

9765

B.B.A. LL.B. (Hons) 5 year course wef May 2018

4th Semester Examination, April-2018

OPERATIONAL MANAGEMENT

Paper-405- A

Time allowed : 3 hours]

[Maximum marks : 80

Note : Attempt four questions from Section-A (one question from each unit, each of 14 marks) and one compulsory question from Section-B (eight short answer questions, each of 3 marks).

Section-A

Unit-I

1. Explain the characteristics, advantages and limitations of OR.
2. Solve the following LPP :

$$\text{Maximise } z = 3x_1 + 2x_2 + 5x_3$$

Subject to

$$x_1 + 2x_2 + x_3 \leq 430$$

$$x_1 + 4x_2 \leq 420$$

$$3x_1 + 2x_3 \leq 460$$

$$x_1, x_2, x_3 \geq 0$$

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[P.T.O.]

Unit-II

3. Obtain the optimal solution for the following transportation problem :

(Cost in Rs. per unit)

From \ To	w_1	w_2	w_3	w_4	Supply
P_1	21	16	25	13	11
P_2	17	18	14	23	13
P_3	32	27	18	41	19
Demand	6	10	12	15	

4. Solve the following assignment problem for maximising the total revenue (000'Rs)

Salesman	Sales territories			
	T_1	T_2	T_3	T_4
S_1	42	35	28	21
S_2	30	25	20	15
S_3	24	20	16	12
S_4	34	29	24	19

Unit-III

5. Durations (in weeks) of the activities of a project are as given below :

Activity	1-2	1-3	2-4	3-4	3-5	4-9	5-6	5-7	6-8	7-8	8-10	9-10
Duration	8	6	9	5	10	4	11	6	7	5	9	10

Draw the network, identify the critical path and determine EST, EFT, LST and LFT for each activity.

6. Using suitable examples, explain and illustrate (i) critical path, (ii) Dummy activity, (iii) Maximum principle and (iv) Minimax principle.

Unit-IV

7. Solve the following game :

Player A	Player B				
	b_1	b_2	b_3	b_4	b_5
a_1	2	-1	5	-2	6
a_2	-2	4	-3	1	0

8. Discuss the steps involved in solving a problem by simulation. What are the advantages of simulation ?