Marwadi University
Marwadi Chandarana Group

Bachelor of Technology

Civil Engineering

Computer Application in Civil Engineering - III

01CI1505

Objective of the Course:

- To make students understands about simulation of traffic conditions in any urban area
- To impart knowledge to the students on optimization of signal timing and designing
- Student can design and analyze the Geotech field problem using Geo5 software

Credit Earned: 01

Student's learning outcomes:

After successful completion of the course, it is expected that students will be able to,

1. Construct Computer aided drawing and analyze various influencing traffic parameters for nodes and links in transportation project.
2. Design and optimize signal cycle time as per traffic condition
3. Design and analyze the shallow foundation as per field condition
4. Design and analyze the cantilever retaining wall as per field condition

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA (M)	CSE (I)	Viva (V)	Term Work (TW)	
00	00	02	01	-	-	-	25	25	50

Detailed Syllabus

Sr No.	List of Practicals	Number of hours
	PART-A VISSIM	
1	**Introduction**	**4**
	Introduction - VISSIM, Applications and Various Technical Terms and Theories	
2	**Network Generation**	**2**
	Simple Cross Road, Intersection with Turning Movement	
3	**Route Assignment and Road Geometric parameters**	**4**
	Vehicle Input and Route Assignment, Conflict Point – concept and speed reduction	
4	**Traffic Signal Design**	**4**

PART-B Geo5		
5	**Introduction**	**2**
	Introduction – Geo5, Applications and Various Module in the Geo5	
6	**Design and Analysis of Spread Footing**	**6**
	Geometry Preparation, Soil Profile, Analyzed the structure, Result Interpretation	
7	**Design and Analysis of Cantilever Wall**	**6**
	Geometry Preparation, Soil Profile, Analyzed the structure, Result Interpretation	
	Total	**28**

Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve an effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
10%	25%	10%	35%	20%	00%

Instructional Method and Pedagogy:

1. Presence in all academic sessions is mandatory which shall carry 5% marks of the total internal evaluation.
2. At the end of each unit/topic an practice problem based on the course content shall be given to the students which shall carry 5% weightage for timely completion and submission of the assigned work.

Recommended Study Material

1. Lab Manual on VISSIM by Ptv VISSIM.
2. Geo5 Use's Guide, Version 19.