

G-27/2071

5963/MJ

Operations Research (BAS-202)

Time Allowed: 3 hours

Maximum Marks: 50

Note: Attempt any six questions by selecting three questions from section A and B. Section C is compulsory.

Section A

1. Describe various objectives of operations research. Write merits of OR.
2. Explain the north west corner method of solving transportation problem with example
3. Solve the following assignment problem

typist		job		
A	75	50	35	45
B	70	40	70	50
C	90	60	60	55
D	85	45	30	40

4. Write advantages and limitations of linear programming.
5. Solve using graphical method
Max $Z = 22x_1 + 18x_2$

Subject to $3x_1 + 2x_2 \leq 48$

$$x_1 + x_2 \leq 20$$

Where $x_1, x_2 \geq 0$

(3*5=15)

Section B

6. How CPM differs from PERT? What are various time estimates used in PERT?
7. Define inventory control. Explain its need and significance.
8. Solve the game

Player B

Player A

Strategy	B1	B2
A1	8	10
A2	12	6

9. Define simulation .Explain its various merits and demerits
10. Draw network and find expected time of completion

Contd - - 2

Event	Duration (days)
1-2	10
1-3	8
1-4	9
2-5	8
3-7	16
4-6	7
5-7	7
5-8	6
6-7	7
6-9	5
7-10	12
8-10	13
9-10	15

(3*5=15)

Section C

11. (a). Limitations of OR

(b) Float

(c) EOQ

(d) Saddle point

(e) Unbalanced assignment problem

(f) Infeasible solution

(g) Artificial variable

(h) Critical path

(i) Storage cost and ordering cost

(j) Zero sum game

(10*2=20)

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