

DEPARTMENT OF ARCHITECTURE ASSISTANTSHIP
DR. B. R. AMBEDKAR GOVT. POLYTECHNIC AMBOTA , DISTT UNA H.P.

LESSON PLAN

Programme Name	Architecture Assistantship
Subject Name	Climate Responsive Architecture
Subject Code	ARPC – 3005
Semester	Third
Subject Teacher name	Ar. Rajeev Bhardwaj

Evaluation Scheme

S. No.	Subject Name	Study Scheme (Hrs/Week)	Marks In Evaluation Scheme					
			Internal Assesment			External Assesment		
			Th.	Pr.	Total	Th.	Pr.	Total
1	Climate Responsive Arch.	3 (Th)	40		40	60		60

Reference Books

Manual of Tropical Housing and Building: Climate Design by O.H. Koenigsberger , Madras: Orient Longman, 1984
 Environmental Design by Randall Thomas, Taylor & Francis; 3rd edition, 2006.

Course Outcome

CO-I	Understand Climatology & Human comfort and its role in Architecture
CO-II	Implement passive design strategies in the design projects which in itself is the need of the hour
CO-III	Appreciate the importance of climate responsive design in contemporary world and apply the same in their

Teaching Plan

Unit No.	Name Of Topic	Month	Proposed Date	Actual Date	Remarks
Unit-I	Role of climate w.r.t shelter and	August	3,4,7		
	Importance of building climatology		10,11,14		
	Latitude, longitude, solar radiation etc.		17,18,21		
	Humidity, temperature etc.		24,25,28		
	Various climatic zones of India		31		
Unit -II	Effect of local factors and landscape elements on site climate	Sept.	1,4,7		
	Thermal balance of human body and comfort zone		8,11,14		
	Heat flow through building envelope, thermal balance equation		15,19,21		
	Thermo physical properties of building materials like conductivity etc.		22,26,28,29		
Unit -III	Apparent movement of the sun, Sun path diagrams and its application, greenhouse effect	Oct.	5,6		
	Orientation, internal blinds and curtains, high performance glasses,		9,12,13		
	Solar angles, shadow angles		16,19,20		
	study of diurnal and seasonal variations, heating and cooling, effect of topography, Functions. of natural ventilation		26,27		
	Supply of fresh air, stack effect, air movement in and around buildings, wind eddies, size and position, effect of wind on design of buildings.		30		
Unit -IV	Water-vapor. Relative-humidity, condensation, rain, fog, snow and architectural responses	Nov.	2,3,6		
	Day-light. glare, amount of light, sky as a source of light and day-lightfactor, effect of size and shape of openings in different planes with and without obstructions.		9,10,13		
	Climate responsive traditional architecture in different climatic zones of India.		16,17,20		
	Example of climate responsive contemporary building projects from India.		23,24,27		

Assignments/ Submissions:-

Assignment/ Submission	Contents Of Syllabus Covered	Proposed Date	Actual Date	Remarks
A-1	Unit-I & Unit -II	21-09-2026		
A-2	Unit-III	26-10-2026		
A-3	Unit-IV	23-11-2026		
House Test/ Class Test				
Name Of Test	Syllabus Fot Test	Proposed Date	Actual Date	Remarks
Class Test -I	Unit-I	14-09-2026		
Class Test -II	Unit-II & Unit -III	13-10-2026		
House Test	Unit -I to Unit-IV	Nov Ist Week		

Sign Of Teacher

Approved

Sign Of H.O.D.

Principal

DR. B. R. Ambedkar Govt Polytechnic
Ambota Distt Una H.P.

Department of Architecture									
LESSON PLAN									
Program Name				Architecture Assistantship					
Subject Name				BUILDING MATERIAL & CONSTRUCTION-II					
Subject Code				ARPC – 2002					
Semester				Third					
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-II	1	6	40	40	80	60	60	120
Reference Books									
Course Outcomes (COs)									
CO – 1	Students shall be able to understand the different joinery details of timber construction and its applications.								
CO – 2	Students will appreciate the different wooden types available in the market. Students will be able to understand various								
Teaching Plan									
Chapters		Name of Topic				Proposed Date	Actual Date	Remarks	
UNIT-I Timber	Timber, Variety of Indian timbers, (TH.)				01-08-2026				
	Detailed drawings of Battened-Ledged-Braced doors (DCS)				03-08-2026				
	Detailed drawings of Battened-Ledged-Braced doors (TH.)				03-08-2026				
	Detailed drawings of Battened-Ledged-Braced doors				07-08-2026				
	characteristics and suitability for uses, defects and decay (TH.)				10-08-2026				
	Battened-Braced-Framed doors (DCS)				10-08-2026				
	Battened-Braced-Framed doors				14-08-2026				
	Battened-Braced-Framed doors (DCS)				17-08-2026				
	Glazed and paneled door (TH.)				17-08-2026				
	Glazed and paneled door				21-08-2026				
	seasoning and preservation (TH.)				22-08-2026				
	Glazed and paneled door (DCS)				24-08-2026				
UNIT-II Wooden Joinery	Glazed and paneled door(TH.)				24-08-2026				
	Flush doors				28-08-2026				
	Market survey of timber products and their applications (TH.)				29-08-2026				
	Flush doors(DCS)				31-08-2026				
	Flush doors(TH.)				31-08-2026				
	Detailed drawings of Casement windows				05-09-2026				
	Introduction to joinery in timber (TH.)				07-09-2026				
	Detailed drawings of Casement windows(DCS)				07-09-2026				
	Detailed drawings of Casement windows				11-09-2026				
	Detailed drawings of Bay windows				14-09-2026				
	Introduction to various types of windows (TH.)				14-09-2026				
	Class Test-I				18-09-2026				
	Detailed drawings of Bay windows				19-09-2026				
	Wooden Staircase (TH.)				21-09-2026				
	Detailed drawings of Bay windows (DCS)				21-09-2026				
	Detailed drawings of Bay windows				25-09-2026				
	Detailed drawing showing construction details of Wooden Stair				26-09-2026				
	Introduction to the nature and characteristics of wood floors (TH.)				28-09-2026				
Detailed drawing & construction details of Wooden Stair (DCS)				28-09-2026					
Detailed drawing & construction details of Wooden Stair				03-10-2026					
Introduction to the wood construction-roofs (TH.)				05-10-2026					
Detailed drawing & construction details of Wooden Stair(DCS)				05-10-2026					

UNIT-III Wooden
Stairs & Floor

Characteristics of wood construction-roofs (TH.)	09-10-2026		
Wood floors at Ground floor level (TH.)	12-10-2026		
Class Test-II	12-10-2026		
Wood floors at Ground floor level (DCS)	16-10-2026		
Wood floors at first floor level	17-10-2026		
Wood floors at first floor level	19-10-2026		
advantages and limitations of wooden roof. (TH.)	19-10-2026		
Wood floors at first floor level (DCS)	23-10-2026		
Wood floors at first floor level	24-10-2026		
Detailed drawings of King post Truss (DCS)	30-10-2026		
Detailed drawings of King post Truss	31-10-2026		
House Test	02-11-2026		
Detailed drawings of King post Truss	06-11-2026		
King post Truss	07-11-2026		
Detailed drawings of Queen post Truss	09-11-2026		
Detailed drawings of Queen post Truss (TH.)	09-11-2026		
Queen post Truss (TH.)	13-11-2026		
Detailed drawings of Queen post Truss (DCS)	16-11-2026		
Detailed drawings of Queen post Truss (TH.)	16-11-2026		
Detailed drawings of Queen post Truss	20-11-2026		
Detailed drawings of Lean to roof	21-11-2026		
Lean to roof	23-11-2026		
Lean to roof (TH.)	23-11-2026		
Detailed drawings of Lean to roof (DCS)	27-11-2026		
Detailed drawings of Lean to roof	28-11-2026		

UNIT-IV Roof & Roof
Covering

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LESSON PLAN

Program Name	Architecture Assistantship
Subject Name	BUILDING SERVICES
Subject Code	ARBSAE – 3003
Semester	Third
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 Services	3	-	40	-	40	60	-	100

Reference Books	Water Supply Engineering", Dr. B.C. Punmia, Ashok Kumar Jain and Arun Kumar Jain, Laxmi, 2003. Disaster management Manuals. & Basic of Electrical and electronics by S.K. Bhattacharya
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Course Outcomes (COs)

CO – 1	Students will be familiar with different materials and equipment available for building services.
CO – 2	Students will try to assimilate the technical aspects of water supply, electrical and firefighting services in the architectural design and modern day construction.

Teaching Plan

Chapters	Name of Topic	Proposed Date	Actual Date	Remarks
UNIT-I Water Supply	Detailed studies such as Sources and Treatment of water.	05-08-2026		
	Water demand & calculations, Storage & conveyance of water at municipal level.	06-08-2026		
	Water supply systems and various fittings. Hot and Cold-water supply layouts.	07-08-2026		
	Water supply design of a residence: Connection with water mains, design of Underground	12-08-2026		
	Overhead water tanks, pump capacity, calculations for diameter of pipe.	13-08-2026		
	Overhead water tanks, pump capacity, calculations for diameter of pipe.	14-08-2026		
	Introduction to water supply in a multi-storied building.	19-08-2026		
	Introduction to water supply in a multi-storied building.	20-08-2026		
UNIT-II Wastewater and Solid Waste management	Definition of Refuse, garbage, rubbish, sullage, sub soil water, storm water, night soil, sewage- sanitary, domestic & industrial, sewer, sewerage & waste water.	21-08-2026		
	Various drainage & sanitary fixtures & fittings, traps - role of water seal, sizes, materials and their space requirements.	26-08-2026		
	Types of pipes and drains in different materials and their usage, diameter of pipes, slope standards.	27-08-2026		
	Inspection and Intercepting chambers, manholes etc. ASSIGNMENT-I	28-08-2026		
	Sewage and Effluent treatment- Innovative and cost-effective sanitation concepts	02-09-2026		
	Introduction to STP's & ETP's, Design calculations of septic tank & soak pit	03-09-2026		
	Introduction to STP's & ETP's, Design calculations of septic tank & soak pit	09-09-2026		
	Introduction to STP's & ETP's, Design calculations of septic tank & soak pit	10-09-2026		
	Class Test-I	11-09-2026		
	Storm water design calculations for roof top & for surface drains, Rainwater Harvesting & Groundwater Recharge	16-09-2026		

	Storm water design calculations for roof top & for surface drains, Rainwater Harvesting & Groundwater Recharge	17-09-2026		
	Storm water design calculations for roof top & for surface drains, Rainwater Harvesting & Groundwater Recharge	18-09-2026		
	Exercise: Design a layout for a residence for water supply, drainage, sewage and storm water.	23-09-2026		
	Exercise: Design a layout for a residence for water supply, drainage, sewage and storm water.	24-09-2026		
	Exercise: Design a layout for a residence for water supply, drainage, sewage and storm water. ASSIGNMENT-II	25-09-2026		
UNIT-III Electrical services	Introduction to Thermal, Mechanical & Electrical energy Electrical distribution systems and safety devices	30-09-2026		
	Types of wiring systems, advantages and disadvantages, safety and precautions,	01-10-2026		
	Types of wiring systems, advantages and disadvantages, safety and precautions,	07-10-2026		
	Types of electrical equipment/fixtures used in a building such as motors, fuses, switchboards, MCB's, ELCB's, fuse units, control panels etc.	08-10-2026		
	Types of electrical equipment/fixtures used in a building such as motors, fuses, switchboards, MCB's, ELCB's, fuse units, control panels etc.	09-10-2026		
	Class Test-II	14-10-2026		
	Standard symbols for various fixtures as per National Building Code 2016	15-10-2026		
	Exercise: Preparing an electrical layout with all necessary details for a small building/residence	16-10-2026		
	Exercise: Preparing an electrical layout with all necessary details for a small building/residence	21-10-2026		
	Exercise: Preparing an electrical layout with all necessary details for a small building/residence	22-10-2026		
	Exercise: Preparing an electrical layout with all necessary details for a small building/residence	23-10-2026		
UNIT-IV Illumination & Fire fighting	Introduction to Illumination, studies of the same such as various types of artificial lighting. ASSIGNMENT-III	28-10-2026		
	Various Terms in lighting, standards of illumination for illumination levels.	29-10-2026		
	Types of artificial lighting sources, types of luminaries & fixtures	30-10-2026		
	Types of fire and its causes	04-11-2026		
	Firefighting devices (Sprinkler system, Wet riser system,	05-11-2026		
	Fire Extinguishers, Fire alarm,	06-11-2026		
	House Test	11-11-2026		
	House Test	12-11-2026		
	Smoke detectors, various types of fire hydrants	13-11-2026		
	Fire escape modes.	18-11-2026		
	Fire escape modes.	19-11-2026		
	Fire escape modes.	20-11-2026		
	Fire escape modes.	25-11-2026		
	Fire escape modes.	26-11-2026		
	Fire escape modes.	27-11-2026		


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Department of Architecture

Dr. B.R. Ambedkar Govt. Polytechnic Ambota

Distt. Una (H.P.) -177205

LESSON PLAN

Program Name	Architecture Assistantship
Subject Name	Computer Applications in Architecture - II
Subject Code	ARSEC - 3007
Semester	Third
Subject Teacher Name	Ms. Urvashi Sharma
Evaluation Scheme	

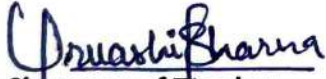
Sr. No	Subject Name	Study Scheme		Marks in Evaluation Scheme				Total
		Hrs/Week		Internal Assessment		External Assessment		
		Th.	Pr.	Th.	Pr.	Th.	Pr.	
1	C.A.A. - II	0	4	0	40	0	60	100

Course Outcomes (Cos) : After completing the course, students will be able to

CO-1	Students will be able to make 2D architectural drawings for presentation purpose.
CO-2	Students will be able to familiarize with the latest software like CAD.
CO-3	Students will be able to inherent the requisite knowledge of the 2D software relevant to the demands of the market & professional offices.

Chapter	Name of the Topic	Proposed date	Actual date	Remarks
UNIT-I	Introduction to 2D drawing software	03-08-2026		
	Introduction to 2D drawing software	04-08-2026		
	Commands in the menus (Tool Bars)	10-08-2026		
	Commands in the menus (Tool Bars)	11-08-2026		
	Creating Folders & Subfolders	17-08-2026		
UNIT-II	Creating & Saving new drawing	18-08-2026		
	Commands & options to create a drawing	24-08-2026		
	Commands & options to create a drawing	25-08-2026		
	Use of Units, Ortho, Grid, Snap, Limits	31-08-2026		
	Use of Units, Ortho, Grid, Snap, Limits	01-09-2026		
	Creating Layers & learn commands related to layers	07-09-2026		
	Creating Layers & learn commands related to layers	08-09-2026		
UNIT-III	Keyboard shortcuts & Adding Text, Leader etc.	14-09-2026		
	Keyboard shortcuts & Adding Text, Leader etc.	15-09-2026		
UNIT-IV	Use of Zoom, Pan, Regen, Undo, Redo etc.	21-09-2026		
	Use of Zoom, Pan, Regen, Undo, Redo etc.	22-09-2026		
	Use of Copy, Offset, Move, Trim, Rotate, Array, Scale	28-09-2026		

UNIT-IV	Use of Copy, Offset, Move, Trim, Rotate, Array, Scale	29-09-2026		
	Use of Divide, Break, Stretch, Erase, Extend, Explode	05-10-2026		
	Use of Divide, Break, Stretch, Erase, Extend, Explode	06-10-2026		
UNIT-V	Making & Inserting blocks & using X-ref	12-10-2026		
	Making & Inserting blocks & using X-ref	13-10-2026		
	Making & Inserting blocks & using X-ref	19-10-2026		
	Generating Layout, Viewports & formatting in Layout	27-10-2026		
	Generating Layout, Viewports & formatting in Layout	02-11-2026		
	Generating Layout, Viewports & formatting in Layout	03-11-2026		
	Dimensioning, Editing in dimensions & updating	09-11-2026		
	Dimensioning, Editing in dimensions & updating	10-11-2026		
	Dimensioning, Editing in dimensions & updating	16-11-2026		
	Plotting drawing, Print preview & Exporting file	17-11-2026		
	Plotting drawing, Print preview & Exporting file	23-11-2026		


 Signature of Teacher
 (Urvashti Sharma)


 Signature of HOD
 (Ar. Rajeev Bhardwaj)

Department of Architecture
Dr. B.R. Ambedkar Govt. Polytechnic Ambota
Distt. Una (H.P.) -177205

LESSON PLAN

Program Name	Architecture Assistantship
Subject Name	Seminar - I
Subject Code	ARPAEC - 3008
Semester	Third
Subject Teacher Name	Ms. Urvashi Sharma
Evaluation Scheme	

Sr. No.	Subject Name	Study Scheme		Marks in Evaluation Scheme				Total
		Hrs/Week		Internal Assessment		External Assessment		
		Th.	Pr.	Th.	Pr.	Th.	Pr.	
1	Seminar - I	0	2	0	40	0	60	100

Course Outcomes (Cos) : After completing the course, students will be able to

CO-1 Students will be able to make 2D architectural drawings for presentation purpose.

CO-2 Students will be able to familiarize with the latest software like CAD.

CO-3 Students will be able to inherent the requisite knowledge of the 2D software relevant to the demands of the

Chapter	Name of the Topic	Proposed date	Actual date	Remarks
UNIT-I	Presentation on Topic : Timber, Variety of Indian Timber, Characteristics and suitability for different uses, defects & decay, seasoning & preservation. (Under B.M.C. - II)	07-08-2026		
		14-08-2026		
		21-08-2026		
		11-09-2026		
		18-09-2026		
		25-09-2026		
	Presentation on Topic : Islamic Architecture in Imperial India - Slave, Khilji, Tughlak, Sayyid, Lodi (Under HOA-II)	09-10-2026		
		16-10-2026		
		23-10-2026		
		30-10-2026		
		06-11-2026		
		13-11-2026		
		20-11-2026		
		27-11-2026		


 Signature of Teacher
 (Urvashi Sharma)


 Signature of HOD
 (Ar. Rajeev Bhardwaj)