

ent Institution of Manipal University

MANIPAL INSTITUTE OF TECHNOLOGY

VII SEMESTER B.TECH (CIVIL ENGINEERING) END SEMESTER EXAMINATIONS, NOV/DEC 2016

SUBJECT: CONSTRUCTION PLANNING ORGANISATION AND

EQUIPMENT [CIE 403]

REVISED CREDIT SYSTEM

Time: 3 Hours

MAX. MARKS: 50

Instructions to Candidates:

✤ Answer ANY FIVE FULL the questions.

✤ Missing data may be suitably assumed.

1A.	Indicate the role of 'resources' in planning and scheduling phase of a Construction project.											03		
1B.	Draw a neat network for the activity relationships given below and number the events using Fulkerson's rule. Activities A, E, H are the parallel activities and start on commencement of the project. Activity B precedes Activity C. Activity C cannot be started until Activity E is completed. Activity F follows Activity E. Activity I succeeds Activities H and M; Activities M and L follow E. Activity G succeeds Activity F but cannot be started until Activities I, C and L are completed. Activities I and L are the immediate predecessors to Activity J. Activity J precedes Activity K and Activity D succeeds Activity C. Activity J precedes Activity K and Activity D succeeds Activity C.											07		
2A.	Justify the purpose for using dummies in a network diagram. Outline the advantages of network technique over Gantt chart										03			
2B.	The table Compute Activity Time (days)	belo the ac 1-2 4	w sho tivity t 1-3 1	ows a imes 2-4 1	activity and va 3-4 1	inter arious 3-5 6	rdepen floats. 4-9 5	dency Deterr 5-6 4	and mine tl 5-7 8	respec he crit 6-8 1	ctive f ical pa 7-8 2	ime du ath. 8-10 5	uration. 9-10 7	07
3A.	Explain the significance and characteristics of β -distribution in PERT analysis.									03				
3B.	Calculate for the da cost is Rs	the to ta giv . 1000	tal cos en be) per n	st and low. I nonth.	final o Draw	duration the tir	on by c me sca	rashin ale net	g to th work a	e max at eve	imum ry sta	possib ge. Ov	le level erhead	07

Reg. No.



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	in	ED BY A Constituer	nt Institution of Manipal University								
		Activity	Normal time	Normal cost	Crash time	Crash Cost					
		1-2		10,000	2	40.000					
		1-3	7	35,000	2	45,000					
		2-4	4	9.000	2	19.000					
		3-5	6	18.000	5	20.000					
		4-6	6	12,000	5	13,000					
		5-6	3	4,000	2	5,000					
		6-7	8	16,000	4	26,000					
4A.	i)	Compare	the working of	line & staff and	matrix organisat	tion in the view o	f 06				
	'p	rinciple of c	livision of work'.		-						
	ii) How will you interrelate the principle 'delegation of authority' with the 'scalar										
	pr		ustrate consideri	ing line and func	tional organisatio	n set up.					
4B.	I) What do you mean by unit cost of production of an equipment? Which of the										
	factor behind the selection of construction equipment is majorly related with unit										
	cost of production? Justify with illustration.										
	ii) How will you defend that 'preventive maintenance is a preferred choice over										
	hreakdown maintenance'?										
	Li	st the parts	of a wheel mou	inted back hoe loa	ader Explain the	significance of each					
5A.	of	them.					05				
	D	etermine th	ne probable ow	ning and operati	ng cost of an e	ectrically operated	1				
	ba	batching plant for the following data: given electricity charge per unit Rs. 15									
5B.	Р	Power required-220 HP, cost of machinerv-Rs. 35.00.000, useful life-12 vears.									
	interest @ 9.90%	,									
	in	surance @	12%, transport	and setting up cha	arges Rs. 2,65,000), risk factor @ 5%.					
6 1	What are favourable and unfavourable conditions for using power shovel and										
υΑ.	dr	agline? Ho	ump truck?								
6B	Draw a neat sketch of a tower crane and label the parts. Justify the versatility of a										
JD.	bι	ull dozer us	ing different atta	chments.							