

Course Title: Computer Aided Building Planning and Drawing [As per Choice Based Credit System (CBCS) scheme] SEMESTER: V			
Subject Code	15CV54	IA Marks	20
Number of Lecture Hours/Week	04 (1hr Instructions + 3hr Drawing)	Exam Marks	80
Total Number of Lecture/Practice Hours	50	Exam Hours	03
CREDITS – 04		Total Marks-100	
Course objectives: Provide students with a basic understanding <ul style="list-style-type: none"> • Achieve skill sets to prepare computer aided engineering drawings • Understand the details of construction of different building elements. • Visualize the completed form of the building and the intricacies of construction based on the engineering drawings. 			
Modules		Teaching Hours	Revised Bloom's Taxonomy (RBT) Level
Module:1			
Drawing Basics: Selection of scales for various drawings, thickness of lines, dimensioning, abbreviations and conventional representations as per IS: 962 Simple engineering drawings with CAD drawing tools : Lines, Circle, Arc, Polyline, Multiline, Polygon, Rectangle, Spline, Ellipse, Modify tools: Erase, Copy, Mirror, Offset, Array, Move, Rotate, Scale, Stretch, Lengthen, Trim, Extend, Break, Chamfer and Fillet, Using Text: Single line text, Multiline text, Spelling, Edit text, Special Features: View tools, Layers concept, Dimension tools, Hatching, Customising toolbars, Working with multiple drawings		12 Hours	L1,L2
Module:2			
Drawings Related to Different Building Elements: Following drawings are to be prepared for the data given using CAD Software <ol style="list-style-type: none"> a) Cross section of Foundation, masonry wall, RCC columns with isolated & combined footings. b) Different types of bonds in brick masonry c) Different types of staircases – Dog legged, Open well d) Lintel and chajja e) RCC slabs and beams f) Cross section of a pavement g) Septic Tank and sedimentation Tank 		12 Hours	L2,L3,L4,L5,L6

<p>h) Layout plan of Rainwater recharging and harvesting system</p> <p>i) Cross sectional details of a road for a Residential area with provision for all services</p> <p>j) Steel truss (connections Bolted)</p> <p><i>Note: Students should sketch to dimension the above in a sketch book before doing the computer drawing</i></p>		
Module -3:		
<p>Building Drawings: Principles of planning, Planning regulations and building bye-laws, factors affecting site selection, Functional planning of residential and public buildings, design aspects for different public buildings. Recommendations of NBC.</p> <p>Drawing of Plan, elevation and sectional elevation including electrical, plumbing and sanitary services <i>using CAD software</i> for:</p> <ol style="list-style-type: none"> 1. Single and Double story residential building 2. Hostel building 3. Hospital building 4. School building 5. <i>Submission drawing (sanction drawing) of two storied residential building with access to terrace including all details and statements as per the local bye-laws</i> <p>Note:</p> <ul style="list-style-type: none"> • Students should sketch to dimension the above in a sketch book before doing the computer drawing • <i>One compulsory field visit/exercise to be carried out.</i> • Single line diagrams <i>to be given in the examination.</i> 	<p>26 Hours</p>	<p>L2,L3,L4,L5,L6</p>
<p>Course Outcomes: After studying this course, students will be able to</p> <ol style="list-style-type: none"> 1. Gain a broad understanding of planning and designing of buildings 2. Prepare, read and interpret the drawings in a professional set up. 3. Know the procedures of submission of drawings and Develop working and submission drawings for building 4. Plan and design a residential or public building as per the given requirements 		
<p>Program Objectives</p> <ul style="list-style-type: none"> • Engineering knowledge • Problem analysis • Interpretation of data 		
<p>Question paper pattern:</p> <ul style="list-style-type: none"> • There will be two full questions with sub divisions if necessary from Module 2 with each full question carrying <u>thirty</u> marks. Students have to answer one question. • There will be two full questions from Module 3 with each full question carrying <u>fifty</u> marks. Students have to answer one question. 		

- The conduction of examination and question paper format of should be in lines of 1st year CAED drawing. It's a drawing paper but the exam will be conducted by batches in the computer labs. question papers should be given in batches

Text book:

1. MG Shah, CM Kale, SY Patki, "**Building drawing with an integrated approach to Built Environment Drawing**", Tata Mc Graw Hill Publishing co. Ltd., New Delhi
2. Gurucharan Singh, "**Building Construction**", Standard Publishers, & distributors, New Delhi.
3. Malik R S and Meo G S, "**Civil Engineering Drawing**", Asian Publishers/Computech Publications Pvt Ltd.

Reference Books:

1. Time Saver Standard by Dodge F. W., F. W. Dodge Corp.,
2. IS: 962-1989 (Code of practice for architectural and building drawing)
3. **National Building Code**, BIS, New Delhi.