



WES

SMT. MANORAMABAI MUNDLE  
COLLEGE OF ARCHITECTURE

ARCHITECTURAL DESIGN

ALLIED DESIGN STUDIO

BUILDING CONST. & MATERIALS

ARCHITECTURAL GRAPHICS

STRUCTURAL DESIGN & SYSTEMS

HISTORY OF ARCHITECTURE

COMPUTER APPLICATION

CLIMATOLOGY

ELECTIVE

**THIRD  
SEMESTER**

**ACADEMIC  
BOOKLET  
ODD SEMESTER**

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**In Charge: - Dr. Seema Burele**

**Class Coordinator**

**Dr. Seema Burele**

**Architectural Design**

**Coordinator:** Dr. Seema Burele

Team- Dr. Roopal Deshpande, Dr. Tarika  
Dagadkar, Dr. Madhura Rathod,  
Dr. Seema Burele, Ar. Piyusha Rathod

**Allied design III**

**Coordinator:** Ar. Isha Pawar

Team- Dr. Roopal Deshpande, Dr. Tarika  
Dagadkar, Dr. Madhura Rathod,  
Dr. Seema Burele, Ar. Piyusha Rathod

**Building Construction & Materials –III**

**Coordinator:** Ar. Sneha Bodhankar

Team - Dr. Tarika Dagadkar, Ar. Sneha Bodhankar

**Architectural Graphics-III**

**Coordinator:** Dr. Seema Burele

Team –. Dr. Tarika Dagadkar  
Dr. Seema Burele

**Structural Design & Systems –III**

Subject Teachers: Mr. Rupal Wadegaonkar

**History of Architecture**

Subject Teachers – Dr. Roopal Deshpande, Ar. Sarika Joshi

**Computer Applications III**

Subject Teachers –Ar. Isha Pawar

**Elective A– Institutional Project 3**

Subject Teachers – Dr. Neeta Lambe, Ar. Sneha Bodhankar

**Elective B –Traditional Art & Craft**

Subject Teachers- Dr. Seema Burele, Ar. Samruddhi Amte

## **Vision**

The vision limits to the present situation or at best for the near future. We should mention that we equip students to venture into the future.

Our vision is to reach global standards by deliberate modernization without losing the essential characteristics of our tradition. Being a women's college, we find it more pertinent to imbibe both these qualities very consciously in our girl students.

We wish to produce socially responsible architects with sensitivity towards social issues of immediate contexts, national concerns and global effects and positive and creative approach towards life.

## **Mission**

To create an educational environment in which students are prepared to meet the challenges of a fast developing and changing world.

Hence the students are equipped with:

- Up to date knowledge
- Analytical and practical skills
- Creative approach towards everything that they undertake
- Attitude to be sensitive towards national, social and environmental issues

While addressing the global challenges we believe strongly in anchoring ourselves to the immediate context. We accept gratefully our role in preserving and enhancing Vidarbha and Nagpur- the place, its people and architecture.

## **Core Values**

- |              |                 |              |
|--------------|-----------------|--------------|
| • Integrity  | • Creativity    | • Innovation |
| • Discovery  | • Collaboration | • Respect    |
| • Discipline | • Excellence    | • Diversity  |

## **Objectives**

- To develop among students academic and Professional competency.
- To foster value-based, creative and critical learning
- To hone skills of living in a technological, globalized and ecologically aware environment
- To develop culture of commitment to excellence

## **Code of Conduct**

**Punctuality-** It is mandatory for students to be punctual in the college and shall have to be present every day at 8.45 a.m. Every student is expected to attend the morning assembly. Attendance of the students will be taken at the time of assembly by respective class coordinators.

The attendance will also be taken at the beginning of the classes in the afternoon after lunch break. The record of attendance shall be displayed at the end of each month for students. Every student is expected to go through the displayed attendance and request rectification of the record within 8 days by talking to the class teacher if her attendance has been wrongly recorded.

In case of absenteeism, student shall bring a letter of absence duly signed by her parents/guardian. However, a student having less than 75% attendance will face disciplinary action and will not be permitted to appear for University Examination.

**Dress Code** – Salwar suit/ Jeans /Leggings with long Kurti.

**Extracurricular activities-** Credits are allotted to each activity and students are required to attend the activities to earn these credits.

Every student has to attend the programmes organized by the college from time to time.

Attendance for programme of 26<sup>th</sup> January and of 15<sup>th</sup> August is mandatory for every student and the dress code a white Salwar Suits/Leggings with Long Kurti.

Study tours- Every year study tours are arranged for students of different years as per their curriculum requirements. Active participation in Study Tour is necessary.

## **Academic Performance**

Submission schedule of all the subjects of a semester will be displayed at the beginning of the session. Students must follow the submission schedules given by respective subject teachers. No late submissions will be accepted after the scheduled date.

## **Midterm assessment**

A midterm assessment will be conducted to assess the progress of a student. It is mandatory for all the students to appear for this assessment.

## **Student Council**

The Student Council will be formulated for the main purpose of empowering the students. Having a formal setup of a Student Council enables students to organize and conduct certain activities, co- ordinate publications like 'Her Space', and properly convey any concerns students may have to the college administration and teaching faculty. The student council also takes the lead in organizing and coordinating many events in the academic year – like daily assembly, Republic Day and Independence Day celebrations, NASA, Teachers Day, Archiventure, Women's Day celebration and all other major events conducted by the college.

The structure of the council is such that students from all years find representation in it. The team is headed by fourth year students with representative from first, second and third year. Third year students take over the reins when fourth year students go for their training in the 8th semester. Final year students act as mentors to the council. The organization set up for student council will comprise of President, Vice-president, Secretary, Vice-secretary, Treasurer. In addition, there are Class Representatives from first and second year – one representative from each of the three sections in a year.

## SCHEME OF EXAMINATION – B.Arch.

## SECOND YEAR B.ARCH.

## Semester – 3

Sr. No.	Sub. Code	Sub. Name	PAPER CODE	Category	Board	Load Per Week					Credits					Paper / Sessional	Duration in Hours	Max. Marks	Total Marks	Min. Pass Marks
						L/D	T	S	P	Total	L	T	S	P	Total					
1	3S-A-1	Architectural Design III	BAR03S01	PC	AR	1	0	4	0	5	1	0	6	0	7	Sessional		150	200	100
			BAR03P01			Viva Voce	50													
2	3S-A-2	Allied Design Studio-III	BAR03S02	PC	AR	1	0	2	0	3	1	0	3	0	4	Sessional		100	100	50
3	3S-A-3	Building Construction and Materials -III	BAR03T03	BS&AE	AR	2	0	3	0	5	2	0	4.5	0	6.5	Paper	3	100	150	40
			BAR03S03													Sessional		50		25
4	3S-A-4	Architectural Graphics III	BAR03S04	PC	AR	1	0	0	2	3	1	0	0	1	2	Sessional		100	100	50
5	3S-A-5	Structural Design & Systems III	BAR03T05	BS&AE	AR	2	1	0	0	3	2	0.5	0	0	2.5	Paper	3	60	100	50
																Sessional		40		
6	3S-A-6	History of Architecture II	BAR03S06	PC	AR	2	1	0	0	3	2	0.5	0	0	2.5	Sessional		100	100	50
7	3S-A-7	Computer Application III	BAR03S07	PC	AR	0	0	0	2	2	0	0	0	1	1	Sessional		50	50	25
8	3S-A-8	Climatology	BAR03T08	BS&AE	AR	2	1	0	0	3	2	0.5	0	0	2.5	Paper	3	60	100	50
			BAR03S08													Sessional		40		
9	3S-A-9	Elective III	BAR03S09	EC	AR	1	2	0	0	3	1	1	0	0	2	Sessional		100	100	50
<b>Total</b>										30					30.0		1000	1000		

Elective III Scale and Proportion / Anthropometrics &amp; Ergonomics / Rural Architecture / Traditional Arts and Crafts / Biomimicry / Institutional Project 3

## ARCHITECTURAL DESIGN-III

### Redesigning the Badami Archaeological Museum - AN INSERT INTO THE HISTORY

**Design Co-ordinator:** Dr. Seema Burele

**Teachers in charge:** Dr. Roopal Deshpande, Dr. Madhura Rathod, Dr. Tarika Dagadkar, Dr. Seema Burele, Ar. Piyusha Rathod

In the first year, the design methodology adopted was simple. Students worked on single activity, simple circulation and composition of activities on site. Now, in III semester students will move from simplicity to complexity. Design project in III Semester carry forward the understanding of the previous semester with the added complexities of multiple activities along with aesthetic qualities with increased emphasis on context and functionality. The emphasis will also be on detailing of various architectural elements in the context of functions, construction techniques, characteristics of material and its implications on architectural form, site, its context and its interpretation through design.

Hence for 3<sup>rd</sup> semester the brief of an International Architecture Competition - **Redesigning the Badami Archaeological Museum** conceptualized by Rohan Builders & Mindspace Architects is finalized which is focusing on Conceptual and Contextual exploration with respect to climate, culture and local art and craft and its interpretation in design.

**The Drawing Board (TDB)**, an International Architecture Competition aims to improve community life while protecting local heritage. The competition's overall goal is to strengthen and indirectly impact the Sustainable Development Goals through architecture education and social transformation.

#### Project I (Major Project)

##### Redesigning the Badami Archaeological Museum - An Insert into The History

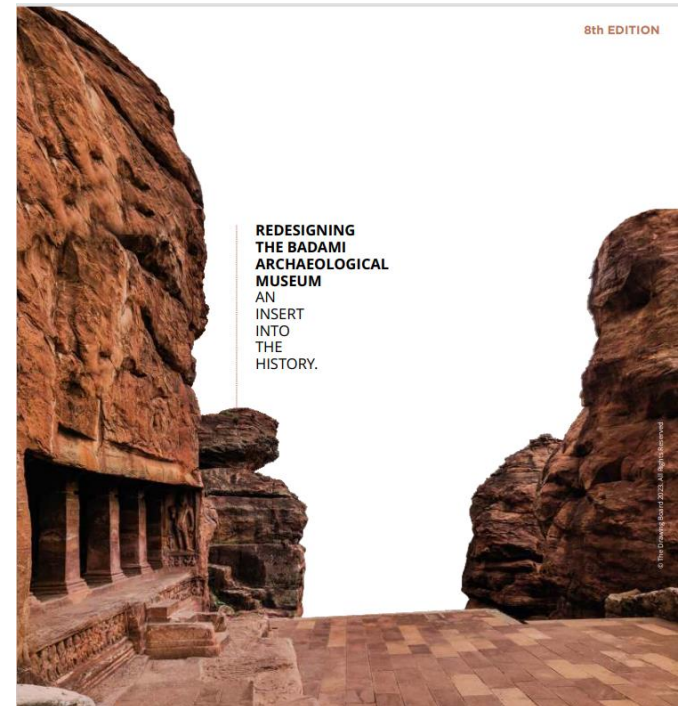
**Duration: 8 Weeks**

##### Course Outcomes

- **CO 1:** To understand the concept of the Museum w.r.t various aspects of design.
- **CO 2:** To analyze spatial organization & interrelationship of different activities on basis of nature, proximity, circulation & their compatibility etc. also to analyze relationships between outdoor and indoor spaces with respect to activities related to museum.
- **CO 3:** To study and integrate site & its context in design.
- **CO 4:** To develop the concept, proposed scheme, 2D and 3D development, considering spaces, materials, techniques, expression of the built form w.r.t the site context.
- **CO5:** To evaluate the functionality of design proposal and overall competency developed among students.

#### Aim

The design studio aims at making students understand the concept of museum and its functionality and integrating it with site context.



## Objectives

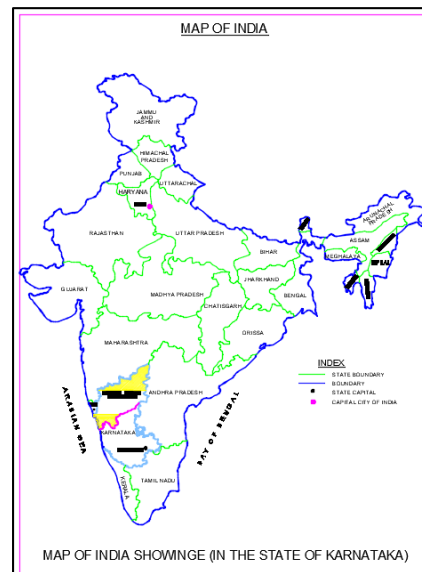
- To understand the concept Museum w.r.t various aspects of design.
- To study the interrelationship of different activities.
- To study the site and its impact on designing.
- To understand various architectural elements in the context of functions, construction techniques, characteristics of material and its implications on architectural form.
- To study the evolution of 3D forms of the building, harmonizing with the site surroundings.

## Design Brief

Historically Badami has held a significant role in the south India. It has been ruled by several kingdoms and was also the regal capital of the Badami Chalukyas. These kings have progressively added and improvised Badami's cultural and architectural aspects. The Agastya Lake and the historic structures around it in particular stands testimony to this. Geographically, the location chosen is set around the Agastya Lake. The lake itself acts as a bowl encompassing various things and focusing on the Booth Nath temple as its crown jewel. The lake is flanked by sandstone rocks on 3 sides and the settlement on one side. As we climb the rocks around the lake there are rock cut caves that date back to the 6th century. Other prominent temples and a stepped bund line the lake along the edge of the settlement

## The Site

The site is located at the base of the north fort of Badami which overlooks the lake, and is penetrated by deep canyon-like crevices through which climbs a straight path, defined by a gateway. Nestled between Agastya Lake and the rocks in the background, the site is approached by a narrow 7m road defined by a gateway. Pedestrian path- A walk along the ghats of the lake with a flight of steps leads one towards the site. The design intent is to connect these various layers and still create a vibrant experience in the museum.



## Design Program

The program is to redesign the existing Badami archaeological museum. Badami has a settlement of skilled craftspeople, including weavers of traditional Ikkal sarees. The museum should have spaces to celebrate this skill and craft of the locals. The built-up area has to be 7500 sft-. In addition to the exhibition space, museum should also house functions like restrooms, an open-air theater, administration offices, a café and other ancillary facilities. The demarcated site is located on the bank of the Agastya Lake. The immediate surroundings consist of the Honkadakatte Anjaneya temple and the Mallikarjuna gudi along the sides of the existing museum which has to be demolished and redesigned. The existing Museum faces the lake and is set with a majestic backdrop of the golden red sandstone rocky mountain. A fort wall with large gateways and a honda (stepped well) are also in close proximity. The site location is chosen strategically as one can experience the lake, rock cut caves, the temples and the natural context together cohesively.

## Stages of working

The Details of stages of working, reviews, submission requirements and evaluation criteria and marks allotted are described in detail in the following table.

Sr. no	Stages	Description	Inputs	Expected Output	Dates / Duration
1	Stage I	<b>Introduction to the topic</b> <ul style="list-style-type: none"> <li>▪ Understanding the typology</li> <li>▪ Its functional aspects</li> <li>▪ Analyzing issues and challenges</li> <li>▪ Understanding the importance of Site context</li> <li>▪ Analysing the local art and craft of Ikkal saree.</li> <li>▪ <b>Precedent study</b></li> </ul>	Discussion with faculty	<ul style="list-style-type: none"> <li>• Introduction sheets</li> <li>• Sheet reflecting the local art and craft of Ikkal saree.</li> <li>• Precedent study (Museum)</li> </ul>	Week 2& 3 Aug 2023
<b>Review I</b> <b>3<sup>rd</sup> Week of AUG 2023</b>					
2	Stage II	<b>Study of site &amp; its context.</b> <ul style="list-style-type: none"> <li>▪ Site context study</li> <li>▪ Climatic consideration</li> <li>▪ Site model making</li> </ul>	Discussion with faculty and understanding the site and its context through various sources.	<ul style="list-style-type: none"> <li>▪ Site inventory sheets</li> <li>▪ Site analysis Sheet (1:200)</li> <li>▪ Site model (Scale- 1:100)</li> </ul>	Week 5 Aug 2023 & Week 1 Sept 2023
3	Stage III	<b>Secondary data collection &amp; Formulation of Design Program</b> <ul style="list-style-type: none"> <li>▪ Understanding of the spaces, circulation and form</li> <li>▪ Facilitation</li> <li>▪ Design program (To identify the activities and the area required for designing the given</li> </ul>	Discussion with faculty	<ul style="list-style-type: none"> <li>• Design program</li> <li>• Facilitation of all activities as per design program.</li> <li>• Site zoning</li> <li>• Circulation diagram</li> </ul>	Week 4 Aug 2023



		typology)			
<b>Review II 28<sup>th</sup> AUG 2023</b>					
4	Stage IV	<b>Creative Exercise-</b> for form evolution			Week 1 Sept
5	Stage IV	<b>Concept development sheet</b> <ul style="list-style-type: none"> <li>▪ Form development</li> <li>▪ Detail site plan along with Floor Plans, Sections, elevations, 3D views.</li> <li>▪ 3D block model (Conceptual model)</li> <li>▪ Material consideration</li> </ul>	Understanding the transformation of 2D to 3D or from 3D to 2D for form development. Discussion on Architectural Detailing	<ul style="list-style-type: none"> <li>• Concept development sheet</li> <li>• Graphical representation of Plan, elevation, sections and views</li> </ul>	Week 2, 4 Sept 2022
<b>Review IV 25<sup>th</sup> SEPT 2023</b>					
6	Stage V	<ul style="list-style-type: none"> <li>▪ <b>Architectural detailing</b></li> </ul> To represent and explain the entire proposal in the form of detail drawings <ul style="list-style-type: none"> <li>○ Site plan</li> <li>○ Floor plans,</li> <li>○ Elevations</li> <li>○ Sections</li> <li>○ Views (perspective views and sketch up views), Model</li> <li>○ Construction material and techniques details</li> <li>○ Landscape detail</li> </ul>	Discussion	Final portfolio <ol style="list-style-type: none"> <li>1. Introductory sheets</li> <li>2. Precedent study sheets</li> <li>3. Data collection sheets</li> <li>4. Creative Exercise</li> <li>5. Site Analysis</li> <li>6. Site plan (scale1:200)</li> <li>7. Site model (scale-1:100)</li> <li>8. Details of each block <ul style="list-style-type: none"> <li>• Plans(scale1:100)</li> <li>• Elevations(scale1:100)</li> <li>• Sections(scale1:100)</li> <li>• Sketchup views/ perspective views</li> <li>• Construction techniques and material details</li> </ul> </li> <li>9. Block model</li> <li>10. Final model</li> </ol>	Week 5 Sept 2022
<b>Final Portfolio Submission – 6th Oct. 2022</b>					
<b>External Review</b>					

**Evaluation Scheme**

<b>Attendance</b>	<b>Review 1</b>	<b>Review 2</b>	<b>Review 3</b>	<b>Review 4</b>	<b>Review 5 (Final submission)</b>	<b>TOTAL</b>
<b>20</b>	<b>10</b>	<b>15</b>	<b>15</b>	<b>40</b>	<b>50</b>	<b>150</b>

## ALLIED DESIGN-III

**Design Co-ordinator:** Dr. Seema Burele

**Teachers in charge:** Dr. Roopal Deshpande, Dr. Madhura Rathod, Dr. Tarika Dagadkar, Dr. Seema Burele, Ar. Piyusha Rathod

### Stair as a design element.

#### Introduction

This course provides a comprehensive introduction to integrated use of various architectural and structural geometries and detailing using different materials. Emphasis would be on I. Developing a general understanding of stairs design. II. Innovative forms and detailing of joints, junctions, joineries etc.

#### Methodology:

The project is divided into following 4 parts

Part - 1: Various geometries for design of stairs

Part - 2: Function and form exploration.

Part - 3: Material exploration with sizes, finishes and joints.

Part - 4: Designing the stair for museum.

#### Evaluation Scheme

Attendance	Review1	Review2	Final submission	Vertical Studio	TOTAL
20	5	5	20	50	100

### BUILDING CONSTRUCTION AND MATERIALS-III

Teacher in charge: Dr.Tarika Dagadkar, Ar.Sneha Bodhankar

**Objectives:** To strengthen student's knowledge about reinforced cement concrete and its applications in buildings. To equip students about the methods of designing various structural members using reinforced cement concrete.

Sr.No	TOPIC	Date and hours	Objectives	Expected output for evaluation Sheets, Sketches, tutori,market survey of materials
1	Introduction session	7 Aug.; 3hrs	To strengthen students' knowledge about course work	
2	Timber as building material and its Joinery details. Introduction to floor as building element & different types of flooring materials.	9 Aug.; 3hrs	To make students aware of joinery details in timber	Model and Tutorial
3	Timber flooring - Single, double and triple flooring. Other types of floors	10 Aug; 2hrs	To study the Wooden joineries, Timberflooring and construction techniques	
4	Introduction to staircases–materials and guideline sand design consideration	17Aug. 3hr.	To study Design guidelines for staircases, its different geometrical forms and its graphical representation	Model and Tutorial
5	Introduction to wooden, steel and stone staircase.	23 Aug.; 2hrs.	Wooden, steel and stone as a construction material for staircase	
6	Stainless steel, copper, aluminum and titanium as a building material	30 <sup>th</sup> and 31 <sup>st</sup> Aug 2023	To strengthen students' knowledge about material application in buildings.	Tutorial
7	Formwork and shuttering used for R.C.C component	5 <sup>th</sup> Sept. 3hr	To understand R.C.C structure and its supporting components required for construction	Tutorial
8	Introduction to materials of cement, sand, aggregates and RCC	6 <sup>th</sup> sept, 2hr.	To strengthen knowledge about material application in buildings.	Tutorial

8	RCC Schedule and structural drawings and Reinforcement arrangement of RCC columns	13 <sup>th</sup> Sep.	To understand the RCC Drawings and related vocabulary and the geometry of RCC Columns	Tutorial Sheets
9	Reinforcement arrangement of RCC footings-Isolated, combined and eccentric footing	14 <sup>th</sup> Sep.	To understand the reinforcement details of foundations	Sheets
10	Reinforcement of RCC Beams, chajjas and fins.	20 <sup>th</sup> sept and 21 <sup>st</sup> sept 27 sept 2023	To understand reinforcement details of Beams, chajjas and fins.	Sheets
11	Slab reinforcement– one way and two-Way slab, continuous slab, cantilever slab	11 <sup>th</sup> and 12 <sup>th</sup> Oct 2023	To understand reinforcement details of types of Slab	Sheets
12	RCC staircase And Reinforcement Schedule (bar bending schedule)	18 <sup>th</sup> and 19 <sup>th</sup> Oct 2023	Reinforcement of RCC staircase	Sheets

3S-A-2	Construction Technology & Materials III
Unit-1	Study of different types of floors in timber. Knowledge of Flooring materials-specifications.
Unit-2	Learning design guidelines for staircases, its geometry & understanding its graphical representation. Study of Staircases in Timber, R.C.C, stone and Steel.
Unit - 3	Gaining knowledge of RCC structural systems. Understanding proportions, geometry & materials of RCC structural elements. Studying Reinforcement details of foundations, one way & two-way slab & other RCC structural elements. To understand how to read structural drawings
Unit-4	Studying Mild steel, Stainless steel, copper, aluminum and titanium as a building material
Unit-5	Formwork and shuttering used for R.C.C component

**CO 1-** To classify and sketch the types of timber floor along with different flooring materials

**CO2-** To explain design guidelines for staircases, its geometry & understanding its graphical representation for RCC and timber material

**CO3-** To understand proportions, geometry & materials of RCC structural elements along with Reinforcement details of foundations, one way & two-way slab & other RCC structural elements. To understand how to read structural drawings

**CO4-** To define and express timber, RCC, Mild steel, Stainless steel, copper, aluminum and titanium as a building material through market survey

**CO5-** To describe and sketch the Formwork and shuttering used for R.C.C component

LEVELS	COURSE OUTCOME	ASSIGNMENT	Target %	MARKS (50)
(L1,L2)	CO1	Tutorials	75	5
(L2)	CO2	SESSIONAL+TUTORIAL	75	10
(L1,L2,L3)	CO3	SESSIONAL+ SHEET	50	10
(L1,L2)	CO4	MARKET SURVEY AND PPT	80	10
(L1,L2)	CO5	Tutorials	75	5

Teachers' evaluation											
CO1	Attainment	CO2	Attainment	CO3	Attainment	CO4	Attainment	CO5	Attainment	Sessional CO2, CO3	TOTAL
U-1		U-2		U-3		U-4		U-5			
5	Y/N	5	Y/N	5	Y/N	10	Y/N	5	Y/N	20	50

Assignments shall be evaluated on the basis of following criteria:

Sketch book	Tutorials	Market Surveys(material)	FOLIO
Quality of Sketches	No. of questions	Information from surveys	NEAT AND CLEAN SHEETS WITH ALL REPRESENTED DRAWINGS
Proportion	Contents of Ans.	Reviews	SHEETS OF RCC

## ARCHITECTURAL GRAPHICS-III

Teacher in charge: Ar. Seema Burele, Dr. Tarika Dagadkar

Graphics is a communication tool that plays an important role in architecture. Architecture can be very well expressed through graphical representation. It enhances the ability of the students to visualize the object through different perspectives. Thus, third semester Graphics comprises of two main topics Perspective and Sciography. The details are given in following table

**Objectives:** To enable the students to communicate an architectural idea / proposal in a legible and effective manner through perspective projections, use of shades and shadows, and various architectural presentation and rendering techniques

- CO1 To enable the students to produce perspective projections of 3D objects and buildings.
- CO2 To enable the students to produce use sciography on horizontal, vertical planes and simple building forms
- CO3 To develop various architectural presentation and rendering techniques.

### Teaching Program

MONTH	WEEK	TOPIC	OBJECTIVES	ASSIGNMENTS
<b>UNIT I PERSPECTIVE</b>				
August 2023-24	Aug Week 1	1. Introduction to perspective - vocabulary, types and methods 2. Introduction and problems on Parallel Perspectives by direct method. 3. Detail explanation of angular perspective/ two-point perspectives and One point perspective – Direct Method and measuring point methods	1. To know the basic concepts of perspective like stand point eyelevel, picture plane and to understand the different methods of drawing perspective.	Sheets
	Week 2			2. To understand the methods of drawing parallel perspective. Various examples on blocking, height reductions and for interiors 3. To understand the methods of drawing angular perspective. Various examples on 3D objects and for interiors.
Week 3				
Week 4				
<b>Submission of Unit-I on 30<sup>th</sup> August 2023</b>				

<b>UNIT II SCIOGRAPHY (September and October 2022-23)</b>				
<b>September 2023</b>	Sep	1. Introduction to Sciography	<ul style="list-style-type: none"> <li>To understand the concepts of shades and shadows.</li> <li>To understand and learn the technical methods of drawing the Sciography</li> <li>To understand the technical methods of drawing Sciography with respect to Building and landscaping elements.</li> </ul>	Sketch 3D models and Sheets
	Week 1	2. Sciography of lines, planes and 3 dimensional forms		
	Week 2	3. Sciography of various building elements (voids and solid, chajjas, niches, steps, etc.)		
	Week 3	4. Architectural presentation and rendering techniques		
Week 4				
<b>Pre-Final Submission on 29<sup>th</sup> September 2023</b>				
<b>Final Portfolio submission on 9<sup>th</sup> October 2023</b>				

**Evaluation Scheme: -**

Sessional Marks only- 50

Mini. Marks: 25

<b>Topics</b>	<b>Max Marks</b>
<b>Portfolio (CO1, CO2 and CO3)</b>	30
<b>Attendance</b>	10
<b>Sessional (CO1)</b>	10
<b>Total</b>	<b>50</b>



### COMPUTER APPLICATION III

Teacher in charge: Ar. Isha Pawar

**Objective-** To learn drafting skills and design testing methods with the help of computer software.

**CO1:** To develop drafting commands on Auto CAD.

**CO2:** To introduce simulation and simulation software as a tool to test the response of designed building in given situation.

Date	Unit to be covered	Inputs	Output
August Week 2	<b>Unit 1 : Introduction about AutoCAD</b>		
August Week 4 and Week 5	Introduction to working environment. Introduction to status Bar. Line with dimension & without dimension. Drawing angular lines, Ray, construction line, Multiline. Ortho, Osnap, Osnap setting, Polar, Otrack, Poly line. Poly line edit, Selection Window, Polygon, Undo, Redo, Trim, Rectangle, Helix, Arc, Circle, Donut, Erase, Ellipse, Copy, Mirror, Array – rectangular, polar, path, offset, Move.	Inputs through LCD Projection and students will explore in the lab	
September Week 2 and Week3	Rotate, scale, stretch, Lengthen, Extend, Break, Break at point, Join, Chamfer, Fillet, Blend curves, Area, Distance, Radius, Angle, Properties, Quick Properties, Selection Cycle.	Inputs through LCD Projection and students will work in the lab	
September Week 5	Make Block, Insert Block, Boundary, Point, Divide, Measure, Point style, Table, Hatch, Hatch Edit, Gradient, Layer Properties Manager, LWT, TYP, Properties Toolbar, Tool palettes, Design Center, Unit Conversion, Text single and Multiline, Match Properties	Inputs through LCD Projection and students will explore in the lab	
September Week 5	<b>Assignment 1</b>	Students will work in the lab & submit	Sheets (CO1)

October Week 1	<b>Sessional I Exam</b>		
October Week 2	<b>Unit 2 : Introduction to simulation software</b>		
October Week 3 and Week 5	Working on simulation software Creating an environment Using Shapes to 3d objects Creating and modifying primitive objects  <b>Assignment 2</b>		Sheets (CO2)

**Evaluation Scheme:** Sessional Marks only- 50      Mini. Marks: 25

<b>Assignment 1 (CO1)</b>	<b>Assignment 2 (CO2)</b>	<b>Attendance</b>	<b>Sessional (CO1)</b>	<b>Total</b>
15	15	10	10	50

**STRUCTURAL DESIGN & SYSTEMS III**  
Teachers in charge: Er. Rupal Wadegaonkar

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**Objectives:**

The course would enable students to understand various principles of strength of materials like various kinds of simple, shear & bending stresses in beams & arches. It gives a fair understanding of behaviour of different types of arches in architecture.

**CO1** - Understanding various principles of strength of materials like various kinds of simple, shear & bending stresses in beams & arches

**CO2** - Understanding of behavior of different types of arches in architecture

<b>Time/ duration</b>	<b>Description of Units to be covered</b>
<b>August 2023 week 1 and week 2</b>	Unit I: Overview of the Structural System in Architecture. <ul style="list-style-type: none"><li>• To Study the behavior of fixed, two hinged &amp; three hinged arches.</li><li>• Stability of Structural elements of Dam structure &amp; Retaining wall,</li><li>• The concept of Flinched beam.</li></ul>
<b>Aug 2023 week 3 and week 4</b>	Unit II: <ul style="list-style-type: none"><li>• Shear Stresses: Concept and application of Shear stresses and its distribution in Rectangular, Circular, Triangular, I, L &amp; T section (Numerical on I &amp; T section only)</li><li>• Bending stresses: Circular bending: Concept and application.</li></ul>
<b>Sept 2023 week 1</b>	Unit III: Direct and bending stresses: Concept and application.
<b>Sept 2023 week 2</b>	Unit IV: Column and Struts: <ul style="list-style-type: none"><li>• Euler's and Rankine's theory</li></ul>
<b>Sept 2023 week 3, 4 &amp; week 5</b>	Unit V: Analysis of Three hinged Circular Arches <ul style="list-style-type: none"><li>• Determination of Normal thrust, horizontal thrust, radial shear force &amp; Bending moment</li></ul>

### Evaluation Scheme

<b>Attendance</b>	<b>Sessional exam / tests</b>	<b>TOTAL 40 marks</b>
<b>20 marks</b>	<b>20 marks</b>	<b>40</b>

### References:

- Bansal, R. K.(2011). A Textbook Of Strength Of Materials Si Units. New Delhi: Laxmi Publications (P) Ltd.
- Rajput, R.K.(2012). Strength Of Material (Mechanics And Solids) S.I. Units. New Delhi: S.Chand And Co Ltd
- Subramanian, R. (2010). Strength Of Materials. New Delhi: Oxford University Press.
- Reddy, K. Vijaya Kumar; Kumar J. Suresh.(2011). Singers Engineering Mechanics Statics and Dynamics (SI Units). Hydrabad: B.S Publications.
- Ramamrutham , S. : Narayanan, R.(2008). Engineering Mechanics. New Delhi:Dhanpat Rai Publications Ltd
- Shah, H.J. ;Junnarkar, S.B.(2012). Mechanics of Structures. Anand: Charotar Publishing House Pvt. Ltd.
- Khurmi, R. S.(2006). A Textbook of Strength of Material (SI Units). New Delhi: S.Chand And Co Ltd.

## HISTORY OF ARCHITECTURE II

**Teachers in charge:** Dr. Roopal Deshpande, Ar. Sarika Joshi

### Objectives:

**Course Objective 1:** To provide an understanding of religious typologies in India through visit to local museum to understand their heritage value, temporal and contextual importance in the history of Indian architecture

**Course Objective 2:** To be able to produce analysis of a work of art/architecture utilizing appropriate medium (sketches, photos, video, writeup with proper description/terminology/vocabulary)

**Course Objective 3:** Interpretation of art, form or Spatial Configurations and the proportioning systems derived from religious philosophy and symbolism.

Date	Topics to be covered	Task given
<b>Week 1</b> <b>August</b>	<ul style="list-style-type: none"> <li>• Introduction to syllabus, purpose of learning history</li> <li>• Rise of Buddhism and role of Emperor Ashok, Spread of Buddhism to South East Asia.</li> </ul>	<b>Assignment 1</b> <b>28<sup>th</sup> August</b>
<b>Week 2 and</b> <b>week 3</b> <b>August</b>	<ul style="list-style-type: none"> <li>• <b>Buddhist building typologies</b>, Chaityas, Viharas, Stupas, Stambha etc.</li> <li>• Influence of Silk Road on transmission of Buddhism and Architectural language and its transformation</li> <li>• Understanding Importance of material and construction technique in <b>Jain temple architecture</b>.</li> </ul>	
<b>Week 4</b> <b>August</b>	<ul style="list-style-type: none"> <li>• Classification of <b>North Indian Temples</b>.</li> <li>• Examples from Orrisa, Khajuraho</li> </ul>	
<b>Week 1</b> <b>September</b>	<ul style="list-style-type: none"> <li>• Examples from Gujarat and Rajasthan.</li> </ul>	
<b>Week 2</b> <b>September</b>	<ul style="list-style-type: none"> <li>• <b>Hemadpanthi Temples Architecture</b> of Central India. Amruteshwar Temple, Ratangad, Tulja Bhawani Temple,</li> <li>• Tuljapur, Trimbakeshwar Temple, Nashik, Bhuleshwar temple, Pune, Bhimashankar Temple, Pune</li> </ul>	
<b>Week 3</b> <b>September</b>	<ul style="list-style-type: none"> <li>• <b>South Indian temple architecture</b></li> <li>• Pallava, Chalukyan, Chola,</li> <li>• Chera, Vijaynagar and Pandya</li> </ul>	<b>Assignment 3</b> <b>28<sup>th</sup> September</b>
<b>Week 4</b> <b>September</b>	<ul style="list-style-type: none"> <li>• Indo-Islamic Architecture during Qutub, Khilji,</li> <li>• Tughlaq, Sayyid, and Lodi sultanates.</li> </ul>	

### Evaluation Scheme

Attendance	Sessional exam/ test	Assignments and sketchbook	TOTAL 100
		3 assignments and sketchbook	
20 marks	40 marks	40 marks	100

**Unit I: Buddhist Architecture:** Rise of Buddhism and role of Emperor Ashok, Spread of Buddhism to South East Asia. Buddhist building typologies, Chaityas, Viharas, Stupas, Stambha etc. Influence of Silk Road on transmission of Buddhism and Architectural language and its transformation.

**Unit II: Jain Architecture:** Understanding Importance of material and construction technique in Jain temple architecture.

**Unit III:** North Indian temple architecture: Classification of North Indian Temples. Examples from Orrisa, Khajuraho, Gujarat and Rajasthan.

**Unit IV:** Hemadpanthi Temples Architecture of Central India. Amruteshwar Temple, Ratangad, Tulja Bhawani Temple, Tuljapur, Trimbakeshwar Temple, Nashik, Bhuleshwar temple, Pune, Bhimashankar Temple, Pune.

**Unit V:** South Indian temple architecture: Classification of South Indian Temples under various dynasties; Pallava, Chalukyan, Chola, Chera, Vijaynagar and Pandya

**Unit VI:** Indo-Islamic Architecture during Qutub, Khilji, Tughlaq, Sayyid, and Lodi sultanates.

**Exercises:** Design of exercises to understand, analyse, interpret, synthesize the historical studies to develop understanding of architecture

The course should culminate in a term paper, documentation or design interpretation and transformation.

#### **References:**

- Brown, P. (2010). Indian Architecture: Buddhist and Hindu period. Mumbai: D. B. Taraporevala Sons and Co.
- Fletcher, B. (1996). A History of Architecture on the Comparative Method. 20th Ed. London: B.T. Batsford Ltd.
- Grover, S. (2003). Buddhist and Hindu Architecture in India. 2nd Ed. New Delhi: CBS Publishers.

## CLIMATOLOGY

Teachers in charge: Ar. Vajaiyanti Yadav; Ar. Sneha Bodhankar

**Objectives:** Understanding fundamentals of climatology and its relation to human thermal comfort, and buildings.

CO1- To recall difference between climate and weather along with factors of climate governing at global and to classify the characteristics of Indian climatic zone, scales of climate. To select the appropriate climate measuring instruments.

CO2- To illustrate and explain the various factors of solar geometry its relation to human thermal comfort and ventilation systems in buildings

S.No.	Weeks	Units	Inputs to be Given
1	August 2022	Unit I	Introduction to climatology, climate and weather, importance of climatology in architecture, global climatic factors.
2	September 2022	Unit II	Elements of climate such as temperature, wind, humidity, precipitation, solar radiation and various instruments to record climatic data, graphical representations of the collected data
3	September 2022	Unit III	Scales of climate, global climatic zones, micro-climate, introduction to six climatic zones of India, where in the characteristics of climate will be discussed
4	September 2022	Unit IV	ET/CET nomograms, bio-climatic charts, horizon and celestial coordinate system, solar geometry, heliodon solaroscope, Wind stimulator
<b>Sessional exam</b>			
5	October 2022	Unit V	Thermal comfort factors, thermal comfort indices, heat exchange process of buildings
6	October 2022	Unit VI	Natural ventilation in and around the building, ventilation systems.
<b>TUTORIAL SUBMISSION</b>			
<b>Marking Scheme</b>	<b>Sessional Exam Marks 40</b>	<b>University Exam Marks 60</b>	<b>Total Marks: 100</b>

**Sessional works:** Sessional Exam, Sketches, tutorials, use of climatology lab instruments, tests and experimentations

## INSTITUTION PROJECT

Teachers in charge: Dr. Neeta Lambe, Ar. Sneha Bodhankar

### Objective:

CO 1: To develop understanding of Heritage and Conservation

CO 2: To develop understanding of Data collection of Any Heritage Site.

CO 3: To demonstrate the tools and methods for heritage documentation.

CO 4: To Develop the Presentation Skills for Heritage Documentation.

Date	Topic/ Assignments	Input by Faculty	Expected Output
11 TH AUGUST 2023	Heritage and Conservation	Discussion on Heritage Introduction to <b>Parsi Community</b> and purpose of documentation	TUTORIALS Assignment 1: Data Collection on <b>Parsi community</b> and its existence in India
18TH AUGUST 2023	DOCUMENTATION AND IT METHODS	DISCUSSION on Data collected	Presentation
<b>25<sup>th</sup> August -Workshop on Heritage Understanding and Different types Collaboration with INTACH</b>			
AUGUST AND SEPTEMBER 2023	<b>Documenting The Parsi Banglows, in Nagpur</b>	Interaction and Instruction on Data Collection ON SITE SITE VISIT	<b>Assignment 2:</b> Primary and Secondary Data Collection of identified heritage site (Group Work- 5 students in each)
Interaction and Instruction		<b>Review -1 and submission on 22ND SEPTEMBER 2023</b>	
Correction and Discussion		<b>REVIEW on 4th OCTOBER 2022 (sessional exam)</b>	
<b>October 2023</b>	<b>Documenting The Parsi Banglows, in Nagpur</b>	Discussion and working on presentable drawings	<b>Sheets</b>
<b>Final Submission on 27th OCTOBER 2022</b>			

### Evaluation scheme:

Sessional Exam	Assignment	Assignment	Reviews/ Submission	Attendance	Total Marks
10	5	5	20	10	<b>50</b>



**ELECTIVE III SEMESTER – TRADITIONAL ART AND CRAFT**  
**Teachers In charge - Dr. Seema Burele, Ar. Samruddhi Amte**

**Objectives:**

1. To understand the concept of Art and craft in India. - CO 1
2. To understand evolution in Art and craft from past to present time - CO 2
- 3 . To explain and explore relevance of art and craft in architecture and interior design (Establishing their inter relationship) - CO3

Month	TOPIC	INPUT	EXPECTED OUTPUT	EVALUATION	
August 2023	<b>Unit I – Introduction (concept)</b>	Lecture/ Interaction	Tutorials	Based on assignment	
August 2023	<b>Unit II: Evolution of Art and craft (Region specific)</b>	Lecture/ Interaction	Tutorials/collage/ppt	Based on assignment	
September 2023	<b>Unit III: Application in architecture.</b>	Lecture/ Interaction/hands on	Model/ppt/tutorial	Based on assignment	
September 2023	Guest Lecture (online/offline)	Lecture/ Interaction	Tutorials	Based on assignment	
<b>Assignment 1 - To introduce terms related to Art and craft their interpretation (vocabulary) 19<sup>th</sup> Aug</b>					
<b>Assignment 2: To study the evolution of art and craft from traditional to modern time. 16<sup>th</sup> Sep</b>					
<b>Assignment 3: Case Study and analyze to understand application of art and craft in architecture. 26<sup>th</sup> Sep</b>					
<b>Sessional exam- 3<sup>rd</sup> Oct 2023</b>					
<b>Attendance</b>	<b>Assignment 1</b>	<b>Assignment 2</b>	<b>Assignment 3</b>	<b>Subject contents/ Sessional exam</b>	<b>Total</b>
	CO 1	CO2	CO 3		
20	10	20	30	20	<b>100</b>

