

BBA Part III (Honours) Examination, 2020

Subject: Operations Research

Paper: BBA-3·2

(Old and New)

Time: 2 Hours

Full Marks: 40

*The figures in the margin indicate full marks.
Candidates are required to give their answers in their own
words as far as practicable.*

Group - A

Answer any four questions.

5×4=20

1. Discuss the scope of operations research in modern management.
2. How can OR models be classified? Name any three OR models.
3. What is linear programming? Point out its major assumptions.
4. Define loop of a transportation problem and establish its importance in solution of the problem.
5. Construct the assignment tableau and also give its mathematical formulation.
6. State the circumstances where CPM is a better technique of project management than PERT.

Group -B

Answer any two questions.

10×2=20

7. Solve the following LP problem:

$$\text{Max. } Z = 2x_1 + 4x_2$$

Subject to

$$2x_1 + x_2 \leq 8,$$

$$3x_1 + 2x_2 \geq 30,$$

$$x_1 + 2x_2 = 25$$

and $x_1, x_2 \geq 0$

Please Turn Over

8. (a) What is meant by unbalanced transportation problem?
 (b) A company has five machines that are used for four jobs. Each job can be assigned to one and only one machine. The cost of each job on each machine is given in the following table. Give the optimal assignment schedule so as to minimise the cost.

		Machines				
		A	B	C	D	E
Job	1	5	7	11	6	7
	2	8	5	5	6	5
	3	6	7	10	7	3
	4	10	4	8	2	4

9. (a) Develop a problem on Network where dummy activities are required.
 (b) Briefly explain the Laplace criterion for decision making.
10. (a). Point out the rules of dominance in Game Theory.
 (b) Solve the rectangular game whose pay-off matrix for player A is:

	B ₁	B ₂	B ₃
A ₁	8	- 4	- 2
A ₂	9	17	16
A ₃	10	20	- 5