

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

LESSON PLAN

Program Name	Architecture Assistantship
Subject Name	ARCHITECTURE DESIGN -IV
Subject Code	ARPC-5001
Semester	5th
Subject Teacher Name	ARUN RANA

Evaluation Scheme		Study scheme (Hrs/Week)		Marks in Evaluation Scheme						
Sr. No	Subject Name				Internal Assessment			External Assessment		
		Th	Pr		Th	Pr	Total	Th	Pr	Total
1.	ARCH. DESIGN -V	1	6		40	40	80	60	60	120
Reference Books		1. Timesavers standards for Building Types. 2. Timesaver standards for Architectural design. 3. Metric Handbook Planning and Design Data. 4. National Building Code 5. 101 Hotel rooms by Corinna. 6. Hotel Design by Instituto Monsa. 7. Asian resorts by Tan Hock Beng.								

COURSE OBJECTIVE:

1. To understand the functional /planning aspects of institutional buildings.
2. To explore and learn the design intricacies of buildings of specific functions.
3. To Familiarize with the concept of multistory structure.

Course Outcomes (COs)

CO-1	Design of an institute campus such as Architecture, Medical, Law, Business, Music and Dance colleges, vocational training institutions etc. with detailed design of academic and library block. Emphasis on design with Barrier Free Environment can be explored during this exercise
CO-2	Design of Housing/ Multistory building with emphasis on construction system and vertical circulation.

Teaching Plan

	Name of Topic	Proposed Date	Actual Date	Remarks	
UNIT-I	Design of an institute campus such as Architecture, Medical, Law, Business, Music and Dance colleges, vocational training institutions etc. with detailed design of academic and library block. Emphasis on design with Barrier Free Environment can be explored during this exercise	12/8/24 (T)			
		14/8/24			
		17/8/24			
		19/8/24(T)			
		21/8/24			
		24/8/24			
		28/8/24			PROJECT -I
		31/8/24			
		2/9/24(T)			
		4/9/24			
		7/9/24			
		9/9/24(T)			
		11/9/24			
		16/9/24(T)			C.T-I
				18/9/24	
		21/9/24			

UNIT-II	Design of Housing/ Multistory building with emphasis on construction system and vertical circulation.	23/9/24(T)		
		25/9/24		PROJECT-II
		28/9/24		
		30/9/24(T)		
		5/10/24		
		7/10/24(T)		
		9/10/24		
		14/10/24(T)		C.T.-II
		16/10/24		
		19/10/24		HOUSE TEST
		21/10/24(T)		
		23/10/24		
		26/10/24		
		28/10/24(T)		
		30/10/24		
		2/11/24		
		4/11/24(T)		
		6/11/24		
		11/11/24(T)		
		13/11/24		
		16/11/24		
		18/11/24(T)		
		20/11/24		
		23/11/24		
		25/11/24(T)		
27/11/24				
30/11/24				
2/12/24(T)		VIVA		

Assignments

Assignment No.	Contents of Syllabus Covered	Proposed Date of submission	Actual Date	Remarks
P-1	UNIT -I	25/9/24		
P-2	UNIT--II	28/11/24		

House Test/Class Test

Name of test	Syllabus for Tests	Proposed Date	Actual Date	Remarks
Class Test -1	Unit-I,	As per HPTSB Academic Schedule		
Class Test -2	Unit-I,UNIT-II			
House Test	Unit-I to Unit- II			

Subject Teacher

Arun Rana

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HOD

LESSON PLAN

Program Name	Architecture Assistantship
Subject Name	MAJOR PROJECT
Subject Code	AR-5006
Semester	5th
Subject Teacher Name	ARUN RANA

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.	MAJOR PROJECT	-	2	-	40	40	-	60	60
Reference Books		Timesavers standards for Building Types.							
		Timesaver standards for Architectural design							
		Metric Handbook Planning and Design Data							

COURSE OBJECTIVE:

1. To acquaint students about the collection of data pertaining to project.
2. To familiarize student with prototype and site analysis of the project.
3. To make students learn the methods of report writing and presentation.

Course Outcomes (COs)

CO - 1	The students will be able to develop project report.
CO - 2	The students shall learn the background study of any architectural project.
CO - 3	Student will be able to develop and holistic approach towards architecture design process and this would eventually help them in bettering the Major project of VI semester

Teaching Plan

	Name of Topic	Proposed Date	Actual Date	Remarks
Project Brief	Introduction & topic finalization	22/08/24		
	Case Area Introduction/ Background	30/8/2024		
	Introduction & topic finalization	6/09/24		
	Case Area Introduction/ Background Context Site selection (validity of site/site feasibility) Project Concern, Why This Topic? Aim and Objectives Scope and Limitation (spatial) Context Site selection (validity of site/site feasibility) Project Concern, Why This Topic? Aim and Objectives Scope and Limitation (spatial)	13/9/2024		Synopsis/Viva

Methodology	Methodology Methodology chart intent (literature studies/case studies, aim and objectives, design development techniques/tools, list of physical proposals)	20/9/24		
Case Study/Literature Review	Case Study/Literature Review Case Studies: Two Live Case studies and one internet studies. Conceptual Literature: Concepts relevant to the architecture and research. Bylaws, design requirements along with area statement. Calculations (if required for the project)	<u>27/9/24</u>		viva
		<u>4/10/24</u>		
		<u>11/10/24</u>		
		<u>18/10/24</u>		
		<u>25/10/24</u>		
		<u>1/11/24</u>		viva
Site Analysis	Site Analysis Site Introduction: Location, area, proximity. Area statement and built up calculation Existing resources/structures within the site and surrounding Climate Analysis Surrounding/Site Morphology (Contour/topography) Local Architecture Character Building Construction techniques/material	8/11/24		
		22/11/24		
		<u>29/11/24</u>		Final Report & viva

Subject Teacher

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HOD

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Department of Architecture
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LESSON PLAN

Program Name	Architecture Assistantship
Subject Name	STRUCTURE DESIGN -II
Subject Code	ARPC-5003
Semester	5th
Subject Teacher Name	ARUN RANA

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.	STRUCTURE DESIGN-II	3	0	40	-	40	60	-	60
Reference Books		"R.C.C. Designs (Reinforced Concrete Structures)", Dr. B.C. Punmia, Ashok Kumar Jain and Arun Kumar Jain, Laxmi; Tenth edition, 2006. 2. "Reinforced Concrete, 6th Edition", S.K.Mallick and A.P.Gupta, Oxford & IBH Publishing Co. Pvt. Ltd. New Delhi, 1996. 3. R.C.C. Design by Birinder Singh, Kapson Publications 4. Design of Steel Structures by Subramaniam N -Oxford University 5. Design of Steel Structure by S.K. Duggal 6 Reinforcing Detailing of RCC members- T Rangaraju 7. R.C.C. Design by Birender Singh Kapson publishing house							

COURSE OBJECTIVE:

1. To understand the basic design principle involved in RCC and structural steel design.
2. To familiarize with basic terminologies of structural design.

Course Outcomes (COs)

CO -1	The student shall have developed the necessary skills to understand the basic concepts, terminologies, thumb rule and design processes related to RCC design and steel structures.
CO -2	Students will be able to understand and implement the Limit state method of structural analysis in architecture design.
CO-3	The student will be able to give structural design of components of RCC building

Teaching Plan

	Name of Topic	Proposed Date	Actual Date	Remarks
UNIT-I RCC-----LSM	Introduction: - Materials, basis properties of concrete and steel, Reinforcement, standard loading, characteristics strength, permissible stresses in Concrete and steel as per Indian Standard. Design Philosophies- Working Method. Ultimate Load, Method and Limit state Method. Limit State Design Method (as per IS: 456 (2000)) Safety and serviceability requirements, limit states, characteristic material strength and loads and partial safety factors.	3/9/24		
		5/9/24		
		7/9/24		
		10/9/24		
		12/9/24		C.T-I
		14/9/24		
		17/9/24		ASSIGNMENT -I
		19/9/24		
		21/9/24		
		24/9/24		
		26/9/24		
		28/9/24		

UNIT-II RCC----LSM	Calculation of moment of resistance of a simply supported beam. Design of singly reinforced rectangular simply supported beam as per IS Code. Design of one way simply supported slab. Concept of two way slab with the help of IS:456 Design of axially loaded long and short columns as per IS:456	1/10/24		
		3/10/24		
		5/10/24		
		8/10/24		
		10/10/24		
		15/10/24		C.T.-II
		19/10/24		ASSIGNMENT-1
		22/10/24		
Assignment -I	UNIT -I & UNIT-II	Date of submission --- 22/10/2024		
UNIT-III STEEL	Steel Structural Elements: Classification of sections in Limit State Method, Grades of Structural Steel, Terminology & Properties. Structural Connections: Bolted connections- types of Bolts, forces in Bolts, types of Bolted joints with Sketches. Welded connections- types of welds, forces in welds, type, defects in welds.	24/10/24		
		26/10/24		
		29/10/24		
		2/11/24		
		5/11/24		HOUSE TEST
		7/11/24		
		12/11/24		
		14/11/24		
UNIT-IV STEEL	Introduction to the concept of beams, column with single RS section as per IS: 800 and handbook. Hollow sections: General Shapes (Hot Rolled & Cold Form) and advantages & Applications	16/11/24		
		19/11/24		
		21/11/24		
		23/11/24		
		26/11/24		
		28/11/24		
		30/11/24		
		2/12/24		
Assignment -II	UNIT-III & UNIT-IV	Date of submission --- 28/11/2024		

Assignments

Assignment No	Contents of Syllabus Covered	Proposed Date of submission	Actual Date	Remarks
A-1	UNIT -I & UNIT -II	22/10/24		
A-2	UNIT-III & UNIT-IV	28/11/24		

House Test/Class Test

Name of test	Syllabus for Tests	Proposed Date	Actual Date	Remarks
Class Test -1	Unit-1,	As per HPTSB Academic Schedule		
Class Test -2	Unit-1,UNIT-II			
House Test	Unit-1 to Unit- III			

Subject Teacher

Munbaw

HOD

Department of Architecture

LESSON PLAN

Program Name	Architecture Assistantship
Subject Name	BUILDING MATERIAL & CONSTRUCTION-IV
Subject Code	ARBS&AE – 5002
Semester	Fifth
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-IV	1	6	40	40	80	60	60	120

Reference Books	The Construction of Buildings", Vol. 2, R Barry, Wiley, 2001
	Construction Technology" Vol. 1, Roy Chudley, Roger Greeno, Prentice Hall (UK), 2005.

Course Outcomes (COs)

CO – 1	Students will understand the construction system and importance of interior building components in different materials.
CO – 2	Students will appreciate various design intent and materials used for false ceilings, paneling ETC. & Students will understand the basics and usage of prefabrication in building construction.

Teaching Plan

Chapters	Name of Topic	Proposed Date	Actual Date	Remarks
UNIT-I Timber	Introduction to various materials, (TH.)	12/8/2024		
	Detailed drawings of false ceiling	13/8/2024		
	Detailed drawings of false ceiling (DCS)	16/8/2024		
	Products and hardware for false ceiling. (TH.)	19/8/2024		
	Detailed drawings of false ceiling	20/8/2024		
	Detailed drawings of false ceiling	22/8/2024		
	Detailed drawings of Curtain and Partition walls (DCS)	23/8/2024		
	Detailed drawings of Curtain and Partition walls	27/8/2024		
	Detailed drawings of Curtain and Partition walls	29/8/2024		
	Detailed drawings of Curtain and Partition walls (DCS)	30/8/2024		
	Curtain walls and Partition walls (TH.)	2/9/2024		
	Detailed drawings of boundary wall and gate.	3/9/2024		
	UNIT-II Wooden Joinery	Detailed drawings of boundary wall and gate.	5/9/2024	
Detailed drawings of boundary wall and gate. (DCS)		6/9/2024		
Introduction to Cladding materials of walls (TH.)		9/9/2024		
Detailed drawings of Brick Stones, tiles, Paneling Clading		10/9/2024		
Detailed drawings of Brick Stones, tiles, Paneling Clading		12/9/2024		
Class Test-I		13/9/2024		
Brick tiles, Stones, Vitreous tiles, Paneling (TH.)		16/9/2024		
Detailed drawings of Brick Stones, tiles, Paneling Clading		17/9/2024		
Detailed drawings of Expansion & construction joints		19/9/2024		
Detailed drawings of Expansion & construction joints (DCS)		20/9/2024		
Introduction to Expansion joints and construction joints (TH.)		23/9/2024		
Detailed drawings of Expansion & construction joints		24/9/2024		
Detailed drawings of Expansion & construction joints		26/9/2024		
Detailed drawings of Expansion & construction joints (DCS)		27/9/2024		
Conventions for doors and windows (TH.)		30/9/2024		
	Detail drawings of Aluminum doors and windows	1/10/2024		
	Detail drawings of Aluminum doors and windows	3/10/2024		
	Detail drawings of Aluminum doors and windows (DCS)	4/10/2024		
	Aluminum doors and windows types and their uses (TH.)	7/10/2024		
	Detail drawings of Aluminum doors and windows	8/10/2024		

UNIT-III Wooden Stairs & Floor	Detail drawings of Aluminum doors and windows	10/10/2024	
	Detail drawings of Aluminum doors and windows	11/10/2024	
	Introduction to PVC and UPVC for doors (TH.)	14/10/2024	
	Class Test-II	15/10/2024	
	Form-work for RCC columns, beams, (DCS)	18/10/2024	
	Introduction to PVC and UPVC for doors (TH.)	21/10/2024	
	Form-work for RCC columns, beams,	22/10/2024	
	Form-work for RCC columns, beams,	24/10/2024	
	Form-work for RCC columns, beams, (DCS)	25/10/2024	
	Aluminum doors and windows types and their uses (TH.)	28/10/2024	
	Form-work for RCC columns, beams,	29/10/2024	
	Form-work for RCC slabs, walls and stairs (DCS)	1/11/2024	
	Aluminum doors and windows types and their uses (TH.)	4/11/2024	
	House Test	5/11/2024	
House Test	7/11/2024		
UNIT-IV Roof & Roof Covering	House Test	8/11/2024	
	Timbering of trenches (TH.)	11/11/2024	
	Form-work for RCC slabs, walls and stairs	12/11/2024	
	Form-work for RCC slabs, walls and stairs	14/11/2024	
	Shoring, underpinning, scaffolding (TH.)	18/11/2024	
	Form-work for RCC slabs, walls and stairs	19/11/2024	
	Form-work for RCC slabs, walls and stairs	21/11/2024	
	Form-work for RCC slabs, walls and stairs (DCS)	22/11/2024	
	Form-work for RCC columns, beams, slabs (TH.)	25/11/2024	
	Form-work for RCC slabs, walls and stairs	26/11/2024	
	Form-work for RCC slabs, walls and stairs	28/11/2024	
	Form-work for RCC slabs, walls and stairs (DCS)	29/11/2024	
	Introduction to Prefabrication and its Applications (TH.)	2/12/2024	


Sig. of Teacher


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Department of Architecture
Dr BR Ambedkar Govt. Polytechnic Ambota
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LESSON PLAN

Program Name	Architecture Assistantship
Subject Name	EARTHQUAKE RESILIENT BUILDINGS
Subject Code	ARPE-5005 iii
Semester	5th
Subject Teacher Name	Bandna Dixit

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.	Earthquake Resilient Buildings	3	0	40	-	40	60	-	60
Reference Books		1. Earthquake Tips by C.V.R.Murty, IIT, Kanpur, Sponsored by BMTPC, New Delhi. 2. Repair and Seismic strengthening of buildings – Guidelines, IS:13935 - 2002							

COURSE OBJECTIVE:

1. To help the student to attain knowledge on earthquake resistant buildings construction through relevant IS code provisions.
2. To familiarize with terminologies involved in seismic design

Course Outcomes (COs)

CO-1	To know the causes and consequences of earthquakes
CO-2	To know about the design concepts of earthquake resisting buildings
CO-3	To understand the various retro fitting and restoration techniques for earthquake affected buildings.

Teaching Plan

	Name of Topic	Proposed Date	Actual Date	Remarks
UNIT-I	Basics of earthquake phenomena Causes Earthquake, Seismic Waves, Magnitude and Intensity Seismic Zones in India, Seismic Effects on Structures. Seismic Design Philosophy for Buildings.	3/9/24		
		5/9/24		
		7/9/24		
		10/9/24		
		12/9/24		C.T-I
		14/9/24		
		17/9/24		ASSIGNMENT -I
		19/9/24		
		21/9/24		
		24/9/24		
		26/9/24		
UNIT-II	Seismic Effects On Structures Buildings Ductility and their Earthquake Response. Indian Seismic Codes.	28/9/24		
		1/10/24		
		3/10/24		
		5/10/24		
		8/10/24		
		10/10/24		
		15/10/24		C.T.-II
19/10/24		ASSIGNMENT-I		
22/10/24				
Assignment -I	UNIT -I & UNIT-II	Date of submission --- 22/10/2024		

UNIT-III	Behavior and Improvements of Load Bearing construction (Adobe, Brick, Stone) during Earthquake. Effects and Improvements of Reinforced Concrete construction during Earthquake.	24/10/24		
		26/10/24		
		29/10/24		
		2/11/24		
		5/11/24		HOUSE TEST
		7/11/24		
		12/11/24		
		14/11/24		
UNIT-IV	Retro Fitting Measure for Traditionally Built Construction. Evaluation, Repair, Restoration and Seismic Strengthening of Buildings	16/11/24		
		19/11/24		
		21/11/24		
		23/11/24		
		26/11/24		
		28/11/24		
		30/11/24		
		2/12/24		
Assignment -II	UNIT-III & UNIT-IV	Date of submission ---		
		28/11/2024		

Assignments

Assignment No	Contents of Syllabus Covered	Proposed Date of submission	Actual Date	Remarks
A-1	UNIT -I & UNIT -II	22/10/24		
A-2	UNIT-III & UNIT -IV	28/11/24		

House Test/Class Test

Name of test	Syllabus for Tests	Proposed Date	Actual Date	Remarks
Class Test -1	Unit-I,	As per HPTSB Academic Schedule		
Class Test -2	Unit-I,UNIT-II			
House Test	Unit-I to Unit- III			

Subject Teacher

(Bandra Dixit)

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