4/4 B.Tech. SEVENTH SEMESTER

CE7L1   **GIS AND CAD LAB**   **Credits: 2**
Lecture: **Internal assessment: 30 marks**
Tutorial: 3 period /week   **Semester end examination: 70 marks**

Pre-requisites: Remote sensing and GIS, Structural Analysis-I, Structural Analysis-II, DDCS- I, DDCS- II, DDSS.

Course outcomes:
At the end of course, the student will be able to:
1. Generate the thematic map from digitised map. Estimate the features and develop the digital elevation model
2. Apply GIS in Water Resource Engineering & Transportation Engineering
3. Analyse and design of a 2D frames and trusses
4. Do the analysis and design for a 3D frame
5. Analyse and design a Retaining wall and a Tower

GIS:
SOFTWARE:
1. Arc GIS 9.0
2. ERDAS 8.7
3. Map info 6.5
Any one or Equivalent.
EXCERCISES:
1. Digitization of Map/Toposheet
2. Creation of thematic maps
3. Study of features estimation
4. Developing Digital Elevation model
5. Simple applications of GIS in water Resources Engineering & Transportation Engineering

CAD:
SOFTWARE:
1. STAAD PRO or Equivalent
EXCERCISIES:
1. 2-D Frame Analysis and Design
2. Steel Tubular Truss Analysis and Design
3. 3-D Frame Analysis and Design
4. Retaining Wall Analysis and Design
5. Simple tower Analysis and Design

Learning resources:
Text Books:
1. Concept and Techniques of GIS by C.P.L.O. Albert, K.W. Yong, Prentice Hall Publishers.