19CE3751- COMPUTER APPLICATIONS IN CIVIL ENGINEERING LAB

Letture-Tutorial: Practical: Practical: Continuous 25	Co]	Program Core							Credits:			1.5			
Prerequisites: Nil	Course Type:														0-0-3	
Prerequisites: Nil													25			
Experiment No.2 Experiment No.3 Experiment No.4 Experiment No.5 Experiment No.4 Experiment No.5 Experiment No.4 Experiment No.5 Experiment No.4 Experiment No.5 Experiment No.4 Experiment No.5 Experiment		Prereau	Nil													
Upon successful completion of the course, the student will be able to:	Troroquisitos.														50	
Upon successful completion of the course, the student will be able to:				Total Marks:											75	
CO1 Explore and evaluate open-source software applications in civil engineering					1		. 1		1 11							
CO2 Analyse and design structural elements using STAAD Software K2											:.:1				IZ A	
CO3												ngineeri	ng		_	
CO5 Control time schedule and allocate resources for projects using Project management software K3												o ftxxxomo				
Cost Control time schedules and generate reports using Project management software K3			v					<u> </u>								
Contribution of Course Outcomes towards achievement of Program Outcomes											•			are		
POI POZ PO3 PO4 PO5 PO6 PO7 PO8 PO9 PO10 PO11 PO12 PS01 PS02	003												KS			
CO1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		PO1												PSO1	PSO2	
CO2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	CO1															
CO3 2 2 2 2 2 2 2 2 2	-		2		2											
CO4 2 2 2 2 2 2 2 2 2																
CO2 Introduction to various computer applications in Civil Engineering, Listing out various open source software's available. Download and explore any one open source software in related to civil engineering application and prepare a report and record the same. List of Analysis or Design to be performed using Various software STAAD.Pro I. Introduction to STAAD Pro software and basic beam analysis. 2. Analysis and design of structures subjected to wind and earthquake loads. (minimum five storey), Typical detailing of structural elements. 3. Analysis and design of steel truss. List of experiments to be performed by Geographical Information System (GIS) I. Creation and analysis of spatial data using GIS. 2. Generation of maps and reports based on specific queries. 3. Simple applications of GIS in water Resources Engineering & Transportation Engineering Transportation Engineering by CONSTRUCTION MANAGEMENT APPLICATIONS (either using PRIMAVERA or MS PROJECT or any other open source software). Experiment No.4 Planning and Scheduling of residential project using PERT and CPM Techniques. Resource Allocation for activities of residential project List of experiments to be performed by CONSTRUCTION MANAGEMENT APPLICATIONS (either using PRIMAVERA or MS PROJECT or any other open source software). Planning and Scheduling of residential project using PERT and CPM Techniques. Resource Allocation for activities of residential project List of experiments to be performed by CONSTRUCTION MANAGEMENT APPLICATIONS (either using PRIMAVERA or MS PROJECT or any other open source software). CO4 CPM Techniques. CO5 CPM Techniques CO5 CPM	CO4		2		2	2										
CO1	Avg.	2	2		2	2										
Introduction to various computer applications in Civil Engineering, Listing out various open source software's available. Download and explore any one open source software in related to civil engineering application and prepare a report and record the same. List of Analysis or Design to be performed using Various software STAAD.Pro 1. Introduction to STAAD Pro software and basic beam analysis. 2. Analysis and design of structures subjected to wind and earthquake loads. (minimum five storey), Typical detailing of structural elements. 3. Analysis and design of steel truss. List of experiments to be performed by Geographical Information System (GIS) 1. Creation and analysis of spatial data using GIS. 2. Generation of maps and reports based on specific queries. 3. Simple applications of GIS in water Resources Engineering & Transportation Engineering List of experiments to be performed by CONSTRUCTION MANAGEMENT APPLICATIONS (either using PRIMAVERA or MS PROJECT or any other open source software). Planning and Scheduling of residential project using PERT and CPM Techniques. PROJECT or any other open source software). Planning and Scheduling of residential project List of experiments to be performed by CONSTRUCTION MANAGEMENT APPLICATIONS (either using PRIMAVERA or MS PROJECT or any other open source software). List of experiments to be performed by CONSTRUCTION CPM Techniques. List of experiments to be performed by CONSTRUCTION MANAGEMENT APPLICATIONS (either using PRIMAVERA or MS PROJECT or Septiments to be performed by CONSTRUCTION MANAGEMENT APPLICATIONS (either using PRIMAVERA or MS PROJECT or Septiments to be performed by CONSTRUCTION MANAGEMENT APPLICATIONS (either using PRIMAVERA or MS PROJECT OR MANAGEMENT APPLICATIONS (either using PRIMAVERA or MS PROJECT OR MANAGEMENT APPLICATIONS (either using PRIMAVERA or MS PROJECT OR MANAGEMENT APPLICATIONS (either using PRIMAVERA or MS PROJECT OR MANAGEMENT APPLICATIONS (either using PRIMAVERA or MS PROJECT OR MANAGEMENT APPLICATIONS (either using PRIMAVERA		'	1- Lov	V				2-Med	lium			3	-High			
Experiment No.1 Listing out various open source software's available. Download and explore any one open source software in related to civil engineering application and prepare a report and record the same. List of Analysis or Design to be performed using Various software STAAD.Pro 1. Introduction to STAAD Pro software and basic beam analysis. 2. Analysis and design of structures subjected to wind and earthquake loads. (minimum five storey), Typical detailing of structural elements. 3. Analysis and design of steel truss. List of experiments to be performed by Geographical Information System (GIS) 1. Creation and analysis of spatial data using GIS. 2. Generation of maps and reports based on specific queries. 3. Simple applications of GIS in water Resources Engineering & Transportation Engineering List of experiments to be performed by CONSTRUCTION MANAGEMENT APPLICATIONS (either using PRIMAVERA or MS PROJECT or any other open source software). • Planning and Scheduling of residential project using PERT and CPM Techniques. • Resource Allocation for activities of residential project List of experiments to be performed by CONSTRUCTION MANAGEMENT APPLICATIONS (either using PRIMAVERA or MS PROJECT or any other open source software). List of experiments to be performed by CONSTRUCTION CPM Techniques.	<u> </u>															
Experiment No.1 Listing out various open source software's available. Download and explore any one open source software in related to civil engineering application and prepare a report and record the same. List of Analysis or Design to be performed using Various software STAAD.Pro 1. Introduction to STAAD Pro software and basic beam analysis. 2. Analysis and design of structures subjected to wind and earthquake loads. (minimum five storey), Typical detailing of structural elements. 3. Analysis and design of steel truss. List of experiments to be performed by Geographical Information System (GIS) 1. Creation and analysis of spatial data using GIS. 2. Generation of maps and reports based on specific queries. 3. Simple applications of GIS in water Resources Engineering & Transportation Engineering List of experiments to be performed by CONSTRUCTION MANAGEMENT APPLICATIONS (either using PRIMAVERA or MS PROJECT or any other open source software). • Planning and Scheduling of residential project using PERT and CPM Techniques. • Resource Allocation for activities of residential project List of experiments to be performed by CONSTRUCTION MANAGEMENT APPLICATIONS (either using PRIMAVERA or MS PROJECT or any other open source software). List of experiments to be performed by CONSTRUCTION CPM Techniques.				Intro	duction	ı to va	rious c	compu	omputer applications in Civil Engineering.							
Experiment No.1 Download and explore any one open source software in related to civil engineering application and prepare a report and record the same. List of Analysis or Design to be performed using Various software STAAD.Pro 1. Introduction to STAAD Pro software and basic beam analysis. 2. Analysis and design of structures subjected to wind and earthquake loads. (minimum five storey), Typical detailing of structural elements. 3. Analysis and design of steel truss. List of experiments to be performed by Geographical Information System (GIS) 1. Creation and analysis of spatial data using GIS. 2. Generation of maps and reports based on specific queries. 3. Simple applications of GIS in water Resources Engineering & Transportation Engineering List of experiments to be performed by CONSTRUCTION MANAGEMENT APPLICATIONS (either using PRIMAVERA or MS PROJECT or any other open source software). Experiment No.4 Experiment No.5 List of experiments to be performed by CONSTRUCTION CO4 CPM Techniques. Resource Allocation for activities of residential project List of experiments to be performed by CONSTRUCTION MANAGEMENT APPLICATIONS (either using PRIMAVERA or MS CO5															001	
engineering application and prepare a report and record the same. List of Analysis or Design to be performed using Various software STAAD.Pro 1. Introduction to STAAD Pro software and basic beam analysis. 2. Analysis and design of structures subjected to wind and earthquake loads. (minimum five storey), Typical detailing of structural elements. 3. Analysis and design of steel truss. List of experiments to be performed by Geographical Information System (GIS) 1. Creation and analysis of spatial data using GIS. 2. Generation of maps and reports based on specific queries. 3. Simple applications of GIS in water Resources Engineering & Transportation Engineering List of experiments to be performed by CONSTRUCTION MANAGEMENT APPLICATIONS (either using PRIMAVERA or MS PROJECT or any other open source software). • Planning and Scheduling of residential project using PERT and CPM Techniques. • Resource Allocation for activities of residential project List of experiments to be performed by CONSTRUCTION MANAGEMENT APPLICATIONS (either using PRIMAVERA or MS PROJECT or any other open source software).	Experiment No.1		•											COI		
List of Analysis or Design to be performed using Various software STAAD.Pro 1. Introduction to STAAD Pro software and basic beam analysis. 2. Analysis and design of structures subjected to wind and earthquake loads. (minimum five storey), Typical detailing of structural elements. 3. Analysis and design of steel truss. List of experiments to be performed by Geographical Information System (GIS) 1. Creation and analysis of spatial data using GIS. 2. Generation of maps and reports based on specific queries. 3. Simple applications of GIS in water Resources Engineering & Transportation Engineering List of experiments to be performed by CONSTRUCTION MANAGEMENT APPLICATIONS (either using PRIMAVERA or MS PROJECT or any other open source software). Experiment No.4 Experiment No.5 List of experiments to be performed by CONSTRUCTION CO4 CPM Techniques. Resource Allocation for activities of residential project List of experiments to be performed by CONSTRUCTION MANAGEMENT APPLICATIONS (either using PRIMAVERA or MS) MANAGEMENT APPLICATIONS (either using PRIMAVERA or MS) CO5					• •											
Experiment No.2 STAAD.Pro 1. Introduction to STAAD Pro software and basic beam analysis. 2. Analysis and design of structures subjected to wind and earthquake loads. (minimum five storey), Typical detailing of structural elements. 3. Analysis and design of steel truss. List of experiments to be performed by Geographical Information System (GIS) 1. Creation and analysis of spatial data using GIS. 2. Generation of maps and reports based on specific queries. 3. Simple applications of GIS in water Resources Engineering & Transportation Engineering List of experiments to be performed by CONSTRUCTION MANAGEMENT APPLICATIONS (either using PRIMAVERA or MS PROJECT or any other open source software). • Planning and Scheduling of residential project using PERT and CPM Techniques. • Resource Allocation for activities of residential project List of experiments to be performed by CONSTRUCTION MANAGEMENT APPLICATIONS (either using PRIMAVERA or MS CO4 CPM Techniques).																
Experiment No.2 2. Analysis and design of structures subjected to wind and earthquake loads. (minimum five storey), Typical detailing of structural elements. 3. Analysis and design of steel truss. List of experiments to be performed by Geographical Information System (GIS) 1. Creation and analysis of spatial data using GIS. 2. Generation of maps and reports based on specific queries. 3. Simple applications of GIS in water Resources Engineering & Transportation Engineering List of experiments to be performed by CONSTRUCTION MANAGEMENT APPLICATIONS (either using PRIMAVERA or MS PROJECT or any other open source software). Experiment No.4 Experiment No.5 List of experiments to be performed by CONSTRUCTION CO4 CPM Techniques. Resource Allocation for activities of residential project List of experiments to be performed by CONSTRUCTION MANAGEMENT APPLICATIONS (either using PRIMAVERA or MS) CO5	-															
2. Analysis and design of structures subjected to wind and earthquake loads. (minimum five storey), Typical detailing of structural elements. 3. Analysis and design of steel truss. List of experiments to be performed by Geographical Information System (GIS) 1. Creation and analysis of spatial data using GIS. 2. Generation of maps and reports based on specific queries. 3. Simple applications of GIS in water Resources Engineering & Transportation Engineering List of experiments to be performed by CONSTRUCTION MANAGEMENT APPLICATIONS (either using PRIMAVERA or MS PROJECT or any other open source software). Experiment No.4 Experiment No.4 List of experiments to be performed by CONSTRUCTION CO4 CPM Techniques. Resource Allocation for activities of residential project List of experiments to be performed by CONSTRUCTION MANAGEMENT APPLICATIONS (either using PRIMAVERA or MS) CO5															CO2	
3. Analysis and design of steel truss. List of experiments to be performed by Geographical Information System (GIS) 1. Creation and analysis of spatial data using GIS. 2. Generation of maps and reports based on specific queries. 3. Simple applications of GIS in water Resources Engineering & Transportation Engineering List of experiments to be performed by CONSTRUCTION MANAGEMENT APPLICATIONS (either using PRIMAVERA or MS PROJECT or any other open source software). Experiment No.4 Planning and Scheduling of residential project using PERT and CPM Techniques. Resource Allocation for activities of residential project List of experiments to be performed by CONSTRUCTION MANAGEMENT APPLICATIONS (either using PRIMAVERA or MS CO5																
Experiment No.3 List of experiments to be performed by Geographical Information System (GIS) 1. Creation and analysis of spatial data using GIS. 2. Generation of maps and reports based on specific queries. 3. Simple applications of GIS in water Resources Engineering & Transportation Engineering List of experiments to be performed by CONSTRUCTION MANAGEMENT APPLICATIONS (either using PRIMAVERA or MS PROJECT or any other open source software). Planning and Scheduling of residential project using PERT and CPM Techniques. Presource Allocation for activities of residential project List of experiments to be performed by CONSTRUCTION MANAGEMENT APPLICATIONS (either using PRIMAVERA or MS) CO3 CO3 CO3 CO3 CO3 CO3 CO3 CO																
Experiment No.3 System (GIS) 1. Creation and analysis of spatial data using GIS. 2. Generation of maps and reports based on specific queries. 3. Simple applications of GIS in water Resources Engineering & Transportation Engineering List of experiments to be performed by CONSTRUCTION MANAGEMENT APPLICATIONS (either using PRIMAVERA or MS PROJECT or any other open source software). • Planning and Scheduling of residential project using PERT and CPM Techniques. • Resource Allocation for activities of residential project List of experiments to be performed by CONSTRUCTION MANAGEMENT APPLICATIONS (either using PRIMAVERA or MS CO5																
1. Creation and analysis of spatial data using GIS. 2. Generation of maps and reports based on specific queries. 3. Simple applications of GIS in water Resources Engineering & Transportation Engineering List of experiments to be performed by CONSTRUCTION MANAGEMENT APPLICATIONS (either using PRIMAVERA or MS PROJECT or any other open source software). • Planning and Scheduling of residential project using PERT and CPM Techniques. • Resource Allocation for activities of residential project List of experiments to be performed by CONSTRUCTION MANAGEMENT APPLICATIONS (either using PRIMAVERA or MS CO5																
2. Generation of maps and reports based on specific queries. 3. Simple applications of GIS in water Resources Engineering & Transportation Engineering List of experiments to be performed by CONSTRUCTION MANAGEMENT APPLICATIONS (either using PRIMAVERA or MS PROJECT or any other open source software). Experiment No.4 Planning and Scheduling of residential project using PERT and CPM Techniques. Resource Allocation for activities of residential project List of experiments to be performed by CONSTRUCTION MANAGEMENT APPLICATIONS (either using PRIMAVERA or MS CO5															1	
2. Generation of maps and reports based on specific queries. 3. Simple applications of GIS in water Resources Engineering & Transportation Engineering List of experiments to be performed by CONSTRUCTION MANAGEMENT APPLICATIONS (either using PRIMAVERA or MS PROJECT or any other open source software). • Planning and Scheduling of residential project using PERT and CPM Techniques. • Resource Allocation for activities of residential project List of experiments to be performed by CONSTRUCTION MANAGEMENT APPLICATIONS (either using PRIMAVERA or MS CO5																
Transportation Engineering List of experiments to be performed by CONSTRUCTION MANAGEMENT APPLICATIONS (either using PRIMAVERA or MS PROJECT or any other open source software). • Planning and Scheduling of residential project using PERT and CPM Techniques. • Resource Allocation for activities of residential project List of experiments to be performed by CONSTRUCTION MANAGEMENT APPLICATIONS (either using PRIMAVERA or MS CO5														~ 0_		
List of experiments to be performed by CONSTRUCTION MANAGEMENT APPLICATIONS (either using PRIMAVERA or MS PROJECT or any other open source software). • Planning and Scheduling of residential project using PERT and CPM Techniques. • Resource Allocation for activities of residential project List of experiments to be performed by CONSTRUCTION MANAGEMENT APPLICATIONS (either using PRIMAVERA or MS CO5																
MANAGEMENT APPLICATIONS (either using PRIMAVERA or MS PROJECT or any other open source software). ■ Planning and Scheduling of residential project using PERT and CPM Techniques. ■ Resource Allocation for activities of residential project List of experiments to be performed by CONSTRUCTION MANAGEMENT APPLICATIONS (either using PRIMAVERA or MS CO5									rmed 1	w COl	VSTRI	CTION				
PROJECT or any other open source software). • Planning and Scheduling of residential project using PERT and CPM Techniques. • Resource Allocation for activities of residential project List of experiments to be performed by CONSTRUCTION MANAGEMENT APPLICATIONS (either using PRIMAVERA or MS CO5																
Experiment No.4 ● Planning and Scheduling of residential project using PERT and CPM Techniques. CO4 • Resource Allocation for activities of residential project List of experiments to be performed by CONSTRUCTION MANAGEMENT APPLICATIONS (either using PRIMAVERA or MS)																
CPM Techniques. • Resource Allocation for activities of residential project List of experiments to be performed by CONSTRUCTION MANAGEMENT APPLICATIONS (either using PRIMAVERA or MS CO5	Fyng	Experiment No.4														
• Resource Allocation for activities of residential project List of experiments to be performed by CONSTRUCTION Experiment No.5 MANAGEMENT APPLICATIONS (either using PRIMAVERA or MS CO5	Expe		. 1 1 0 . T													
List of experiments to be performed by CONSTRUCTION Experiment No.5 MANAGEMENT APPLICATIONS (either using PRIMAVERA or MS CO5									or activ	ities o	f reside	ntial pro	iect			
Experiment No.5 MANAGEMENT APPLICATIONS (either using PRIMAVERA or MS CO5					1131							P-0	J			
Experiment No.5 MANAGEMENT APPLICATIONS (either using PRIMAVERA or MS CO5				List	of expe	riment	ts to be	e perfo	rmed 1	y CO	NSTRU	CTION				
PROJECT or any other open source software).	Expe	eriment	t No.5											MS	CO5	
				PRO.	JECT o	or any	other o	open s	ource s	oftwar	re).					

	Controlling the time schedule of residential project. Generating reports for residential project							
Learning Resources								
Text Books	 Project Planning and Control with PERT and CPM by Dr. B.C. Punmia and K.K. Khadelwaal, Laxmi Publications Pvt. Ltd., New Delhi 							
Reference Books	1. Construction Planning and Management by P S Gahlot, B M Dhir , New Age International (P) Ltd., Publishers							
e-Resources& other digital material	https://www.iitk.ac.in/nicee/IITK-GSDMA/EQ26.pdf https://desktop.arcgis.com/en/arcmap/10.3/map/reports/creating-a-report.htm							