		Reg. No.										
प्रज्ञानं ब्रह्म Manipal	Manipal Institu (A Constituen	ite of Te at Institute of	e ch Mar	n nc nipal)lo l Un	gy ivers	r , N sity)	/Ia:	nij	pa	KNOWLED	GE IS POWER
INSPIRED BT LIFE	VII SEME	STER B.TEC	H (C		LEN	IGIN	IEE	RIN	G)			

END SEMESTER EXAMINATIONS, NOV/DEC 2015

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 suitable assumed.

1A.	Distinguish between PERT and CPM.													03	
1B.	Draw a neat activity interd Activity Predecessor	a neat A-O-A network and number the events using Fulkerson's rule for the ty interdependencies given below vity A B C D E F G H I J K L M N O ecessor - A A _ B C,D C,D D H F,G,I E F,G,I K,J G,I L,N									07				
2A.	Give any six advantages of scheduling.														
2B.	A small projection of the second seco	small project is composed of seven activities, whose time estimates in weeks arested in the table as follows:Activities $1-2$ $1-3$ $2-4$ $2-5$ $3-5$ $4-6$ $5-6$ Optimistic1121223Most1421556ikely									07				
	+0.6 72.57 -0.6 27.43														
	+0.7		75.80			-0.7			24.20)					

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Manipal Institute of Technology, Manipal (A Constituent Institute of Manipal University)										KNOWLED	GE IS POWER 11 5/5- WWW.25 TE 5 TE 5							
INSPIR	The follow	ving time	e cost tal	ole (time	in week	es and co	ost in	INR	() ann	lies	to pro	niect	Give	n				
	Interest and cost and cost and cost in http://uppiles.to.project. Given indirect cost 1000 INR per week. Activity 1-2 1-3 1-4 2-4 2-5 3-4 3-5 4-5 Normal 2 5 5 2 5 4 6 5																	
	Crash	1	2	3	1	3	3		4		3							
3A.	Normal cost	800	1000	1000	500	1500	20	00	1200	0	900					06		
	Crash cost	1400	2000	1800	700	2100	30	00	1600	0	1600							
 i). Draw the project network corresponding to normal time. ii). Determine the critical path normal duration and cost of the project. iii). Determine the total cost and duration at the end of 3rd stage of crashing 																		
3B.	What are the various steps involved in planning?													04				
4A.	What do you mean by Span of Management? Explain the advantages and drawbacks of the Line and Staff Organisation with a practical situation to which this organizational structure is best suited										of al	3	+2=5					
4B.	 Explain: i) the step "Apply the Limitations" in the Planning of Construction Equipment showcasing the limitations involved, ii) reason for considering the Average Investment cost on the calculation of the Investment Cost involved in Cost of Owning the Equipment, iii) Replacement Cost 										n ge (2+1.	5+1.5=5)					
 From the following data, determine the probable owning and operating cost of a diesel engine crawler mounted front loader. The particulars of the equipment are: Engine capacity = 180 HP; Factory Price = Rs. 51,00,000/-; Freight charges = Rs. 200 / tonne; shipping weight = 90 tonne; unloading and assembling charges = Rs. 27,000/-; Crank case capacity = 45 litre; time between oil changes = 100 hours; useful life = 09 years; Hours used per year = 3000 hours; Salvage value = Rs. 5, 25,000/-; Operating Factor = 0.6; Bank interest @ 9.85%; Risk factor @ 7%; Cost of fuel = Rs. 55 per litre; cost of lubricating oil = Rs. 300 per litre. 										el e; k s; = of		06						
5B.	 Write a short note on Equipment Maintenance. Bring out the comparison among various types of equipment maintenance highlighting the merits and limitations of them. 											g of		04				
6A.	Distinguis	h betwee	en: i) Wh ii) S b	neel mou plade and	nted and S-U bla	l track n ide used	nount l for b	ed b oulld	ack ho ozer.	oe						04		
6B.	With the help of a neat sketch explain working of a hydraulic power shovel. List different types of mobile cranes, explain anyone.										st		06					