artisans and craftsmanship innovation and the role of technology and applications in stone.	L4	PO1,PO2,PO4	PSO1,PSO 2 & PSO3

CO5	Build a design that represents the Rajasthan Art and culture.	L5	PO1,PO2,PO4,PO5	PSO1,PSO 2 & PSO3
-----	---	----	-----------------	-------------------

22) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	2	–	–	–	–	–	–	–	–	–	–	2	3	3
CO2	3	2	–	–	–	–	–	–	–	–	–	–	2	3	3
CO3	3	2	–	1	–	–	–	–	–	–	–	–	2	3	3
CO4	3	2	–	1	–	–	–	–	–	–	–	–	2	3	3
CO5	2	2	–	1	3	–	–	–	–	–	–	–	2	3	3
WT. AVG	2.80	2.00		1.00	3.00								2	3	3

23) OUTLINE OF THE COURSE

Unit No.	Title of the unit	Time Required for the Unit (Hours)
1	Introduction to Smart Cities	6
2	Urban Physical Infrastructure & Smart Cities	9
3	Economic, Cultural & Social Aspects & Smart Cities	9
4	Ecology, Energy & Smart Cities	6
5	Smart Cities Mission in India	6

24) DETAILED SYLLABUS

UNITS	CONTENTS
1	Introduction to Smart Cities
	<ul style="list-style-type: none"> ● Origin of the term smart cities. ● Different interpretations of smart cities. ● Evolution of the term till today. ● Overview of smart cities as integrating physical planning effectively with other parameters - economy, infrastructure of various types, energy, climate change, urban governance, social aspects, mobility, quality of life, etc., ICT, GIS and remote sensing as tools to enable smart cities.
2	Urban Physical Infrastructure & Smart Cities
	<ul style="list-style-type: none"> ● Different types of urban infrastructure – sewage, water, electricity and lighting, mobility of people and goods, parking. ● Case studies for each as well as for integrated approach.
3	Economic, Cultural & Social Aspects & Smart Cities
	<ul style="list-style-type: none"> ● Smart city concepts and city economy. ● Urban governance and smart city.

	<ul style="list-style-type: none"> ● Smart city concepts in slum area development. ● Historic core regeneration/ preservation and smart city. ● Case studies for each.
4	Ecology, Energy & Smart Cities
	<ul style="list-style-type: none"> ● Geography of the city & Ecological aspects ● Climate change & flooding patterns. ● Energy and Sustainability in cities. ● Incorporating smart concepts to enhance and mitigate positive and negative effects with respect to these areas. ● Case studies.
5	Smart Cities Mission in India
	<ul style="list-style-type: none"> ● Smart cities in the context of India. ● Urban projects in India- JNNURM, Smart city mission. ● Detailed case studies with focus on technology as enabling mechanism.

25) **RECOMMENDED STUDY MATERIAL:**

Sr. N	Reference Book	Author	Edition	Publication
1	GIS for Smart Cities, Ane Books	Rajeswari Ray	2017	
2	Smart City in India, Routledge	Binti Singh and Manoj Parmar	2020	
3	Smart Cities Smart Future, Wiley	Mike Barlow and Cornelia Levy-Bencheton	2019	
4	Redefining Indian Smart and Sustainable Cities, I K International Publishing House	Charanjit Singh Shah	2017	

Code: 25BAREAR7322	BUILDING AUTOMATION AND CONTROL SYSTEM	2Credits [LTP: 1-0-2]
--------------------	---	-----------------------

26) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Summarize overall knowledge of building automation and managements systems	L1	PO1,PO3,PO11	PSO1, PSO2 & PSO3
CO2	Articulate knowledge about different building automation control systems.	L2	PO3,PO11	PSO1, PSO2 & PSO3
CO3	Appraise overall understanding of integration of different systems with each other and with architecture	L3	PO3,PO11	PSO1, PSO2 & PSO3
CO4	Review the exposure to HVAC, Lighting, Climate Control	L4	PO3,PO11	PSO1, PSO2 & PSO3
CO5	Building an Integrated Building Management System	L5	PO3,PO11	PSO1, PSO2 & PSO3

27) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	-	3	-	-	-	-	-	-	-	1	-	1	2	2
CO2	-	-	2	-	-	-	-	-	-	-	1	-	1	2	2
CO3	-	-	2	-	-	-	-	-	-	-	1	-	1	2	2
CO4	-	-	3	-	-	-	-	-	-	-	1	-	1	2	2
CO5	-	-	3	-	-	-	-	-	-	-	1	-	1	2	2
WT. AVG	1.00		2.60								1.00		1	2	2

28) OUTLINE OF THE COURSE

Unit No.	Title of the unit	Time Required for the Unit (Hours)
1	Introduction to Building Automation & Control Systems	2
2	Fire Safety Systems	2
3	Security, Surveillance & Communication Systems	8

4	HVAC, Lighting, Climate Control	6
5	Integrated Building Management System	6

29) DETAILED SYLLABUS

UNITS	CONTENTS
1	Introduction to Building Automation & Control Systems
	<ul style="list-style-type: none"> ● Introduction to and History of Building Automation Systems (BAS). ● Different systems in BAS which includes HVAC, security and surveillance, communication, fire, lighting systems, climate control, etc. ● The fundamental concepts of building control, and building automation ● Role of different stakeholders (Architect, contractor, consultant, application engineer and engineer) in BAS system design.
2	Fire Safety Systems
	<ul style="list-style-type: none"> ● Statutory Standards and codes for fire safety. Objective and essential components and working of a Fire Alarm System. ● Type of detection technology in the Fire alarm system. ● Basic knowledge on working, design and installation of Fire alarm system. Fire suppression systems. ● Components, working and installation, various types of technologies currently in use
3	Security, Surveillance & Communication Systems
	<ul style="list-style-type: none"> ● Introduction to Access Control, Intruder Alarm, Essential Components of each System, and Various types of Technologies employed in the system. Basic knowledge as how they work, are designed and installed. ● Introduction to CCTV, Perimeter protection system, Essential Components of each System, and Various types of Technologies employed in the system, Basic knowledge as how they work, are designed and installed. ● Public Address System and other communication systems and their requirements.
4	HVAC, Lighting, Climate Control
	<ul style="list-style-type: none"> ● Building Automation and Control Systems for HVAC, Lighting and Climate Control. ● Energy Conservation Control Strategies.
5	Integrated Building Management System
	<ul style="list-style-type: none"> ● Overview of various components, technology, sensors, etc., that are common to more than one system. ● Integrated Building Management System IBMS. ● Integrated approach in design, maintenance and management system. ● Current trend and innovation in building automation systems. ● Impact of Information Technology.

30) RECOMMENDED STUDY MATERIAL:

Sr. N	Reference Book	Author	Edition	Publication
-------	----------------	--------	---------	-------------

1	Building Automation Systems – A Practical Guide to Selection and Implementation	Maurice Eyke		
2	National Building Code of India			

Code: 25BARCAR7	BUILDING INFORMATION MODELLING-II	2Credits [LTP: 1-0-2]
-----------------	--	-----------------------

6) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Summarize the various types of Researches, characteristics, types of research designs, Steps involved in research, ethics of research	L1	PO1,PO6,PO9,PO11	PSO1, PSO2 & PSO3
CO2	Articulate between the various systems of inquiry and quality of research	L2	PO1,PO4,PO6, PO9,PO11	PSO1, PSO2 & PSO3
CO3	Appraise and evaluate the different systems of Inquiry and Standards of Research Quality	L3	PO1,PO4,PO6, PO8,PO9,PO11	PSO1, PSO2 & PSO3
CO4	Experiment and evaluate the systems of research paper writing and various styles of referencing.	L4	PO1,PO4,PO6, PO8,PO9,PO11	PSO1, PSO2 & PSO3
CO5	Build a research statement for any academic project i.e. thesis, dissertation, documentation of design projects	L5	PO1,PO4,PO6, PO8,PO9,PO11	PSO1, PSO2 & PSO3

7) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	-	-	-	-	1	-	-	1	-	2	-	2	1	2
CO2	1	-	-	1	-	1	-	-	1	-	2	-	2	1	2
CO3	3	-	-	2	-	2	-	1	2	-	3	-	2	1	2
CO4	2	-	-	2	-	3	-	2	2	-	3	-	2	1	2
CO5	2	-	-	2	-	3	-	3	3	-	3	-	2	1	2

WT. AVG	1.80			1.75		2.00		2.00	1.80		2.60		2	1	2
---------	------	--	--	------	--	------	--	------	------	--	------	--	---	---	---

8) OUTLINE OF THE COURSE

Unit No.	Title of the unit	Time Required for the Unit (Hours)
1	Site Planning with BIM	4
2	BIM Ancillary Tools & Integration	8
3	Model Coordination & Clash Detection	20
4	Analysis & Reporting with BIM	12
5	Project Finalization & Handover	4

9) DETAILED SYLLABUS

UNITS	CONTENTS
1	Site Planning with BIM
	<ul style="list-style-type: none"> Site drawings preparation in BIM Site features analysis and conceptual massing
2	BIM Ancillary Tools & Integration
	<ul style="list-style-type: none"> Introduction to Navisworks, BIM 360, etc. Integrating BIM models into these platforms for enhanced workflows
3	Model Coordination & Clash Detection
	<ul style="list-style-type: none"> Using Navisworks for clash detection across disciplines Coordinating architectural, structural, and MEP models
4	Analysis & Reporting with BIM
	<ul style="list-style-type: none"> Generating energy models, takeoffs, scheduling, and reports Exporting results and documentation
5	Project Finalization & Handover
	<ul style="list-style-type: none"> Final model integration and cleanup Producing deliverables: drawing sets, schedules, reports, and model handover

10) RECOMMENDED STUDY MATERIAL:

Sr. N	Reference Book	Author	Edition	Publication
1	BIM Handbook: A Guide to Building Information Modeling for Owners, Designers, Engineers, Contractors, and Facility Managers	Chuck Eastman, Paul Teicholz, Rafael Sacks, Kathleen Liston	2011	Wiley Publication, New Jersey
2	Building Information	Stefan Mordue		John Wiley and

	Modeling for Dummies	, Paul Swaddle, David Philp	2016	sons Ltd., West Sussex
--	----------------------	-----------------------------	------	------------------------

Semester-VIII

Code: 25BARCAR8501	PRACTICAL TRAINING	26 Credits [LTP: 0-0-0]
--------------------	---------------------------	--------------------------------

39) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Summarizing the importance of practical training, the aspects and criterias associated with it and to realize the minimum eligibility requirements for selecting the office.	L1	PO7	PSO1, PSO2 & PSO3
CO2	Determining the learnings & exposure gained during the training into the day to day working.	L2	PO7	PSO1, PSO2 & PSO3
CO3	Appraising the learnings and knowledge gained during the training and use them in architecture field & academics in the most appropriate manner.	L3	PO2,PO3,PO5,PO7	PSO1, PSO2 & PSO3
CO4	Assessing the outcomes gained from the training & their usage in the field as well as academics.	L4	PO7	PSO1, PSO2 & PSO3
CO5	Building a portfolio of works done during the training period containing the drawings, quantities, est details, photographs, analysis & other documents and use them in the future academics and field.	L5	PO1,PO2,PO3,PO5, PO7,PO10,PO12	PSO1, PSO2 & PSO3

40) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	–	–	–	–	–	–	–	–	–	–	–	1	3	2
CO2	1	1	1	–	–	3	–	1	2	–	–	2	1	3	2
CO3	1	2	1	1	3	1	–	1	–	–	–	–	1	3	2
CO4	1	1	1	1	3	1	–	–	2	–	–	1	1	3	2
CO5	2	2	1	2	3	–	–	–	–	–	–	–	1	3	2
WT. AVG	1.20	1.50	1.00	1.33	3.00	1.67		1.00	2.00			1.50	1	3	2

C. DETAILED SYLLABUS

UN IT	CONTENT
1.	Student shall work for a period of 100 working days in an office of Architect approved by the institution. He shall be submitting monthly work report, critical appraisal of built projects, field documentation of architectural details and site supervision of built projects.

41) RECOMMENDED STUDY MATERIAL:

Sr. N	Reference Book	Author	Editio n	Publication
	Not applicable			

Semester-IX

25BARCAR9101	URBAN DESIGN	2 Credits [LTP: 2-0-0]
---------------------	---------------------	-------------------------------

A) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Understand the urban forms, space, concepts & theories in the past & present context	L1	PO1,PO2, PO3, PO4, PO5, PO6, PO8, PO9, PO10, PO11	PSO1, PSO2 & PSO3
CO2	Apply the need, scope, scales, terminologies and various elements of Urban Design	L2	PO1,PO2, PO3, PO4, PO5, PO6, PO8, PO9, PO10, PO11	PSO1, PSO2 & PSO3
CO3	Analyze the different urban morphologies and character, with respect to environmental, social and political aspects	L3	PO1,PO2, PO3, PO4, PO5, PO6, PO8, PO9, PO10, PO11	PSO1, PSO2 & PSO3
CO4	Evaluate the people-centric design approach in urban design, based on studies, surveys and analysis	L4	PO1,PO2, PO3, PO4, PO5, PO6, PO8, PO9, PO10	PSO1, PSO2 & PSO3
CO5	Create the concepts, policies & legislations of urban design, in design studio.	L5	PO1,PO2, PO3, PO4, PO5, PO6, PO8, PO9, PO10	PSO1, PSO2 & PSO3

B) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	1	1	2	3	2	-	1	1	2	1	-	2	3	2
CO2	2	3	1	2	3	1	-	2	1	3	1	-	2	3	2
CO3	2	2	3	2	3	2	-	1	1	3	1	-	2	3	2
CO4	1	1	2	3	3	3	-	1	2	2	-	-	2	3	2
CO5	1	1	2	3	2	3	-	2	1	3	-	-	2	3	2
WT. AVG	1.80	1.60	1.80	2.40	2.80	2.20		1.40	1.20	2.60	1.00		2	3	2

C) OUTLINE OF THE COURSE

Unit	Title of the unit	Time Required for the Unit (Hours)
1	Introduction to Urban Design	
2	Study of urban form & Space in past & present context	

3	Urban morphology & Urban character	
4	People – centric design approach	
5	Policies & legislation in urban design	

D) DETAILED SYLLABUS

Unit	Contents
1.	Introduction to Urban Design
	<ul style="list-style-type: none"> - Introduction to Urban Design - Necessity of Urban Design, scope levels and scales of urban design - Terminologies & various elements in Urban design
2.	Study of Urban form & space in past & present context
	<ul style="list-style-type: none"> - History of urban design - Concepts and theories of urban design in the past & present - Types of urban forms & space in the past & present
3.	Urban morphology & Urban character
	<ul style="list-style-type: none"> - Anatomy of an urban area - Environmental perception - Cognition & memory ambient environments
4.	People – centric design approach
	<ul style="list-style-type: none"> - Design approach based on analysis of user needs, and their behavioral studies - Studies, surveys and analysis in urban design - Identification & formulation of issues for intervention
5.	Policies & legislation in urban design
	<ul style="list-style-type: none"> - Implementation of different policies in urban design - Design approach and design thinking in the ongoing studio project, by applying policies & legislations

E) RECOMMENDED STUDY MATERIAL:

S r .	Reference Book	Author	Edition	Publication

N				
1	Image of the city	Kevin Lynch	2000	London: MIT Press
2	New theory of Urban Design	C. Alexander	1987	Oxford University Press
3	Emerging concepts in Urban Space Design	G. Broadbent	1990	London: Van Nostrand Reinhold
4	Urban Pattern : City planning & design	Gallion, A.B. Eisner	1963	London: Van Nostrand Reinhold
5	The Evolution of cities	Patrick Geddes		

Code: 25BARCAR9202	URBAN DESIGN STUDIO	8Credits [LTP: 1-0-7]
--------------------	----------------------------	-----------------------

1) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Summarizing critical/ philosophical/ ideological positions relating to specific design situations in the current scenario by enabling an understanding of urban context as a continuous experience involving the interrelated disciplines of architecture and design	L1	PO1,PO2,PO3,PO4,PO5 PO6,PO8,PO9,PO10,PO11	PSO1, PSO2 & PSO3
CO2	Determining the process of researching and analyzing the design process involved in the existing design forms in various parts of the country considering climate, the methods adopted by famous architects and experts and its results, and drawing inferences from the studies conducted in order to open the mind for newer innovations and alternatives	L2	PO1,PO2,PO3,PO4,PO5 PO6,PO8,PO9,PO10,PO11	PSO1, PSO2 & PSO3
CO3	Appraising architectural design decisions in the context of the site and environment conditions by applying various techniques and develop the final design from the conceptual theme	L3	PO1,PO2,PO3,PO4,PO5 PO6,PO8,PO9,PO10,PO11	PSO1, PSO2 & PSO3
CO4	Assessing inclusivity into the architectural design process and understand architecture as influenced by the dynamics of a space through the wider implication of design decisions and their interdependency with larger processes of society	L4	PO1,PO2,PO3,PO4,PO5 PO6,PO8,PO9,PO10	PSO1, PSO2 & PSO3
CO5	Building buildings as contributing to transforming the urban fabric with ability to take creative, critical and informed decisions in the context of significant projects that could shape society in positive ways	L5	PO1,PO2,PO3,PO4,PO5 PO6,PO8,PO9,PO10	PSO1, PSO2 & PSO3

2) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
--	-----	-----	-----	-----	-----	-----	-----	-----	-----	------	------	------	------	------	------

CO1	3	1	1	2	3	2	-	1	1	2	1	-	2	3	2
CO2	2	3	1	2	3	1	-	2	1	3	1	-	2	3	2
CO3	2	2	3	2	3	2	-	1	1	3	1	-	2	3	2
CO4	1	1	2	3	3	3	-	1	2	2	-	-	2	3	2
CO5	1	1	2	3	2	3	-	2	1	3	-	-	2	3	2
WT. AVG	1.80	1.60	1.80	2.40	2.80	2.20		1.40	1.20	2.60	1.00		2	3	2

OUTLINE OF THE COURSE

Unit No.	Title of the unit	Time Required for the Unit (Hours)
1		
2		
3		
4		
5		

3) DETAILED SYLLABUS

UNITS	CONTENTS
1	URBAN DESIGN STUDIO
	a) To expose students to full- fledged architectural projects with holistic approach and design program, covering a detailed Pre-Design research including Site Investigation, Programme Formulation and Design Demonstration; b) Introduce Urban Design Projects with Architectural emphasis; Make students aware of Social responsibility.

4) RECOMMENDED STUDY MATERIAL:

Sr. N	Reference Book	Author	Edition	Publication
1	Town Planning	Abir Bandopadhyay		
2	Urban Housing Forms			Architectural Press
3	Time Saver Standards for Architectural Design	Martin Zelnik and Julius Panero	Latest	--
4	Neuferts architects data	Ernst Neuferts	Latest	--
5	Architecture – Form, Space & Order	Francis D.K.		

		Ching		
6	Time-Saver Standards for Interior Design and Space Planning	Martin Zelnik Julius Paner	La tes t	--
7	Campus design in India	Kanvinde& Miller		
8	Campus Planning	Richard Dober		
9	Urban Design- The Architecture of Towns and Cities	Paul Sprereingen		
10	Exterior design in Architecture	AshiharaTos hi nibu		
11	Modern Language of Architecture	Bruno Zevi		
12	Modern Movements in Architecture	Charles Jencks		
13	Language of Post – Modern Architecture	Charles Jencks		
14	Complexities and Contradictions in Architecture	Robert Venturi		
15	Architectural Composition.	Rob Krier		
16	Pattern Language	Christopher Alexander		
17	Town Design	Fredrick Gibber d Alexan der		
18	Forms and Formations	Christian Darles		

Code: 25BARCAR9203	DESSERTATION AND PRE THESIS	8Credits [LTP: 1-0-7]
--------------------	-----------------------------	-----------------------

1) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Summarizing a relevant topic of importance in the field of architecture and justify its need by critical analysis of the pros and cons associated with it	L1	PO1, PO4, PO5, PO8, PO9, PO10, PO11	PSO1, PSO2 & PSO3
CO2	Determining the design principles and elements derived by the background study of the topic in the form of a synopsis containing the aim, objectives, limitations and methodology of the dissertation study	L2	PO1, PO3, PO4, PO5, PO6, PO7, PO8, PO9, PO10, PO11	PSO1, PSO2 & PSO3
CO3	Appraising the data extracted from the literature review of the dissertation topic and conclude with inferences which shall be directly applicable to the final study	L3	PO1, PO4, PO5, PO6, PO8, PO9, PO10, PO11	PSO1, PSO2 & PSO3
CO4	Assessing the data collected and compound them in the form of a relevant study which can later be converted to a report form	L4	PO1, PO4, PO5, PO6, PO7, PO8, PO9, PO11	PSO1, PSO2 & PSO3
CO5	Building the critical analysis of pros and cons of the topic, design principles and elements, outcomes of the synopsis and data extracted from the literature review in the form of a study report and provide conclusion and inferences which are imperative for the justification of topic chosen	L5	PO1, PO4, PO5, PO6, PO7, PO8, PO9, PO11, PO12	PSO1, PSO2 & PSO3

2) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	-	-	1	1	-	-	1	1	1	1	1	3	3	3
CO2	2	-	1	2	2	1	1	1	1	1	1	-	3	3	3
CO3	2	-	-	2	2	2	-	2	1	2	2	-	3	3	3
CO4	1	-	-	3	3	3	1	3	1	-	3	1	3	3	3

CO5	3	-	-	3	3	3	2	3	2	-	3	-	3	3	3
WT. AVG	1.80		1.00	2.20	2.20	2.25	1.33	2.00	1.20	1.33	2.00	1.00	3	3	3

OUTLINE OF THE COURSE

Unit No.	Title of the unit	Time Required for the Unit (Hours)
1	Research Formulation	8
2	Research Design	8
3	Research Data	12
4	Research Analysis & Report	8
5	Thesis Seminar	12

3) DETAILED SYLLABUS

UNI T	CONTENT
1.	Research Formulation
	Research Formulation: The students of the final year are required to undertake research on a topic related to the field of spatial planning on issues emerging out of the present trends and future prospects of the Thesis Project selected. The Thesis Project should be sufficiently large and complex so that student can demonstrate the Skills and Knowledge acquired during the course. The site selected for the Thesis project should be large enough for a built up area more than 7500 Sqm. The project program can be hypothetical however the site selected should be real. Students may select live projects that have real program and objective.
2.	Research Design
	Once the problem is formulated the student has to undertake extensive literature survey and state in clear terms the working hypothesis. Students are required to state the conceptual structure within which research would be conducted by defining the aim, objectives, scope & limitations of work.
3.	Research Data
	Data shall be collected keeping in mind the cost, time and other resources. Primary data can be collected either through experiment, through survey or by observation such as personal interviews, telephonic interview, mailing of questionnaire or through schedules. Secondary data such as census data, literature studies, unpublished or published thesis or dissertation can be collected.
4.	Research Analysis & Report
	The analysis of data requires a number of closely related operations such as establishment of categories. The application of these categories to see data through coding, tabulation and then drawing statistical inference. Draw conclusions and identify architectural issues involved in the project design and construction. Define strategy to address these issues in the design proposal.

	Prepare a report of what has been done. The layout of the report should be as follows: the preliminary pages, the main text and end matter. The preliminary pages carry title, declaration, certificate, acknowledgement, list of illustration & tables. The main text of the report should have introduction, review of literature & methodology. The end matter will include glossary and annexure.
5.	Thesis Seminar
	Criteria of selection of the site for the thesis project and justification for how the proposed site will support the conceptual idea for the project. Bylaws, zoning regulators & standards applicable to the project. Analytical studies of building prototypes as a whole or in part comparable to the selected project. Formulation of programme of requirements. Conceptual Site analysis and zoning of activities on site.

4) **RECOMMENDED STUDY MATERIAL:**

Sr. N	Reference Book	Author	Editio n	Publication
1	Architectural Research Methods	Groat L, Wang D.		John Wiley & Sons, Inc
2	The Conduct of Inquiry	Kaplan A.		Chandler, San Francisco
3	Thinking Architecture;	Zumthor P.		Birkhauser, Basel, Switzerland
4	Methodology of Research and issues in Education	Shinde S.P. (Dr.)		Surabhi Educational Society, Hyderabad

Code: 25BAREAR9311	DISASTER RESILIENT STRUCTURES	3Credits [LTP: 2-0-2]
--------------------	--------------------------------------	-----------------------

1) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Summarize the Disaster, its implications and mitigation in Architecture industry	L1	PO1,PO3, PO5	PSO1,PSO 2 & PSO3
CO2	Articulate the disaster relief measures and also apply technologies to reduce further loss	L2	PO1,PO3, PO5	PSO1,PSO 2 & PSO3
CO3	Appraise about the zones and their proneness to disaster as well as learning about preparedness and mitigation of such disasters	L3	PO1,PO3, PO5	PSO1,PSO 2 & PSO3
CO4	Experiment between manmade and natural disasters and understand the initiation of each one and means & methods to prevent them, if possible	L4	PO1,PO3,PO4 PO5	PSO1,PSO 2 & PSO3
CO5	Build temporary structures to provide relief in disaster affected areas and permanent structures to withstand the disasters effect as per NBC and similar codes	L5	PO1,PO3,PO4 PO5	PSO1,PSO 2 & PSO3

2) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	-	3	-	1	-	-	-	-	-	-	-	3	3	2
CO2	2	-	3	-	1	-	-	-	-	-	-	-	3	3	2
CO3	2		3	-	1	-	-	-	-	-	-	-	3	3	2
CO4	2	-	3	2	2	-	-	-	-	-	-	-	3	3	2
CO5	2	-	3	2	2	-	-	-	-	-	-	-	3	3	2
WT. AVG	2.00		3.00	2.00	1.40								3	3	2

OUTLINE OF THE COURSE

Unit No.	Title of the unit	Time Required for the Unit (Hours)
1	Understanding Disaster	6

2	Natural Disasters	6
3	Preparedness and Mitigation	9
4	Disaster Resistant Structures Designing	6
5	Disaster Management	9

3) DETAILED SYLLABUS

UNI T	CONTENT
1.	Understanding Disaster
	<p>IA. <u>An overview about Disaster and Zones-</u></p> <ul style="list-style-type: none"> ● Hazard, Disaster, Risk, Vulnerability. ● Disaster – an over view; Disaster – the Indian Perspective; ● Typology of disasters and increased understanding. <p>IB. <i>Assignment on understanding about Disaster.</i></p>
2.	Natural and Man Made Disasters
	<p>II A. <u>Introduction about Disaster and its types and problems-</u></p> <ul style="list-style-type: none"> ● Natural hazards and Disasters -Earthquake, cyclone, floods, droughts, landslides, lightning. ● Causes, hazardous effects, mitigation measures. ● Man induced hazards & disasters:- soil erosion-causes, conservation measures; nuclear explosion ● Environmental problems, corrective measures; fire mitigation measures; terrorism. <p>II B. <i>Assignment on understanding about Hazards and problems.</i></p>
3.	Preparedness and Mitigation
	<p>III A. <u>Introduction about Disaster Preparedness and mitigation-</u></p> <ul style="list-style-type: none"> ● Preparedness and mitigation - Preparing hazard zone maps, ● Predictability/ forecasting & warning, ● Community preparedness, retrofitting, ● Population reduction in vulnerable areas, ● Awareness, Capacity building. <p>III B. - <i>Assignment on understanding about Disaster Preparedness and mitigation.</i></p>
4.	Disaster Resistant Structures Designing
	<p>IV A. <u>Introduction about Disaster resistance structure-</u></p> <ul style="list-style-type: none"> ● Introduction to Earthquake, ● Cyclone, Tsunami, Flood and Fire resistant Structures. ● Designing of Earthquake and fire resistant structures. ● Standards for emergency escapes as per National Building Codes. <p>IV B. - <i>Assignment on understanding about Disaster resistance structure.</i></p>
5.	Disaster Management
	<p>V A. <u>Introduction about Disaster relief measures and application of technologies-</u></p> <ul style="list-style-type: none"> ● Disaster Management- role of various agencies;

	<ul style="list-style-type: none"> • Community health and casualty management; • Relief measures; Post disaster- Recovery, Reconstruction and Rehabilitation. • Remote- sensing and GIS applications in real time disaster monitoring. <p>V B. - Assignment on understanding about Disaster relief measures and application of technologies.</p>
--	--

4) **RECOMMENDED STUDY MATERIAL:**

Sr. N	Reference Book	Author	Edition	Publication
1	Disaster management & Risk reduction	Vishwambhar Prasad Sati		
2	Disaster management	RaisiDangi		
3	National programme for Capacity Building of Architects in Earthquake Risk Management (NPCBAERM)	Compiled by Ministry of Home Affairs (MHA)	2004	National Disaster Management Division ,GoI, New Delhi
4	Handbook on Seismic retrofit of Buildings	Amarnath Chakrabarti, Devdas Menon		

Other resources

Sr. N	Name of the resource	link for the Resource	Date of creation	Date referred
1	Disaster Management and Preparedness	https://book.asia/book/684269/90d02b		3-06-2020
2	Disaster Management Handbook (Public Administration and Public Policy)	https://book.asia/book/735534/956be7		
3	Natural Disasters: Prevention, Risk Factors and Management	https://book.asia/book/2372503/9bc276		

4	Natural Disaster Management in the Asia- Pacific: Policy and Governance	https://book.asia/2488100/5f2467?dsource=recommend		
---	---	---	--	--

Code: 25BAREAR9312	ARCHITECTURAL CONSERVATION	3Credits [LTP: 2-0-2]
--------------------	-----------------------------------	-----------------------

1) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Summarizing the concepts of conservation and preservation of buildings and its components	L1	PO1,PO2,PO4,PO9	PSO1 & PSO2
CO2	Determining the use of various conservation and preservation techniques learnt	L2	PO1,PO2,PO3,PO4, PO5, PO9,PO10	PSO1 & PSO2
CO3	Appraising assessment and mapping the factors of deterioration	L3	PO1,PO2,PO3,PO4, PO5, PO9	PSO1 & PSO2
CO4	Assessing the dynamics involved in the process	L4	PO1,PO2,PO3,PO4, PO5, PO9,PO10	PSO1 & PSO2
CO5	Building and conclude a project considering its architectural conservation	L5	PO1,PO2,PO3,PO4, PO5, PO9,PO10,PO11	PSO1 & PSO2

2) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	1	-	2	-	-	-	-	1	-	-	-	2	1	-
CO2	1	3	1	1	1	-	-	-	1	1	-	-	2	1	-
CO3	2	2	1	2	2	-	-	-	1	-	-	-	2	1	-
CO4	1	2	1	2	1	-	-	-	1	1		-	2	1	-
CO5	2	1	1	2	2	-	-	-	2	2	2	-	2	1	-
WT. AVG	1.40	1.80	1.00	1.80	1.50				1.20	1.33	2.00		2	1	-

3) OUTLINE OF THE COURSE

Unit No.	Title of the unit	Time Required for the Unit (Hours)
----------	-------------------	------------------------------------

1	Introduction to Conservation	6
2	Documentation & Mapping	6
3	Conservation Concepts	9
4	Conservation Techniques	6
5	Design Approach in Historic Context	9

4) DETAILED SYLLABUS

UNI T	CONTENT
1.	Introduction to Conservation
	a) Definitions for the heritage components of built heritage; b) An overview of national and international approaches from UNESCO, ICOMOS, ICCROM, A.S.I., GETTY foundation, INTACH, WMF, international charters, Civic bodies etc.; c) Search for an Indian approach; d) Legal Status of Heritage in India. e) National Conservations Policy of ASI.
2.	Documentation & Mapping
	a) Listing of monuments and recording techniques. b) Documentation techniques for buildings and other intangible heritage components & Understanding assessment and mapping the factors of deterioration.
3.	Conservation Concepts
	a) Prevailing practices in conservation, b) Concepts of restoration, retrofitting, rehabilitation, consolidation, preservation, revitalization etc c) Adaptive reuse
4.	Conservation Techniques
	a) Conservation of Built Heritage using traditional materials and techniques; b) Approach and methodology for appropriate repairs
5.	Design Approach in Historic Context
	a) Approaches in designing in the historic context, b) Interpretation with examples in India and abroad; c) Concepts of heritage zones

5) RECOMMENDED STUDY MATERIAL:

Sr. N	Reference Book	Author	Editio n	Publication
1.	Guidelines for Conservation: A technical Manual	Bernanrd Feilden	1989	INTACH, New Delhi
2.	ICOMOS Charters, (Venice Charter, Burra Charter, Nara Declaration)			ICOMOS

3.	Management Guidelines for World Cultural heritage Sites.	Bernard Feilden & Jukka Jokilehto	1998	ICCROM, Rome
4.	Conservation Manual	Sir John Marshall	1923	Archaeological Survey of India

Other resources

Sr. N	Name of the resource	link for the Resource	Date of creation	Date referred
1	Disaster Management and Preparedness	https://book.asia/book/684269/90d02b		3-06-2020
2	Disaster Management Handbook (Public Administration and Public Policy)	https://book.asia/book/735534/956be7		

Code: 25BARCAR9201	BUILDING INFORMATION MODELLING-III	2Credits [LTP: 1-0-2]
--------------------	---	-----------------------

11) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Summarize the various types of Researches, characteristics, types of research designs, Steps involved in research, ethics of research	L1	PO1,PO6,PO9,PO11	PSO1, PSO2 & PSO3
CO2	Articulate between the various systems of inquiry and quality of research	L2	PO1,PO4,PO6, PO9,PO11	PSO1, PSO2 & PSO3
CO3	Appraise and evaluate the different systems of Inquiry and Standards of Research Quality	L3	PO1,PO4,PO6, PO8,PO9,PO11	PSO1, PSO2 & PSO3
CO4	Experiment and evaluate the systems of research paper writing and various styles of referencing.	L4	PO1,PO4,PO6, PO8,PO9,PO11	PSO1, PSO2 & PSO3

CO5	Build a research statement for any academic project i.e. thesis, dissertation, documentation of design projects	L5	PO1,PO4,PO6, PO8,PO9,PO11	PSO1, PSO2 & PSO3
-----	---	----	---------------------------	-------------------

12) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	-	-	-	-	1	-	-	1	-	2	-	2	1	2
CO2	1	-	-	1	-	1	-	-	1	-	2	-	2	1	2
CO3	3	-	-	2	-	2	-	1	2	-	3	-	2	1	2
CO4	2	-	-	2	-	3	-	2	2	-	3	-	2	1	2
CO5	2	-	-	2	-	3	-	3	3	-	3	-	2	1	2
WT. AVG	1.80			1.75		2.00		2.00	1.80		2.60		2	1	2

13) OUTLINE OF THE COURSE

Unit No.	Title of the unit	Time Required for the Unit (Hours)
1	BIM Execution & Workflow Management	4
2	Advanced Model Applications (4D/5D)	8
3	Reality Integration (Laser Scanning & VR/MR)	20
4	Common Data Environments & Documentation	12
5	BIM Standards, Legal & Implementation	4

14) DETAILED SYLLABUS

UNITS	CONTENTS
1	BIM Execution & Workflow Management
	<ul style="list-style-type: none"> Understanding BIM project workflows, contracts, and BEP (BIM Execution Plan)
2	Advanced Model Applications (4D/5D)
	<ul style="list-style-type: none"> Using BIM for scheduling (4D) and cost estimating (5D) Incorporating model-based coordination, logistics, and visualization
3	Reality Integration (Laser Scanning & VR/MR)
	<ul style="list-style-type: none"> Integrating point clouds from laser scanning with Revit Implementing immersive technologies: VR, mixed reality, walkthroughs
4	Common Data Environments & Documentation
	<ul style="list-style-type: none"> Working with CDE platforms (e.g., Autodesk Construction Cloud) and data exchanges Producing documentation, model validation, and as-built models
5	BIM Standards, Legal & Implementation
	<ul style="list-style-type: none"> BIM standards (ISO 19650 etc.), EIR/BEP, contracts, and legal considerations Implementing BIM processes in projects or companies

15) **RECOMMENDED STUDY MATERIAL:**

Sr. N	Reference Book	Author	Edition	Publication
1	BIM Handbook: A Guide to Building Information Modeling for Owners, Designers, Engineers, Contractors, and Facility Managers	Chuck Eastman, Paul Teicholz, Rafael Sacks, Kathleen Liston	2011	Wiley Publication, New Jersey
2	Building Information Modeling for Dummies	Stefan Mordue, Paul Swaddle, David Philp	2016	John Wiley and sons Ltd., West Sussex

Semester-X

Code: 25BARCAR0101	FINANCE MANAGEMENT IN ARCHITECTURE	2 Credits [LTP: 2-0-0]
--------------------	---	---------------------------

1) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Summarize the development of the field of general economics and explain the micro and macro approaches	L1	PO7	PSO1
CO2	Articulate and compare different utility analysis of demand and understand the theory of demand.	L2	PO7	PSO1
CO3	Appraise the various project economics into building construction projects & influencing agencies and institutions.	L3	PO2,PO3,PO5,PO7	PSO1
CO4	Review Profits Basic concepts of Interest and Capital and learn the different formulas for investments.	L4	PO7	PSO1
CO5	Adapt the implementation of economic analysis of project cost.	L5	PO1,PO2,PO3,PO5 PO7,PO10,PO12	PSO1

2) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	-	-	-	3	-	-	-	-	-	2	-	-
CO2	-	-	-	-	-	-	3	-	-	-	-	-	2	-	-
CO3	-	1	1	-	1	-	3	-	-	-	-	-	2	-	-
CO4	-	-	-	-	-	-	3	-	-	-	-	-	2	-	-
CO5	1	2	2	-	2	-	2	-	-	1	-	1	2	-	-
WT. AVG	1.00	1.50	1.50		1.50		2.80			1.00		1.00	2	-	-

3) OUTLINE OF THE COURSE

Unit No.	Title of the unit	Time Required for the Unit (Hours)
1	General Economics	4
2	Theory of Demand	4

3	Project Economics	4
4	Capital, Interest and Profits	6
5	Economic Analyses of Projects Cost	6

4) DETAILED SYLLABUS

UNITS	CONTENTS
1	Introduction to Research
	Introduction to research - types of research- elements of research, characteristic of good research – research methodology
2	Research Strategies
	Research Strategies; Domain of Architectural Research, Case Studies and Combined Strategies
3	Systems of Inquiry
	Systems of Inquiry and Standards of Research Quality; Surveys- Qualitative and Quantitative; Literature Review; Theory in Relation to Method
4	Capital, Interest and Profits
	Profits Basic concepts of Interest and Capital, prices and rentals on investment, Capital v/s Financial assets, IRRS on Investment, IRR and Interest rates, (PV) Present Value of assets, PV of Perpetuities, general formula for PV, Nominal & Real Investments.
5	Economic Analyses of Projects Cost
	Control, Cash - Flow Analyses, Cost – Projection, Cost – Benefit, Feasibility, Estate Investments & returns, Valuation, Law relating to properties & Buildings

5) RECOMMENDED STUDY MATERIAL:

Sr. N	Reference Book	Author	Edition	Publication
1	Building Economy: Design Production and Organisation a synoptic view,	Stone, P. A. (1976)		
2	Economics (2010)	Chaudhuri, S. and Sen, A		
3	Modern Economic Theory., S. Chand Publications	Dewett, K. K. (2009)		
4	Cost Planning of Buildings. BSP Professional	Ferry, J. D. and Brahdon, S. P. (1994)		

Code: 25BARCAR0201	ARCHITECTURAL DESIGN THESIS	18 Credits [LTP: 1-0-18]
--------------------	------------------------------------	---------------------------------

1) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Summarizing architectural detailing required for executing a research project.	L1	PO1,PO2,PO3,PO4, PO5,PO10	PSO1,PSO 2 & PSO3
CO2	Determining various architectural components in thesis project	L2	PO1,PO2,PO3,PO4, PO5,PO10	PSO1,PSO 2 & PSO3
CO3	Appraising competency in reading and producing architectural drawings with ideas using techniques and conventions of architectural representation	L3	PO1,PO2,PO3,PO4, PO5,PO10	PSO1,PSO 2 & PSO3
CO4	Assessing critical thinking and social responsibility	L4	PO1,PO2,PO3,PO4, PO5,PO10	PSO1,PSO 2 & PSO3
CO5	Building a specific application into thesis project responding to a specific or typical program consisting a design solution.	L5	PO1,PO2,PO3,PO4, PO5,PO10	PSO1,PSO 2 & PSO3

2) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	1	1	1	3	–	–	–	–	2	–	–	3	3	3
CO2	2	2	2	2	1	–	–	–	–	2	–	–	3	3	3
CO3	2	2	1	2	2	–	–	–	–	2	–	–	3	3	3
CO4	1	2	2	2	3	–	–	–	–	3	–	–	3	3	3
CO5	2	2	3	2	3	–	–	–	–	2	–	–	3	3	3
WT. AVG	1.60	1.80	1.80	1.80	2.40					2.20			3	3	3

3) OUTLINE OF THE COURSE

Unit No.	Title of the unit	Time Required for the Unit (Hours)
1		
2		
3		
4		
5		

4) DETAILED SYLLABUS

UNITS	CONTENTS
1	Introduction to Research
	Large scale project having complexity of urban and architectural resolutions. Culmination of all the skills acquired of architecture. Individual understanding of architectural theory, philosophy and architectural style. Student shall engage in study, documentation, analysis and design process of the project. The theoretical part to be put together in the form of a report and the design solution to be presented in hard/soft copy with a model.

5) RECOMMENDED STUDY MATERIAL:

Sr. N	Reference Book	Author	Edition	Publication

Code: 25BARCAR0202	ADVANCE STUDY RELATED TO THESIS PROJECT	4Credits [LTP: 0-0-4]
--------------------	--	-----------------------

1) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Summarizing the use of all the skills acquired in the duration of preceding academic courses.	L1	PO1,PO2,PO3,PO4 PO5,PO10	PSO1, PSO2 & PSO3
CO2	Determining the self-direct effort by choosing the project of choice, builds capacity to work independently and methodically in a variety of intellectually and professionally demanding contexts.	L2	PO1,PO2,PO3,PO4 PO5,PO10	PSO1, PSO2 & PSO3
CO3	Appraising an original and individual, creative contribution to the academic discipline and/or the professional field in some cases.	L3	PO1,PO2,PO3,PO4 PO5,PO10	PSO1, PSO2 & PSO3
CO4	Assessing critical thinking and social responsibility	L4	PO1,PO2,PO3,PO4 PO5,PO10	PSO1, PSO2 & PSO3
CO5	Building a specific application into thesis project responding to a specific or typical program consisting a design solution.	L5	PO1,PO2,PO3,PO4 PO5,PO10	PSO1, PSO2 & PSO3

2) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	1	1	1	1	–	–	–	–	1	–	–	3	3	3
CO2	1	3	3	1	2	–	–	–	–	3	–	–	3	3	3
CO3	1	3	3	1	2	–	–	–	–	3	–	–	3	3	3
CO4	1	3	3	1	3	–	–	–	–	3	–	–	3	3	3
CO5	1	3	3	1	3	–	–	–	–	3	–	–	3	3	3
WT. AVG	1.40	2.60	2.60	1.00	2.20					2.60			3	3	3

3) OUTLINE OF THE COURSE

Unit No.	Title of the unit	Time Required for the Unit (Hours)
1		
2		
3		
4		
5		

4) DETAILED SYLLABUS

UNITS	CONTENTS
	The student will undertake study guided by thesis guide in subject area of the topic selected for the thesis project.

5) RECOMMENDED STUDY MATERIAL:

Sr. N	Reference Book	Author	Editio n	Publication

Code: 25BAREAR0311	ARCHITECTURE JOURNALISM	2 Credits [LTP: 2-0-0]
--------------------	--------------------------------	------------------------

1) COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
CO1	Summarizing about Architectural Journalism	L1	PO6,PO8,PO9,PO11	PSO1 & PSO2
CO2	Determining the use of Architectural writing, Documentation and Page Composition	L2	PO6,PO8,PO9, PO11,PO12	PSO1 & PSO2
CO3	Appraising Book Reviews , Articles, Architectural writing and Documentation	L3	PO5,PO6,PO8,PO9, PO11,PO12	PSO1 & PSO2
CO4	Assessing the architectural works in a proper written manner	L4	PO4,PO6,PO8,PO9, PO11,PO12	PSO1 & PSO2
CO5	Building , review and work on electronic media	L5	PO4,PO6,PO8,PO9, PO11,PO12	PSO1 & PSO2

2) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	-	-	2	-	2	1	-	1	-	1	2	-
CO2	-	-	-	-	-	3	-	2	1	-	1	1	1	2	-
CO3	-	-	-	-	1	3	-	3	2	-	2	1	1	2	-
CO4	-	-	-	1	-	3	-	3	3	-	2	1	1	2	-
CO5	-	-	-	1	-	3	-	3	3	-	2	2	1	2	-
WT. AVG				1.00	1.00	2.80		2.60	2.00		1.60	1.25	1	2	-

3) OUTLINE OF THE COURSE

Unit No.	Title of the unit	Time Required for the Unit (Hours)
1	Structure of Architectural Journals	6
2	Architectural Criticism	6
3	Descriptive Architectural Writing	9
4	Photo Journalism & Book Reviews	9
5	Page Composition & Electronic Media	6

4) DETAILED SYLLABUS

UNITS	CONTENTS
1	Structure of Architectural Journals

	a) Structure and contents of an architectural journal, b) Understanding the relevance of each part and its relevance in the journal. c) General process behind making of a journal.
2	Architectural Criticism
	a) Analysis of recent historical and contemporary examples of written and journalistic criticism of b including selected writings by Indian and overseas critics; b) Discursive techniques, c) Analysis of major critical themes, d) Thematic categories in architectural writing over the past three centuries.
3	Descriptive Architectural Writing
	a) Architectural Description of a building; b) Contents of description, Path of narration for an Architectural Description. Different perspectives of describing a building. Editing Write-ups
4	Photo Journalism & Book Reviews
	Photo Journalism with respect to Architecture, need and purpose. Writing of a book review, standards layouts of writing
5	Page Composition & Electronic Media
	Composition of a page - text and Graphics. Font size and style, display of information and referencing techniques. Designing of a page. Digital Publications, blogs, websites, facebook pages, other promotional electronic media.

5) **RECOMMENDED STUDY MATERIAL:**

Sr. N	Reference Book	Author	Edition	Publication
1	Architectural Criticism and Journalism	Mohammad al-Asad	2007	Umberto Allemandi
2	Writing In(to) Architecture	Sylvia Chan		East Slope Publishing Ltd., Hong Kong

Code: 25BAREAR0312	FOREIGN LANGUAGE	2Credits [LTP: 2-0-0]
--------------------	-------------------------	-----------------------

1) **COURSE OUTCOMES AND THEIR RESPECTIVE MAPPING**

Course Outcomes (COs):	At the end of this course, learners will be able to:	Bloom Level	PO Mapping	PSO Mapping
------------------------	--	-------------	------------	-------------

CO1	Summarize the concepts of basic Grammar - Nouns, Articles, and Pronouns.	L1	PO6,PO8,PO9	PSO1
CO2	Articulate the use of various Grammars - Verbs, Adjectives, and Adverbs.	L2	PO1,PO4,PO6,PO9	PSO1
CO3	Appraising the basics of Grammar - Prepositions, Interrogation.	L3	PO1,PO2,PO3,PO6, PO8,PO11	PSO1
CO4	Experiment the dynamics involved in the process of Phonetics.	L4	PO4,PO6,PO8	PSO1
CO5	Build and conclude a small research document that expresses various emotions.	L5	PO1,PO4,PO6,PO8, PO9,PO11	PSO1

2) MAPPING MATRIX OF CO, PO AND PSO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	-	-	3	-	1	1	-	-	-	1	-	-
CO2	1	-	-	1	-	3	-	-	2	-	1	-	1	-	-
CO3	1	1	1	-	-	3	-	1	-	-	1	-	1	-	-
CO4	-	-	-	1	-	3	-	1	-	-	-	-	1	-	-
CO5	1	-	-	2	-	3	-	2	2	-	2	-	1	-	-
WT. AVG	1.00	1.00	1.00	1.33		3.00		1.25	1.67		1.33		1	-	-

3) OUTLINE OF THE COURSE

Unit No.	Title of the unit	Time Required for the Unit (Hours)
1	Grammar - Nouns, Articles, Pronouns	6
2	Grammar - Verbs, Adjectives, Adverbs	9
3	Grammar - Prepositions, Interrogation	6
4	Phonetics - Basic	6
5	Phonetics - Expression	9

4) DETAILED SYLLABUS

UNITS	CONTENTS
1	Grammar - Nouns, Articles, Pronouns
	a) The SUBJECT develops the ability to construct sentences and frame questions using b) Nouns – gender and number c) Articles – definite and indefinite, partitif, articles contractés d) Pronouns – personal, relative(qui, que,où), y, en
2	Grammar - Verbs, Adjectives, Adverbs

	<p>a) Verbs – conjugation of regular and irregular verbs (affirmative and negative) in the following tenses (indicative mood) – present, present continuous, simple future, immediate future, recent b) past, simple past, past continuous</p> <p>c) Verbs – the imperative mood</p> <p>d) Adjectives – numeric, qualitative, possessive, demonstrative, interrogative – gender and number</p> <p>e) Adverbs – simple adverbs of time, place, quantity</p>
3	Grammar - Prepositions, Interrogation
	<p>a) Prepositions – simple prepositions (place, time)</p> <p>b) Interrogation – interrogative words, interrogative phrases, inversion</p>
4	Phonetics - Basic
	<p>a) The subject develops the ability to pronounce words, say sentences, questions and give orders using the right accent and intonation.</p> <p>b) To distinguish voiced and unvoiced consonants to distinguish between vowel sounds</p>
5	Phonetics - Expression
	<p>a) To express surprise, doubt, fear, displeasure and all positive or negative feelings using the right intonation</p> <p>b) To use ‘liaison’ and ‘enchaînement’</p>

5) **RECOMMENDED STUDY MATERIAL:**

Sr. N	Reference Book	Author	Edition	Publication
1	Apprenons le Francais 3 & 4			Sarawati House, New Delhi
2	Jumelage, Niveau 1			Sarawati House, New Delhi

END