

Department of Architecture Assistantship
Dr. B. R. Ambedkar Govt. Polytechnic Ambota
Distt-Una(H.P)
Lesson Plan
Academic Session Jan -May 2026

Program Name Diploma in Architecture Assistantship
Subject Name Structural Design-I
Subject Code ARPC-4004
Semester Fourth
Subject Co-ordinator Name Ar. Rajeev Bhardwaj

Evaluation Scheme

Subject Name Structural Design-I

Study Scheme (Hrs/Week)

Marks in Evaluation Scheme

Internal Assessment		External Assessment		Total	
Th	Pr	Th	Pr	Th	Pr
3		40		60	
					100

Reference Books

1. Theory of Structures by Birender Singh (published by Kaption publishing House)
2. Structural Mechanics by Birender Singh (published by Kaption publishing house)
3. Bansal R. K., "Engineering Mechanics", Lakshmi Publications Pvt Ltd, 3/E, 1996.

Coarse Outcomes	
CO-1	To understand the basic principles of structural mechanics that would be pertinent to simple design elements
CO-2	To understand the structural behavior of building elements.

Teaching Plan

	Unit	Name of Topic	Proposed Date	Actual Date	Signature	Remarks
1	Unit 1	Resultant of force system & equilibrium , Force definition, SI Unit, types, system of force. Resultant of concurrent forces, law of parallelogram, triangle law of forces, polygonal law of forces, resolution and addition of forces. Moment of forces, statement of various theorems, resultant of non-concurrent forces, parallel and non-parallel forces. Equilibrium: Concept of equilibrium, equilibrium of two and more forces, Conditions of equilibrium, graphical conditions of equilibrium body, constraints type of reaction.	27-01-2026			
			28-01-2026			
			02-02-2026			
			03-02-2026			
			04-02-2026			
			09-02-2026			
2	Unit 2	Centre of Gravity (CG) CG by geometrical consideration for rectangular, triangle, semicircle. CG of regular solids, cubes, spheres, semi-spheres, right circular cones. Centre of gravity by method of moments of area, mass or volume of regular figures, composite figures and regular figures with cut out holes.	10-02-2026			
			11-02-2026			
			16-02-2026			
			17-02-2026			
			18-02-2026			
			23-02-2026			
			24-02-2026			
			25-02-2026			
			02-03-2026			
			03-03-2026			
3	Unit 3	Moment of Inertia Meaning of terms - second moment of area, radius of gyration of a section Theorem of parallel axis and perpendicular axis (statement only without proof) Second moment of regular figures - rectangle, triangle, circle and annular sections (formulae only)	09-03-2026			
			10-03-2026			
			11-03-2026			
			16-03-2026			
			17-03-2026			
			18-03-2026			
			23-03-2026			
			24-03-2026			
			25-03-2026			
			30-03-2026			
4	Unit 4	Shear force and Bending moment Definition and concepts of Shear force and bending Moment, calculations of reactions. SF and BM diagrams for simply supported, over-hanging, cantilever beams subjected to concentrated or uniformly distributed loads on entire or partial span. Calculation of position and magnitude of maximum shear force and bending moment, point of contra-flexure.	31-03-2026			
			01-04-2026			
			06-04-2026			
			07-04-2026			
			08-04-2026			
			13-04-2026			
			20-04-2026			
			21-04-2026			
			22-04-2026			
			27-04-2026			
			28-04-2026			
			29-04-2026			

5	Unit 5	Simple Stress and Strain: Concept and definitions, units, types of stresses, axial stresses in bars, strains Hooks law, tensile test on mild steel, working stress and factor of safety, temperature stresses in bars. Bending stresses, neutral axis Symmetrical and asymmetrical sections Assumptions in theory of bending	04-05-2026			
			05-05-2026			
			06-05-2026			
			11-05-2026			
			12-05-2026			
			13-05-2026			
			18-05-2026			
			19-05-2026			
			20-05-2026			
			25-05-2026			
			26-05-2026			

Assignments

Assignments	Contents of Syllabus Covered	Proposed Date	Actual Date	Signature	Remarks
A-1	Unit 1	09-03-2026			
A-2	Unit 2, Unit 3	08-04-2026			
A-3	Unit 4	19-05-2026			

House Test/Class Test

Name of Test	Contents of Syllabus Covered	Proposed Date	Actual Date	Signature	Remarks
Class Test 1	Unit 1	As Per HPTSB			
Class Test 2	Unit 1, Unit 2, Unit 3	As Per HPTSB			
House Test	Unit 1, Unit 2, Unit 3 & Unit 4	As Per HPTSB			

(Signature of Teacher)

Checked

(Signature of H.O.D)

Department of Architecture Assistantship
Dr. B. R. Ambedkar Govt. Polytechnic Ambota
Distt-Una(H.P)
Lesson Plan
Academic Session Jan -May 2026

Program Name Diploma in Architecture Assistantship
Subject Name Architecture Design-IV
Subject Code ARPC-4001
Semester Fourth
Subject Co-ordinator Name Ar. Rajeev Bhardwaj

Evaluation Scheme

Subject Name Architecture Design-IV Study Scheme(Hrs/Week) Marks in Evaluation Scheme

		Internal Assessment		External Assessment		
Th	Pr	Th	Pr	Th	Pr	Total
1	6	40	40	60	60	200

Reference Books

- Chiara, J. D. (1984) Time Saver Standard for Site Planning, McGraw Hill Book Co., NY-49
- Neufert, E. (2000) Neufert – Architect's Data, Crosby Lockwood and Sons, London

Coarse Outcomes		
	CO-1	The students would be familiarized with vernacular terminology
	CO-2	The emphasis will be construction details as applicable to Indian climatic conditions.
	CO-3	The design problem would induce students to experiment with built and open spaces.

Teaching Plan

Unit	Name of Topic	Proposed Date	Actual Date	Signature	Remarks
1 Appreciation of traditional settlement pattern and building typology through villages. Exercises related to understanding social structure and its manifestation spatial organization and manifestation Public and private spaces, family and community spaces, Residential, Haveli etc.	Introduction	27-01-2026			
	Introduction of Project -I	28-01-2026			
	Library data	30-01-2026			
	Library data	02-02-2026			
	Report Writing	03-02-2026			
	Report Writing	04-02-2026			
	Case Study	06-02-2026			
	Seminar Preparation	09-02-2026			
	Seminar Presentation	10-02-2026			
	Discussion on Requirements	11-02-2026			
	Development of Design	13-02-2026			
	Development of Design	16-02-2026			
	Development of Design	17-02-2026			
	Development of Design	18-02-2026			
	Development of Design	20-02-2026			
	Development of Design	23-02-2026			
	Development of Design	24-02-2026			
	Development of Design	25-02-2026			
	Development of Design	27-02-2026			
	Development of Design	02-03-2026			
	Development of Design	03-03-2026			
	Development of Design	06-03-2026			
	Development of Design	09-03-2026			
	Prefinal Submission	10-03-2026			
	Prefinal Submission	11-03-2026			
	Prefinal Submission	13-03-2026			
	Prefinal Submission	16-03-2026			
	Final Submission of Project -I	17-03-2026			
	Final Submission of Project -I	18-03-2026			

2	Public spaces: Aganwadi, Kisan kendra, senior secondary school, community centre, Kalyan kendra, Art and Cultural Centre etc. An architectural design focused on a specific theme, for example, a material based thing such as, building only in mud/stone/timber etc. or a style based theme, for example, based on a period style, or a vernacular style, ecology - energy conservation theme, etc.	Introduction to Project -II	20-03-2026			
		Library data	23-03-2026			
		Library data	24-03-2026			
		Report Writing	25-03-2026			
		Report Writing	27-03-2026			
		Case Study	30-03-2026			
		Seminar Preparation	31-03-2026			
		Seminar Presentation	01-04-2026			
		Discussuion on Requirements	06-04-2026			
		Development of Design	07-04-2026			
		Development of Design	08-04-2026			
		Development of Design	10-04-2026			
		Development of Design	13-04-2026			
		Development of Design	17-04-2026			
		Development of Design	20-04-2026			
		Development of Design	21-04-2026			
		Development of Design	22-04-2026			
		Development of Design	24-04-2026			
		Development of Design	27-04-2026			
		Development of Design	28-04-2026			
		Development of Design	29-04-2026			
		Development of Design	04-05-2026			
		Prefinal Submission	05-05-2026			
		Prefinal Submission	06-05-2026			
		Final Submission of Project -II	08-05-2026			
		Final Submission of Project -II	11-05-2026			
3	Time Problem : Bank, General Post Office, etc	Visit to near by Monument	12-05-2026			
		Documentation	13-05-2026			
		Documentation	15-05-2026			
		Drawings	18-05-2026			
		Final Submission	19-05-2026			
		Final Submission	20-05-2026			
		Final Submission	22-05-2026			
			25-05-2026			
		Final Submission	26-05-2026			

House Test/Class Test


Name of Test	Contents of Syllabus Covered	Proposed Date	Actual Date	Signature	Remarks
Class Test 1	Unit 1	As Per HPTSB			
Class Test 2	Unit2	As Per HPTSB			
House Test	Unit 1 , Unit 2	As Per HPTSB			

Signature of Teacher


Checked

(Signature of H.O.D)

Department of Architecture									
LESSON PLAN									
Program Name				Architecture Assistantship					
Subject Name				BUILDING BYE LAWS & SUBMISSION DRAWINGS					
Subject Code				ARPC – 4003					
Semester				Fourth					
Subject Teacher Name				Rajinder Kumar					
Evaluation Scheme									
Sr. No	Subject Name	Study scheme (Hrs/Week)		Marks in Evaluation Scheme					
				Internal Assessment			External Assessment		
		Th	Pr	Th	Pr	Total	Th	Pr	Total
1	Building Material & Construction-I	1	4	40		40		60	100
Reference Books									
Course Outcomes (COs)									
CO – 1		Students will learn how to prepare Submission Drawings and the procedure of getting the approval done.							
CO – 2		Student will be able to understand the terminologies and application of various building byelaws related to architecture practice.							
Teaching Plan									
Chapters		Name of Topic				Proposed Date	Actual Date	Remarks	
UNIT-I (Building Byelaws: (Theory)		Definition, Objects, Importance and applicability of bye laws.				02-02-2026			
		Definition, Objects, Importance and applicability of bye laws.				09-02-2026			
		Terminology used in Building Bye laws: Set- back, Light plane,				16-02-2026			
		Terminology used in Building Bye laws: Set- back, Light plane,				23-02-2026			
		Floor space Index or Floor area ratio (Calculation also)				02-03-2026			
		Off-Street Parking, Fire Protection, Minimum Plot sizes,				09-03-2026			
		Consolidated open plot, Mezzanine floor, Skip floor.				16-03-2026			
		Principles underlying building bye- laws.				23-03-2026			
		Building Bye –Laws for residential area of a typical town planning				30-03-2026			
		Building Bye –Laws for residential area of a typical town planning				06-04-2026			
		Building Bye –Laws for residential area of a typical town planning				13-04-2026			
		Study of Revenue paper required for submission drawings				20-04-2026			
		Tatima or ax or map of land or plot, Jamabandi or type of land use,				27-04-2026			
		owner name, area of land, owner name Khasra no. etc.)				04-05-2026			
		Case Study of building bye laws of any town.				11-05-2026			
		UNIT-II (Development/ Building Permission: (Drawing)		Case Study of building bye laws of any town.				18-05-2026	
Case Study of building bye laws of any town.				25-05-2026					
Requirements for submission (Municipal) drawings				29-01-2026					
Requirements for submission (Municipal) drawings				02-02-2026					
Requirements for submission (Municipal) drawings				05-02-2026					
Sub division/ layout plan, key plan,				09-02-2026					
Sub division/ layout plan, key plan,				12-02-2026					
Sub division/ layout plan, key plan,				16-02-2026					
Sub division/ layout plan, key plan,				19-02-2026					
Site plan, Floor plans, elevations, sections,				23-02-2026					
Site plan, Floor plans, elevations, sections,				26-02-2026					
Site plan, Floor plans, elevations, sections,				02-03-2026					
Site plan, Floor plans, elevations, sections,				05-03-2026					
Site plan, Floor plans, elevations, sections,				09-03-2026					
CLASS TEST - I				12-03-2026					
Services plans, specifications, Structural stability Certificate,				16-03-2026					
Services plans, specifications, Structural stability Certificate,				19-03-2026					
Services plans, specifications, Structural stability Certificate,				30-03-2026					
Services plans, specifications, Structural stability Certificate,				02-04-2026					
Services plans, specifications, Structural stability Certificate,				06-04-2026					
Scale, & coloring; Preparation & Signing of plans;				09-04-2026					
CLASS TEST - II				13-04-2026					
Scale, & coloring; Preparation & Signing of plans;				16-04-2026					
Scale, & coloring; Preparation & Signing of plans;				20-04-2026					
Fees, Duration of sanction; Deviations,				23-04-2026					
Fees, Duration of sanction; Deviations,				27-04-2026					
Fees, Duration of sanction; Deviations,				30-04-2026					
Fees, Duration of sanction; Deviations,				04-05-2026					
Fees, Duration of sanction; Deviations,				07-05-2026					
HOUSE TEST				11-05-2026					
Violations and Penalties, Completion Certificate.				14-05-2026					
Violations and Penalties, Completion Certificate.				18-05-2026					
Violations and Penalties, Completion Certificate.				21-05-2026					
Violations and Penalties, Completion Certificate.				25-05-2026					


Sig. of Teacher

(RAJINDER KUMAR)


Sig. of H.O.D.

Department of Architecture									
LESSON PLAN									
Program Name				Architecture Assistantship					
Subject Name				BUILDING MATERIAL & CONSTRUCTION-III					
Subject Code				ARPC – 2002					
Semester				Fourth					
Subject Teacher Name				Rajinder Kumar					
Evaluation Scheme									
Sr. No	Subject Name	Study scheme (Hrs/Week)		Marks in Evaluation Scheme					
				Internal Assessment			External Assessment		
		Th	Pr	Th	Pr	Total	Th	Pr	Total
1	Building Material & Construction-III	1	6	40	40	80	60	60	120
Reference Books									

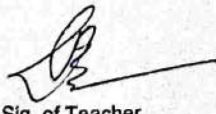
Course Outcomes (COs)

CO – 1	Upon completion of the course, the student shall be familiar with basic components of a building.
CO – 2	The course shall prepare students to gain an understanding of the basic building material like brick,stone, cement etc. and would get an exposure

Teaching Plan

Chapters	Name of Topic	Proposed Date	Actual Date	Remarks
UNIT-I	Introduction to RCC, properties of ingredients, types of concrete,	27-01-2026		
	Introduction to RCC, properties of ingredients, types of concrete,	27-01-2026		
	different grades of concrete, Principles of foundation design, bearing capacity of soil,	28-01-2026		
	Different grades of concrete, Principles of foundation design, bearing capacity of soil,	30-01-2026		
	Simple foundation (masonry), spread footing, types of PAD/ Raft foundation, RCC footings and shallow foundations	03-02-2026		
	Simple foundation (masonry), spread footing, types of PAD/ Raft foundation, RCC footings and shallow foundations	03-02-2026		
	Simple foundation (masonry), spread footing, types of PAD/ Raft foundation, RCC footings and shallow foundations	04-02-2026		
	Simple foundation (masonry), spread footing, types of PAD/ Raft foundation, RCC footings and shallow foundations	06-02-2026		
	Simple foundation (masonry), spread footing, types of PAD/ Raft foundation, RCC footings and shallow foundations	10-02-2026		
	Introduction to Damp-Proof course, Horizontal and Vertical DPC in basement and walls.	10-02-2026		
	Introduction to Damp-Proof course, Horizontal and Vertical DPC in basement and walls.	11-02-2026		
	Introduction to Damp-Proof course, Horizontal and Vertical DPC in basement and walls.	13-02-2026		
	Introduction to Damp-Proof course, Horizontal and Vertical DPC in basement and walls.	17-02-2026		
	Introduction to Damp-Proof course, Horizontal and Vertical DPC in basement and walls.	17-02-2026		
	Introduction to Damp-Proof course, Horizontal and Vertical DPC in basement and walls.	18-02-2026		
	Introduction to Damp-Proof course, Horizontal and Vertical DPC in basement and walls.	20-02-2026		
	Introduction to Damp-Proof course, Horizontal and Vertical DPC in basement and walls.	24-02-2026		
UNIT-II	RCC stairs - types and construction details of RCC cast-in situ stairs	24-02-2026		
	RCC stairs - types and construction details of RCC cast-in situ stairs	25-02-2026		
	RCC stairs - types and construction details of RCC cast-in situ stairs	27-02-2026		
	RCC stairs - types and construction details of RCC cast-in situ stairs	03-03-2026		
	RCC stairs - types and construction details of RCC cast-in situ stairs	03-03-2026		
	fixing of handrails etc. Detailed section through a multistory RCC frame structure. Various types of flooring	06-03-2026		
	fixing of handrails etc. Detailed section through a multistory RCC frame structure. Various types of flooring	10-03-2026		
	fixing of handrails etc. Detailed section through a multistory RCC frame structure. Various types of flooring	10-03-2026		
	fixing of handrails etc. Detailed section through a multistory RCC frame structure. Various types of flooring	10-03-2026		
	fixing of handrails etc. Detailed section through a multistory RCC frame structure. Various types of flooring	11-03-2026		
	fixing of handrails etc. Detailed section through a multistory RCC frame structure. Various types of flooring	13-03-2026		

UNIT-III	Types of industrialized doors and windows, sliding, revolving, collapsible, rolling shutters.	17-03-2026		
	Types of industrialized doors and windows, sliding, revolving, collapsible, rolling shutters.	17-03-2026		
	Types of industrialized doors and windows, sliding, revolving, collapsible, rolling shutters.	18-03-2026		
	Types of industrialized doors and windows, sliding, revolving, collapsible, rolling shutters.	20-03-2026		
	Steel sections. Detailed drawings and construction details of pressed steel sections for doors and windows.	24-03-2026		
	Steel sections. Detailed drawings and construction details of pressed steel sections for doors and windows.	24-03-2026		
	Steel sections. Detailed drawings and construction details of pressed steel sections for doors and windows.	25-03-2026		
	Steel sections. Detailed drawings and construction details of pressed steel sections for doors and windows.	27-03-2026		
	Steel sections. Detailed drawings and construction details of pressed steel sections for doors and windows.	31-03-2026		
	Steel sections. Detailed drawings and construction details of pressed steel sections for doors and windows.	31-03-2026		
	Steel sections. Detailed drawings and construction details of pressed steel sections for doors and windows.	01-04-2026		
	Introduction to structural steel trusses.	07-04-2026		
	Introduction to structural steel trusses.	07-04-2026		
	CLASS TEST - II	08-04-2026		
UNIT-IV	Detailed drawings and construction details of north light truss along with roof coverings, valleys, gutters etc.	10-04-2026		
	Detailed drawings and construction details of north light truss along with roof coverings, valleys, gutters etc.	17-04-2026		
	Detailed drawings and construction details of north light truss along with roof coverings, valleys, gutters etc.	21-04-2026		
	Detailed drawings and construction details of north light truss along with roof coverings, valleys, gutters etc.	21-04-2026		
	Detailed drawings and construction details of north light truss along with roof coverings, valleys, gutters etc.	22-04-2026		
	Detailed drawings and construction details of north light truss along with roof coverings, valleys, gutters etc.	24-04-2026		
	Detailed drawings and construction details of north light truss along with roof coverings, valleys, gutters etc.	28-04-2026		
	Detailed drawings and construction details of north light truss along with roof coverings, valleys, gutters etc.	28-04-2026		
	Detailed drawings and construction details of north light truss along with roof coverings, valleys, gutters etc.	29-04-2026		
	Detailed drawings and construction details of steel stairs such as straight flight	05-05-2026		
	Detailed drawings and construction details of steel stairs such as straight flight	05-05-2026		
	Detailed drawings and construction details of steel stairs such as straight flight	06-05-2026		
	Detailed drawings and construction details of steel stairs such as straight flight	08-05-2026		
	HOUSE TEST	12-05-2026		
	HOUSE TEST	12-05-2026		
	HOUSE TEST	13-05-2026		
	Detailed drawings and construction details of steel stairs such as straight flight	15-05-2026		
	Detailed drawings and construction details of steel stairs such as straight flight	19-05-2026		
	Detailed drawings and construction details of steel stairs such as straight flight	19-05-2026		
	Detailed drawings and construction details of steel stairs such as straight flight	20-05-2026		
	Detailed drawings and construction details of steel stairs such as straight flight	22-05-2026		
	Detailed drawings and construction details of steel stairs such as straight flight	26-05-2026		
	Detailed drawings and construction details of steel stairs such as straight flight	26-05-2026		


Sig. of Teacher

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