

#### Unit IV

No. of Printed Pages : 04

Roll No. ....

7. What do you mean by network analysis ?  
Explain the similarity and difference between PERT and CPM.

8. (a) A newspaper boy has the following probabilities of selling a magazine :

No. of copies sold	10	11	12	13	14
Probability	0.10	0.15	0.20	0.25	0.30

Cost of copy is Rs. 10 and sale price is Rs. 12. He cannot return unsold copies.  
How many copies should he order ?

- (b) What is risk analysis ? Explain various techniques of risk analysis.

**CC-421**

**M.B.A. EXAMINATION, Dec. 2018**

(Third & Fourth Semester)

(Re-appear Only)

MBA201

APPLIED OPERATION RESEARCH

Time : 3 Hours]

[Maximum Marks : 70

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Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

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**Note :** Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

#### Unit I

1. Define Applied Operation Research. Explain the scope and application in business decision-making.

2. Two products P and Q are processed on three machines X, Y and Z. The processing time per unit, machine availability and profit per unit are as under :

Machine	Process Time (Hours) P product	Process Time (Hours) Q product	Availability (Hours)
X	2	3	800
Y	3	2	800
Z	1	1	600
Profit per unit	Rs. 100	Rs. 120	

Formulate an appropriate Linear Programming Model for this problem and solve it by simplex method.

## Unit II

3. A company has 4 machines to do 3 jobs. Each job can be assigned one and only one machine. The costs of each job on each machine are given in the table given on next page :

Machine Job	W	X	Y	Z
A	18	24	28	32
B	8	13	17	18
C	10	15	19	22

4. Solve the following optimum solution of transportation problem :

Customer Warehouse	Transportation Cost				Supply
	A	B	C	D	
W	5	10	8	6	7
X	7	3	7	7	6
Y	6	5	9	11	7
Demand	6	6	6	2	20 20

## Unit III

5. What is Goal Programming ? Discuss its models and applications.
6. Write short notes on the following :
- Explain the concept of JIT. How does it help the manufacturing system to improve productivity ?
  - EOQ and VED Analysis.