

(20519)

Roll No.

Total Questions : 13]

[Printed Pages : 4

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B.B.A. IVth Semester Examination, May-2019

OPERATION RESEARCH

(BBA-406)

Time : 3 Hrs.]

[M.M. : 75

Note :- Attempt questions from all Sections as per instructions. Calculator may be used.

Section-A

(Very Short Answer Type Questions)

Note :- Attempt all the *five* questions. Each question carries 3 marks. Very short answer is required not exceeding 75 words.

1. What do you mean by Operation Research ?
2. Define PERT.

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(1)

Turn Over

3. Give three advantages of linear programming.
4. What is CPM ?
5. What is EMV ?

Section-B

(Short Answer Type Questions)

Note :- Attempt any *two* questions out of the following three questions. Each question carries 7½ marks. Short answer is required not exceeding 200 words.

6. Discuss the importance of operation research in management.
7. Explain the role of linear programming in managerial decision-making.
8. Find the maximum value of $z = 60x_1 + 30x_2$, $x_1, x_2 \geq 0$.

Subject to the following constraints :

$$6x_1 + 3x_2 \leq 90$$

$$3x_1 + 6x_2 \leq 72$$

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Section-C

(Long Answer Type Questions)

Note :- Attempt any *three* questions out of the following five questions. Each question carries 15 marks.

Answer is required in detail.

9. Obtain the initial feasible solution of a transportation problem by North-West corner method whose cost and rim requirement table is given below :

Plant	Warehouse			Supply
	W ₁	W ₂	W ₃	
P ₁	7	6	9	20
P ₂	5	7	3	28
P ₃	4	5	8	17
Demand	21	25	19	65

10. Explain Simplex method of solving linear programming problem.

11. The following table gives the pay-offs of three Acts—A₁, A₂ and A₃ and three states of nature— θ_1 , θ_2 , θ_3 and the prior probabilities associated with the states of nature. Calculate the expected monetary values and decide as to which course of action is the best one :

States of nature	Probabilities	Alternative Acts-A		
		A ₁	A ₂	A ₃
θ_1	0.1	125	-20	-125
θ_2	0.7	500	540	500
θ_3	0.2	650	740	750

12. Explain the statistical decision theory. Discuss its scope, utility and limitations.
13. What is Assignment Problem ? It is true to say that it is a special case of the transportation problem ? Explain.