

**PRAGATI ENGINEERING COLLEGE: SURAMPALEM**  
**(AUTONOMOUS)**  
**IV B.Tech II Semester Supplementary Examinations , May – 2024**  
**CONSTRUCTION TECHNOLOGY AND MANAGEMENT**  
**(CE)**

Time: 3 hours

Max. Marks: 60

Question Paper Consists of **Part-A** and **Part-B**  
 Answer **ALL** questions from **Part-A**,  
 Answer any **FOUR** Questions from **Part-B**

PART-A																																																			
[6x2=12M]																																																			
Q.No.		Question	BTL	CO	Marks																																														
1.	a)	What is bar chart?	K1	CO1	[2M]																																														
	b)	What is crashing a project in project management?	K1	CO2	[2M]																																														
	c)	Explain the event slack?	K1	CO3	[2M]																																														
	d)	Write about hoists.	K1	CO4	[2M]																																														
	e)	List out the different types of crushers. Discuss about them.	K1	CO5	[2M]																																														
	f)	Briefly explain about the safety during construction.	K1	CO6	[2M]																																														
PART-B																																																			
[4x12=48M]																																																			
2.	a)	What are different elements present in PERT network and explain with an example.	K2	CO1	[6M]																																														
	b)	Explain in detail Resources Smoothing method of Resources allocation problems.	K2	CO1	[6M]																																														
3.	a)	Draw a network diagram for the given activity and durations in the following table. Find out the critical path, EST, EFT, LST, LFT, total float and free float.	K3	CO2	[12M]																																														
		<table><tr><td>Description of activity</td><td>Activity symbol</td><td>Preceding activity</td><td>Succeeding activity</td><td>Duration days</td></tr><tr><td>Dig foundation</td><td>A</td><td>None</td><td>B</td><td>3</td></tr><tr><td>Place from work</td><td>B</td><td>A</td><td>C</td><td>6</td></tr><tr><td>Place concrete</td><td>C</td><td>B</td><td>G</td><td>6</td></tr><tr><td>Obtain steel</td><td>D</td><td>G, H</td><td>None</td><td>7</td></tr><tr><td>Cut and bent steel</td><td>E</td><td>None</td><td>F</td><td>4</td></tr><tr><td>Place steel reinforcement</td><td>F</td><td>E</td><td>G</td><td>3</td></tr><tr><td>Obtain materials for concrete</td><td>G</td><td>F, C</td><td>D</td><td>2</td></tr><tr><td></td><td>H</td><td>None</td><td>D</td><td>12</td></tr></table>					Description of activity	Activity symbol	Preceding activity	Succeeding activity	Duration days	Dig foundation	A	None	B	3	Place from work	B	A	C	6	Place concrete	C	B	G	6	Obtain steel	D	G, H	None	7	Cut and bent steel	E	None	F	4	Place steel reinforcement	F	E	G	3	Obtain materials for concrete	G	F, C	D	2		H	None	D	12
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	H	None	D	12																																															
4.	a)	Discuss in detail different factors affecting selection of construction equipment.	K2	CO3	[6M]																																														
	b)	Explain in detail the procedure to calculate capacity of truck.	K2	CO3	[6M]																																														

5.	a)	Discuss about the hoisting and earthwork equipment.	K2	CO4	[6M]
	b)	Explain about utilization of rollers, dozers and scrapers in construction.	K2	CO4	[6M]
6.	a)	Briefly explain about batching and mixing equipment.	K2	CO5	[6M]
	b)	Write about mixing and placing of concrete.	K1	CO5	[6M]
7.	a)	Explain different types of Formworks.	K2	CO6	[6M]
	b)	Discuss various criteria regarding quality management systems and requirements.	K2	CO6	[6M]