

Indirect Assessment Sheet 2017-18

Operations Research (VI Semester Section B)

Maximum Marks: 06

Name : _____ Roll No. _____

1. XYZ chemical company producing two products A & B. The processing times are 3 Hrs and 4 Hrs. per unit for A on operation 1 and 2 respectively and 4Hrs. and 5Hrs. per unit for B on operation 1 and 2 respectively. The available time is 18Hrs. and 21 Hrs. for operation 1 and 2 respectively. Product A can be sold at Rs.3 profit per unit and B at Rs.8 profit per unit. Formulate the problem, [1 Mark] (CO-1)

Answer:

2. Four new machines M1, M2, M3, and M4 are to be installed in machine shop. There are five vacant spaces A, B, C, D and E available. Find the optimal assignment schedule. The matrix shows the cost. [1 Mark] (CO-2)

	A	B	C	D	E
M1	4	6	10	5	6
M2	7	4	-	5	4
M3	-	6	9	6	2
M4	9	3	7	2	3

Answer:

Machine	Space	Cost
M1		
M2		
M3		
M4		

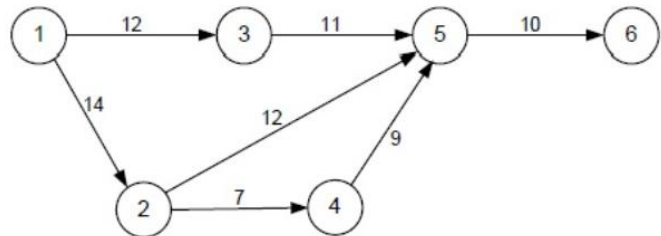
3. The optimal Sequence is to the following table is _____ [1 Mark] (CO-3)

Job	I	II	III	IV	V	VI	VII	VIII
Machine M1 (Time in min.)	30	45	15	20	80	120	65	10
Machine M2 (Time in min.)	20	30	50	35	36	40	50	20

Answer:

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4. A project consists of 7 activities. The network along with the time duration (in days) for various activities is shown in figure. The minimum time (in days) for completion of the project is _____. [1 Mark] (CO-4)



5. The optimum replacement period of machine whose purchase price is Rs.12000 is _____ Years. (Refer Table) [1 Mark] (CO-5)

Year	1	2	3	4	5	6	7	8
Running Cost (Rs.)	200	500	800	1200	1800	2500	3200	4000

6. In a single- channel queuing model, the customer arrival rate is 12 per hour and the serving rate is 24 per hour. The expected time that the customer is in the queue is _____ minutes. [1 Mark] (CO-6)