

<b>RGPV (DIPLOMA WING) BHOPAL</b>		<b>OBE CURRICULUM FOR Building Drawing and CAD</b>		<b>FORMAT-3</b>	<b>Sheet No. 1/3</b>
<b>Branch</b>	<b>Civil Engineering/ Construction Technology and Management</b>		<b>Semester</b>	<b>III</b>	
<b>Course Code</b>	<b>C03/C05</b>	<b>Course Name</b>	<b>Building Drawing and CAD</b>		
<b>Course Outcome 1</b>	Draw various types of lines, graphical symbols; recognize types of plan and appropriate scale used.			<b>Teach Hrs</b>	<b>Marks</b>
<b>Learning Outcome 1</b>	Draw various types of lines, graphical symbols for materials, doors and windows, symbols for sanitary, water supply and electrical installations and write abbreviations as per IS 962.			5	8
<b>Contents</b>	<p>Conventions as per IS: 962 for materials used in construction.</p> <p>Graphical symbols for doors and windows, Abbreviations, symbols for water supply, sanitary and electrical installations.</p> <p>Types of lines- visible lines, centre line, hidden line, section line.</p>				
<b>Method of Assessment</b>	Sketch book/ drawing work assessment.				
<b>Learning Outcome 2</b>	Recognize various line types, symbols given in an existing drawing (One/Two BHK), types of plan and appropriate scale used.			5	8
<b>Contents</b>	<p>Study of existing building drawings,</p> <p>Selection of scale for various types of plans viz Index Map, Key plan, Site plan, Layout plan etc.</p>				
<b>Method of Assessment</b>	Pen paper test.				
<b>Course Outcome 2</b>	<b>Prepare line plans of residential/ public buildings applying principles of Planning and bye-laws.</b>			<b>Teach Hrs</b>	<b>Marks</b>
<b>Learning Outcome 1</b>	<b>Explain principles of Planning, space requirement norms and bye-laws</b>			12	18
<b>Contents</b>	<p>Principles of planning for Residential and Public building- Aspect, Prospect, Orientation, Grouping, Privacy, Elegance, Flexibility, Circulation, Furniture requirements, Sanitation, Economy.</p> <p>Space requirement and norms for minimum dimension of different units in the residential and public buildings as per IS 962.</p> <p>Rules and bye-laws of sanctioning authorities for construction work.</p>				

	Plot area, built up area, super built up area, plinth area, carpet area, floor area and Floor Area Ratio. Basics of planning of staircase, Rise and Tread for residential and public building.		
<b>Method of Assessment</b>	Pen paper test		
<b>Learning Outcome 2</b>	Draw line plan of given residential Building	6	9
<b>Contents</b>	Method of preparing line plan of a residential building to suitable scale (Minimum 1BHK, staircase, WC and Bathroom) applying principles of planning.		
<b>Method of Assessment</b>	Sketch book/ drawing work assessment.		
<b>Learning Outcome 3</b>	Draw line plan of given public building	6	9
<b>Contents</b>	Method of preparing line plan of public building-school building/ primary health centre/ restaurant/bank/post office/ hostel/ Function Hall and Library applying principles of planning. (Any one)		
<b>Method of Assessment</b>	Sketch book/ drawing work assessment.		
<b>Course Outcome 3</b>	<b>Prepare submission and working drawing of given buildings</b>	Teach Hrs	Marks
<b>Learning Outcome 1</b>	<b>Recognize development of plan from line plan of a residential building</b>	9	12
<b>Contents</b>	Method of development of plan from line plan of a residential building (2 BHK with Stair Case),		
<b>Method of Assessment</b>	Drawing work assessment.		
<b>Learning Outcome 2</b>	Draw submission drawing of single story load bearing type residential building and two storied framed structure type residential building,	15	21
<b>Contents</b>	Submission drawing, plan, elevation, section, site plan, schedule of openings, construction notes with specifications, area statement. Development of plan, Elevation, Section. Site plan, area statement, schedule of opening and construction notes.		
<b>Method of Assessment</b>	Drawing work assessment.		
<b>Learning Outcome 3</b>	Draw working drawing of above single story load bearing type residential building or two storied residential building (Framed structure type)	12	15

<b>Contents</b>	Working drawing – Plan, elevation, section passing through staircase or WC and bath. Foundation plan of Framed Structure. Details of RCC footing, Column, Beam, Chajjas, Lintel, Staircase and slab.		
<b>Method of Assessment</b>	Drawing work assessment.		
<b>Course Outcome 4</b>	<b>Prepare submission and working drawing of given buildings using CADD</b>	Teach Hrs	Marks
<b>Learning Outcome 1</b>	<b>Recognize various CAD software and use CAD commands</b>	20	
<b>Contents</b>	Various CAD software available in the market: AutoCAD, Felix Cad, Auto Civil, 3D Max etc.); Starting up of CAD, CAD Window, Tool bar, Drop down menu, command window, Saving of drawing. Introduction of graphic screen, WCS icon, UCS icon, co-ordinates, drawing limits, grid, snap, ortho features. Drawing commands, line, circle, polyline, multiline, ellipse, polygon etc. Editing commands – Copy, move, offset, fillet, chamfer, trim, lengthen, mirror, rotate, array etc. Working with hatches, fills, dimensioning, text etc. working with layers,		
<b>Method of Assessment</b>	Drawing work assessment.		
<b>Learning Outcome 2</b>	Draw and print submission drawing of two storied residential building (Framed structure type)	27	
<b>Contents</b>	Using CAD commands draw and print submission drawing of two storied residential building (Framed structure type)		
<b>Method of Assessment</b>	Drawing work assessment.		
<b>Learning Outcome 3</b>	Draw and print working drawing of above two storied residential building (Framed structure type)	18	
<b>Contents</b>	Using CAD commands draw and print working drawing of two storied residential building (Framed structure type)		
<b>Method of Assessment</b>	Drawing work assessment.		

**List of Sketches / Drawings to be prepared:**

<b>A. Sketch Book</b>	
<b>1</b>	Draw various types of lines, graphical symbols for materials, doors and windows, symbols for sanitary, water supply and electrical installations and write abbreviations as

	per IS 962.
<b>2</b>	Write summary of observations of all technical details from the given drawing (One/Two BHK) obtained from the professional architect or civil engineer (Group activity in four students)
<b>3.</b>	a) Measure the units of existing building (Load Bearing / Frame structure). b) Draw line plan of measured existing building at <b>serial no 3a</b> to the suitable scale.
<b>4.</b>	Draw line plan to suitable scale (Minimum 1BHK, staircase, WC and Bathroom) a) Residential Bungalows ( Minimum three plans) b) Apartment ( Minimum two plans)
<b>5.</b>	Draw line plans to suitable scale for any <b>three</b> Public Buildings from the following- (School Building, Primary Health Centre, Bank, Post Office, Hostel, Restaurant, Community Hall and Library).
<b>6.</b>	Draw the following plans for a Framed Structure (One/Two BHK) from given line plan. a. Developed plan, Elevation b. Section for above developed plan. c. Site plan for above drawings including area statement, schedule of opening and construction notes.
<b>B</b>	<b>Full Imperial Size Sheet (A1)</b>
<b>1.</b>	Draw submission drawing to the scale 1:100 of a single storey load bearing residential building (2BHK) with flat Roof and staircase showing: a) Developed plan and elevation b) Section passing through Stair <b>or</b> W.C. and Bath c) Foundation plan and schedule of openings. d) Site plan (1:200), area statement, construction notes.
<b>2.</b>	Draw submission drawing, to the scale of 1:100, of (G+1) Framed Structure Residential Building (2BHK) with Flat Roof and staircase showing: a) Developed plan . b) Elevation. c) Section passing through Staircase, WC and Bath d) Site plan (1:200) and area statement e) Schedule of openings and Construction Notes.
<b>3.</b>	Draw the above mentioned drawing at serial number (B-2) using CAD software and enclose the print out:

	<ul style="list-style-type: none"><li>a) Developed plan</li><li>b) Elevation.</li><li>c) Section passing through Staircase, W.C. and Bath</li><li>d) Foundation plan .</li><li>e) Site plan (1:200), area statement, Schedule of openings and construction notes.</li></ul>
<b>4</b>	<p>Draw working drawing for above mentioned drawing at serial number (B-2) showing:</p> <ul style="list-style-type: none"><li>a) Foundation plan to the scale 1:50</li><li>b) Detailed enlarged section of RCC column and footing with plinth filling.</li><li>c) Detailed enlarged section of RCC Beam, Lintel and Chajjas.</li><li>d) Detailed enlarged section of RCC staircase and slab.</li></ul>