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Department of Civil Engg.
Govt. Polytechnic for Women Rehan
Distt. - Kangra (H.P.) - 176022



LESSON PLAN

Program Name	Civil Engineering
Subject Name	Building Construction
Subject Code	CEPC207
Semester	3rd
Subject Teacher Name	Sonika Thakur

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 Construction	3	-	40	-	40	60	-	60
Reference Books		(1) S. P. Arora and Bindra., Building Construction, Dhanpat Rai Publication, Delhi. (2) Sushil Kumar., Building Construction, Standard Publication.							

Course Outcomes (COs)

CO - 1	Identify components of building structures
CO - 2	Propose suitable type of foundation for building structures
CO - 3	Select suitable type of masonry for building structures
CO - 4	Propose relevant means of communications for different types of buildings
CO - 5	Select relevant material for finishing works.

Teaching Plan

	Name of Topic	Proposed Date	Actual Date	Remarks
UNIT-I Overview of Building Components	Classification of Buildings as per National Building Code Group A to I	01/8/2024		
	Classification of Buildings as per Types of Constructions Load Bearing Structure, Framed Structure, Composite Structure.	03/8/2024		
	Building Components - Functions of Building Components	07/8/2024		
	Substructure – Foundation, Plinth	08/8/2024		
	Superstructure – Walls, Partition wall, Cavity wall, Sill, Lintel	14/8/2024		
	Superstructure – Doors and Windows, Floor, Roof, Columns, Beams, Parapet.	17/8/2024		
UNIT-II Construction of Substructure	Job Layout: Site Clearance, Layout for Load Bearing Structure and Framed Structure by Center Line	21/8/2024		
	Layout for Load Bearing Structure and Framed Structure by Face Line Method, Precautions.	22/8/2024		
	Earthwork: Excavation for Foundation, Timbering and Strutting, Earthwork for embankment, Material for plinth Filling	24/8/2024		
	Tools and plants used for earthwork,	28/8/2024		

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	Foundation: Functions of foundation Types of foundation – Shallow Foundation, Stepped Footing, Wall Footing, Column Footing, Isolated	29/8/2024		
	Types of foundation – Shallow Foundation Combined Column Footing, Raft Foundation, Grillage Foundation.	31/8/2024		
	Deep Foundation - Pile Foundation, Well foundation.	04/9/2024		
UNIT-III Construction of Superstructure	Stone Masonry: Terms used in stone masonry- facing, backing, hearting, through stone, corner stone, cornice.	05/9/2024		
	Types of stone masonry: Rubble masonry, Ashlar Masonry, and their types.	07/9/2024		
	Class Test-I	11/9/2024		
	Joints in stone masonry and their purpose. Selection of Stone Masonry	12/9/2024		
	Precautions to be taken in Stone Masonry Construction, Brick masonry: Terms used in brick masonry- header, stretcher, closer, quoins, course, face, back, hearting, bat bond, joints, lap, frog line, level and plumb	18/9/2024		
	Bonds in brick masonry- header bond, stretcher bond, English bond	19/9/2024		
	Bonds in brick masonry- Flemish bond. Requirements of good brick masonry.	21/9/2024		
	Junctions in brick masonry and their purpose and procedure, Precautions to be observed in Brick Masonry Construction.	25/9/2024		
	Comparison between stone and Brick Masonry, Tools and plants required for construction of stone and brick masonry	26/9/2024		
	Hollow concrete block masonry and composite masonry, Scaffolding and Shoring: Purpose, Types of Scaffolding	28/9/2024		
	Process of Erection and Dismantling. Purpose and Types of Shoring, Underpinning.	03/10/2024		
	Formwork: Definition of Formwork, Requirements of Formwork, Materials used in Formwork, Types of Formworks, Removal of formwork	05/10/2024		
	UNIT-IV Building Communication and Ventilation	Horizontal Communication: Doors – Horizontal Communication: Doors – Components of Doors Fully Panelled Doors, Partly Panelled and Glazed Doors, Flush Doors	09/10/2024	
Collapsible Doors, Rolling Shutters, Revolving Doors, Glazed Doors.		10/10/2024		

	Sizes of Door recommended by BIS. Windows: Component of windows	16/10/2024		
	Class Test-II	19/10/2024		
	Types of Windows - Fully Panelled, Partly Panelled and Glazed, Wooden, Steel, Aluminium windows, Sliding Windows,	23/10/2024		
	Louvered Window, Bay window, Corner window, clear-storey window, Gable and Dormer window, Skylight. Sizes of Windows recommended by BIS.	24/10/2024		
	Ventilators, Vertical Communication: Means of Vertical Communication- Stair Case, Terms used in staircase- steps, tread, riser, nosing, soffit, waist slab, baluster, balustrade, scotia, handrails, newel post, landing, headroom, winder	26/10/2024		
	Types of staircases (On the basis of shape): Straight, dog-legged, open well, Spiral, quarter turn, bifurcated, three quarter turn and Half turn,	02/11/2024		
	Types of staircases (On the basis of Material): Stone, Brick, R.C.C., wooden and Metal	02/11/2024		
UNIT-V Building Finishes	Floors and Roofs: Types of Floor Finishes and its suitability- Kota, Marble, Granite	06/11/2024		
	Ceramic Tiles, Vitrified, Concrete Floors, Wooden Flooring, Skirting and Dado	07/11/2024		
	Process of Laying and Construction, Finishing and Polishing of Floors	16/11/2024		
	Roofing Materials- RCC, Mangalore Tiles, AC Sheets, G.I. sheets, Corrugated G.I. Sheets, Plastic and Fibre Sheets..	20/11/2024		
	Types of Roofs: Flat roof, Pitched Roof-King Post truss, Queen Post Truss, terms used in roofs.	21/11/2024		
	Wall Finishes: Plastering – Necessity of Plastering, Procedure of Plastering, Single Coat Plaster, Double Coat Plaster, Rough finish, Neeru Finishing and Plaster of Paris (POP).	23/11/2024		
	Special Plasters- Stucco plaster, sponge finish, pebble finish. Plaster. Precautions to be taken in plastering, defects in plastering.	27/11/2024		
	Pointing – Necessity, Types of pointing and procedure of Pointing.	28/11/2024		
	Painting –Necessity, Surface Preparation for painting, Methods of Application	30/11/2024		

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Assignments

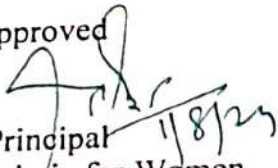
Assignment No	Contents of Syllabus Covered	Proposed Date	Actual Date	Remarks
A-1	Unit-1, Unit-2	05/9/2024		
A-2	Unit-3	02/11/2024		

House Test/Class Test

Name of test	Syllabus for Tests	Proposed Date	Actual Date	Remarks
Class Test -1	Unit-1, Unit-2	As per HPTSB Academic Schedule		
Class Test -2	Unit-3, Some topics of Unit-4			
House Test	Unit-1 to Unit-4			


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Govt. Polytechnic for Women
Rehan Distt. Kangra (H.P.)



Department of Civil Engg.
Govt. Polytechnic for Women Rehan
Distt. - Kangra (H.P.) - 176022

LESSON PLAN

Program Name	Civil Engineering
Subject Name	Estimating and Costing
Subject Code	CEPC303
Semester	5th
Subject Teacher Name	Sonika Thakur

Evaluation Scheme

Sr. No	Subject Name	Study scheme (Hrs/Week)		Marks in Evaluation Scheme					
				Internal Assessment			External Assessment		
				Th	Pr	Total	Th	Pr	Total
1.	Estimating and Costing	4	-	40	-	40	60	-	60
Reference Books		(1) Dutta, B.N., Estimating and Costing in Civil engineering, UBS Publishers Distributors Pvt. Ltd. New Delhi. (2) Rangwala, S.C., Estimating and Costing, Charotar Publishing House PVT. LTD. ,Anand							

Course Outcomes (COs)

CO - 1	Select modes of measurements for different items of works
CO - 2	Prepare approximate estimate of a civil engineering works
CO - 3	Prepare detailed estimate of a civil engineering works
CO - 4	Use relevant software for estimating the quantities and cost of items of works
CO - 5	Justify rate for given items of work using rate analysis techniques

Teaching Plan

	Name of Topic	Proposed Date	Actual Date	Remarks
UNIT-I Introduction	Meaning of the terms estimating & costing, Purpose of estimating and costing,	12/8/2024		
	Types of Estimates-Approximate and Detailed, Approximate estimate Types, Plinth area rate method,	14/8/2024		
	Cubic Content method, Approximate Quantity method	16/8/2024		
	Types of detailed estimate-Detailed estimate for new work, Revised estimate	21/8/2024		
	Supplementary estimate, Repair & Maintenance estimate	22/8/2024		
UNIT-II Measurement	Units of measurement for various items of work as per BIS: 1200	23/8/2024		
	Units of measurement for various items of work as per BIS: 1200	28/8/2024		
	Rules for measurements.	29/8/2024		
	Different methods of taking out quantities- and long wall and short wall method. numerical problem on long wall and short wall method	30/8/2024		
	Centre line method , numerical problem on Centre line method	02/9/2024		
	Detailed Estimate for One room residential building with flat roof	04/9/2024		

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	Detailed Estimate for One room residential building with flat roof	05/9/2024			
	Detailed Estimate for One room residential building with flat roof	06/9/2024			
	Detailed Estimate for One room residential building with flat roof	09/9/2024			
	Class Test-I	11/9/2024			
	Detailed Estimate for One room residential building with flat roof and its abstract of Cost	12/9/2024			
	Detailed Estimate for two room residential building with flat roof	13/9/2024			
	Detailed Estimate for two room residential building with flat roof	16/9/2024			
	Detailed Estimate for two room residential building with flat roof	18/9/2024			
	Detailed Estimate for two room residential building with flat roof	19/9/2024			
	Detailed Estimate for two room residential building with flat roof and its abstract of Cost	20/9/2024			
	Detailed Estimate for septic tank for 10 users	23/9/2024			
	Detailed Estimate and abstract of cost for septic tank for 10 users	25/9/2024			
UNIT-IV Road Estimation	Detailed Estimate for Plain Road with mid-sectional area method (calculation of earthwork)	26/9/2024			
	Numerical Problems on Plain Road with mid-sectional area method	27/9/2024			
	Numerical Problems on Plain Road with mid-sectional area method	30/9/2024			
	Numerical Problems on Plain Road with mid-sectional area method	03/10/2024			
	Numerical Problems on Plain Road with mid-sectional area method	04/10/2024			
	Mean Sectional Area Method, Numerical Problems on Plain Road by using mean sectional area method	07/10/2024			
	Numerical Problems on Plain Road by using mean sectional area method	09/10/2024			
	Prismoidal Method, Numerical Problems on Plain Road by using Prismoidal method	10/10/2024			
	Numerical Problems on Plain Road by using Prismoidal method	11/10/2024			
	Estimation for Hill Roads, Numerical Problems on Hill Roads	14/10/2024			
	Numerical Problems on Hill Roads	16/10/2024			
		CLASS TEST-II	18/10/2024		
	UNIT-V	Calculation of quantities of materials for Cement mortars of different proportion, RCC work in different proportions	21/10/2024		

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Analysis of Rates	Calculation of quantities of materials for Brick masonry/stone masonry in cement mortar	23/10/2024		
	Calculation of quantities of materials for Plastering and pointing work	24/10/2024		
	Calculation of quantities of materials for Whitewashing and painting	25/10/2024		
	Analysis of rates for earthwork (numerical)	01/11/2024		
	Analysis of rates for Cement concrete of different proportion(numerical)	02/11/2024		
	Analysis of rates for RCC work in different proportions	04/11/2024		
	Analysis of rates for Brick/stone masonry in cement mortar	06/11/2024		
	Analysis of rates for Plastering and pointing	07/11/2024		
	Analysis of rates for Whitewashing, painting	07/11/2024		
Unit-VI Contracts And Tendering	Meaning of contract, Qualities of a good contractor and their qualifications.	08/11/2024		
	Essentials of a contract, Types of contracts, their advantages, dis-advantages and suitability	18/11/2024		
	Types of contracts, their advantages, dis-advantages and suitability	20/11/2024		
	Types of contracts, their advantages, dis-advantages and suitability	21/11/2024		
	System of payment- Single and two cover-bids, Tender, tender forms and documents, Tender notice	22/11/2024		
	Submission of tender and deposit of earnest money, security deposit, retention money, maintenance period, Administrative approval, Technical sanction,	25/11/2024		
	Budget provision, Expenditure sanction, Methods for carrying out works- contract method. •	27/11/2024		
	Preparation of Tender Document based on Common Schedule Rates (CSR)	28/11/2024		
	Preparation of Tender Document based on Common Schedule Rates (CSR)	29/11/2024		
	Introduction to CSR and calculation of cost based on premium on CSR	02/12/2024		

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Assignments

Assignment No	Contents of Syllabus Covered	Proposed Date	Actual Date	Remarks
A-1	Unit-1, Unit-2, Unit-3(one topic)	13/09/2024		
A-2	Unit-3,Unit-4,Unit-5	14/11/2024		

House Test/Class Test

Name of test	Syllabus for Tests	Proposed Date	Actual Date	Remarks
Class Test -1	Unit-1,Unit-2	As per HPTSB Academic Schedule		
Class Test -2	Unit-3,Unit-4(some topics)			
House Test	Unit-1 to Unit-4			



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LESSON PLAN

Program Name	Civil Engineering
Subject Name	Computer Applications in Civil Engg
Subject Code	CEPC309
Semester	5th
Subject Teacher Name	Sonika Thakur

Evaluation Scheme			Marks in Evaluation Scheme						
Sr. No.	Subject Name	Study scheme (Hrs/Week)		Internal Assessment			External Assessment		
		Th	Pr	Th	Pr	Total	Th	Pr	Total
1.	Computer Applications in Civil Engg	-	04	-	40	40	-	60	100
Reference Books		Reference Manual of AutoCAD by Auto Desk							

Course Outcomes (COs)

CO – 1	Apply the basic commands In Auto CAD
CO – 2	Apply the Drawing Editing And Dimensioning Commands
CO – 3	Prepare working Draings with the help of Auto CAD
CO – 4	Use of Artificial Intelligence in the field of Building Design.

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Teaching Plan

	Name of Topic	Proposed Dated		Actual Date		Remarks
		Group-1	Group-2	Group-1	Group-2	
Unit I Introduction	Starting up of Auto CAD, Auto CAD Window, Toolbar, drop down menu, Command window, saving the drawing, Introduction of Graphic screen.	13/8/2024 16/8/2024	17/8/2024 22/8/2024			
Unit II Drawing, Editing, Dimensioning Commands	Co-ordinates, drawing limits, grid, snap, orthographic features.	20/8/2024 23/8/2024	22/8/2024			
	Drawing commands, line, circle, poly-line, multiline, ellipse, polygon etc.	27/8/2024 30/8/2024 03/9/2024	24/8/2024 29/8/2024			
	Editing commands – Copy, move, offset, fillet, chamfer, trim, lengthen, mirror, rotate, array etc.	06/9/2024 10/9/2024 13/9/2024	31/8/2024 05/9/2024			
	Working with hatches, fills, dimensioning, text etc	17/9/2024 20/9/2024	07/9/2024 12/9/2024			
Unit-III Submission/ Working Drawing	Drawing T, L, I, E, H with absolute coordinate system	24/9/2024 27/9/2024 01/10/2024	19/9/2024 21/9/2024 26/9/2024			
	Drawing T, L, I, E, H with consecutive coordinate system	04/10/2024 08/10/2024 11/10/2024	28/9/2024 03/10/2024 05/10/2024			
	Drawing T, L, I, E, H with polar coordinate system	15/10/2024 18/10/2024 22/10/2024	10/10/2024 19/10/2024 24/10/2024			
	Preparation of line plan of a residential building	25/10/2024 01/11/2024	26/10/2024 02/11/2024			
	Preparation of detailed plan of a two-room residential building, Elevation, Section,	05/11/2024 08/11/2024 19/11/2024 22/11/2024	07/11/2024 16/11/2024 21/11/2024 23/11/2024			

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	Site Plan (using different type of layers)					
	Introduction to STAAD Pro, Introduction to MS Project/Primavera	26/11/2024	28/11/2024			
Unit IV	Unit IV: Use of artificial Intelligence in Building Design	29/11/2024	30/11/2024			




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