

<b>Course Title: Software Application Lab</b> As per Choice Based Credit System (CBCS) scheme] SEMESTER:VI			
Subject Code	15CVL67	IA Marks	20
Number of Lecture Hours/Week	1I+2P	Exam Marks	80
Total Number of Lecture Hours	40	Exam Hours	03
<b>CREDITS –02</b>		<b>Total Marks- 100</b>	
<b>Course objectives:</b> This course will enable students to			
<ol style="list-style-type: none"> <li>1. Use industry standard software in a professional set up.</li> <li>2. understand the elements of finite element modeling, specification of loads and boundary condition, performing analysis and interpretation of results for final design</li> <li>3. Develop customized automation tools</li> </ol>			
<b>Modules</b>		<b>Teaching Hours</b>	<b>Revised Bloom's Taxonomy (RBT) Level</b>
<b>Module -1</b>			
<b>Use of civil engineering softwares:</b> Use of softwares for:		18 hours	L1,L2,L3
<ol style="list-style-type: none"> <li>1. Analysis of plane trusses, continuous beams, portal frames</li> <li>2. 3D analysis of multistoried frame structures</li> </ol>			
<b>Module -2</b>			
<ol style="list-style-type: none"> <li>1. <b>Project Management- Exercise on Project planning and scheduling of a building project using any project management software:</b> <ol style="list-style-type: none"> <li>a. Understanding basic features of Project management software</li> <li>b. Constructing Project: create WBS, Activities, and tasks and Computation Time using Excel spread sheet and transferring the same to Project management software.</li> <li>c. Identification of Predecessor and Successor activities with constrain</li> <li>d. Constructing Network diagram (AON Diagram) and analyzing for Critical path, Critical activities and Other non Critical paths, Project duration, Floats.</li> <li>e. Study on various View options available</li> <li>f. Basic understanding about Resource Creation and allocation</li> <li>g. Understanding about Splitting the activity, Linking multiple activity, assigning Constrains, Merging Multiple projects, Creating Baseline Project (9hrs)</li> </ol> </li> <li>1. <b>GIS applications using open source software:</b> <ol style="list-style-type: none"> <li>a. To create shape files for point, line and polygon features with a map as reference.</li> <li>b. To create decision maps for specific purpose. (3hrs)</li> </ol> </li> </ol>		12 hours	L1,L2,L3
<b>Module -3</b>			
<b>Use of EXCEL spread sheets:</b> Design of singly reinforced and doubly reinforced rectangular beams, design of one way and two way slabs, computation of earthwork, Design of horizontal curve by offset method, Design of super elevation		10 Hours	L1,L2,L3
<b>Course Outcomes:</b> After studying this course, students will be able to: use software skills in a professional set up to automate the work and thereby reduce cycle time for completion of the work			
<b>Program Objectives:</b> <ul style="list-style-type: none"> <li>• Engineering knowledge</li> <li>• Problem analysis</li> <li>• Interpretation of data</li> </ul>			
<b>Question paper pattern:</b> <ul style="list-style-type: none"> <li>• The question paper will have 3 modules comprising of 6 questions.</li> <li>• There will be two full questions (with a maximum of three subdivisions, if necessary) from each module.</li> <li>• Each full question shall cover the topics as a module</li> <li>• Module-1: 40 Marks, Module-2: 20 Marks, Module-3: 20 Marks</li> <li>• The students shall answer three full questions, selecting one full question from each module. If more than one question is answered in modules, best answer will be considered for the award of marks limiting one full question answer in each module.</li> </ul>			
<b>Reference Books:</b> Training manuals and User manuals and Relevant course reference books			