Seat No.

T.E. (Civil) (Part - II) (Semester - VI) Examination, April - 2016
ENGINEERING MANAGEMENT
Sub. Code : 45544

Day and Date : Thursday, 21 - 04 - 2016   **Total Marks : 100**
Time : 03.00 p.m. to 06.00 p.m.
Instructions :   1)   Q. No. 1 and 6 are compulsory.
                      2)   Attempt any two questions from the remaining from each section.

SECTION - I

Q1) a)   Explain the types of Organization. Explain any one in detail.   **[8]**

b)   Activity data pertaining to a small project is given below. Draw the network indicating the critical path and prepare table showing EST,EFT, LST, LFT, total float and free float.   **[12]**

Activity	1-2	1-3	1-4	2-5	3-4	3-7	4-5	4-6	5-8	6-7	6-8	7-8
Duration (Weeks)	5	8	3	4	0	7	4	6	6	7	2	6

Q2) a)   Using NW corner method, find IBFS for the following transportation. problem,   **[5]**

	Destination				Supply
	1	2	3	4	
Source 1	25	23	21	24	14
2	27	28	22	25	16
3	24	23	26	22	5
Demand	6	10	15	4	

b)   Solve the following assignment problem for optimal allocation.   **[5]**

		Machines			
		1	2	3	4
	A	31	25	33	29
Jobs	B	25	24	23	21
	C	19	21	23	24
	D	38	36	34	40

c)   Explain the concept of 'W.B.S.' with an example.   **[5]**

Q3) a) Explain step-by-step procedure of Network Updating. **[5]**

b) Explain the phases and agencies involved in a Construction Project.**[10]**

Q4) a) Explain 'Decision Making' under various conditions with examples. **[5]**

b) Following data pertains to a project. Draw the PERT network and find out the value of standard deviation for the critical path. **[10]**

Activity	Estimated duration (days)		
	Optimistic time	Most likely time	time Pessimistic time
1-2	6	9	18
1-3	5	8	17
2-4	4	7	22
2-5	4	7	10
3-4	4	7	16
3-5	2	5	8
4-5	4	10	22

Q5) Write short notes on any THREE: **[15]**

a) Simplex method of solving LPP

b) Directing - a dynamic function of management

c) Decision Tree

d) Precedence Network

SECTION - II

Q6) a) Explain the importance of 'Time value of Money'. **[4]**

b) What is the amount of 5 equal payments of repay of loan of Rs. 5,00,000 at interest rate of 10% per year? The first payment is due 1 year after receiving the loan. **[4]**

c) Suggest which machine should be purchased from the following data, if rate of interest is 12% (Use EUAC method) **[12]**

	Machine A	Machine B
Initial Cost (Rs.)	Rs. 2,50,000	Rs. 3,50,000
Annual O & M cost (Rs.)	Rs. 90,000	Rs. 70,000
Salvage value (Rs.)	Rs. 20,000	Rs. 35,000
Life (years)	4	6

Q7) a) Explain various costs used in Break Even Analysis with a sketch. **[7]**

b) Using Benefit - cost Ratio, state whether following project should be accepted or not. **[8]**

Initial Investment	Rs. 80,00,000
Benefits in First year	Rs. 20,00,000
Benefits in Second year	Rs. 32,00,000
Benefits in Third year	Rs. 32,00,000
Benefits in Fourth year	Rs. 40,00,000
Rate of interest	12%

Q8) a) Explain the main features of 'Child Labour Act'. **[7]**

b) Explain the factors to be considered while deciding a site layout? Draw a site layout for a bridge project. **[8]**

Q9) a) Explain the elements of a queuing system with a sketch. **[7]**

b) ABC company requires 1500 tons of steel every year. It costs Rs. 30,000 per ton. It requires Rs. 100 to place order once. If inventory carrying cost is 13% of average inventory investment, determine the EOQ. **[8]**

Q10) Write notes on any THREE: **[15]**

a) A-B-C Analysis

b) Payback period method

c) Relevant Inventory Costs

d) Workmen's Compensation act

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