



# ADITYA DEGREE COLLEGES

\* ANDHRA PRADESH \*

PRE FINAL - EXAMINATIONS

III B.SC :: VI SEMESTER

STATISTICS-CLUSTER

OPERATIONS RESEARCH – II

Max. Marks : 75 M

Time: 3 Hours

Date:

## SECTION-A

I. Answer any FIVE of the following questions: 5 x 5 = 25 M

1. Describe Game and Strategy.
2. Explain Economic Order Quantity.
3. Explain EOQ Problem with one price break.
4. Explain Logical Sequencing in networking.
5. Write the applications of network techniques.
6. Find the Saddle Point for the below given matrix.

		Player B		
		B1	B2	B3
Player A	A1	1	3	1
	A2	0	-4	-3
	A3	1	5	-1

7. Write the factors affecting inventory control.
8. Develop a network diagram for the project specified below.

Activity	A	B	C,	D	E	F	G
Immediate							
PredecessorActivity	-	A	B	C	D	E	F

## SECTION-B

II. Answer the following questions: 5 x 10 = 50 M

9. a) Solve the following game matrix using the method of dominance.

		Player B			
		B1	B2	B3	B4
Player A	A1	1	7	3	4
	A2	5	6	4	5
	A3	7	2	0	3

(Or)

b) Consider the game with the following payoff matrix graphically.

		Player B		
		B1	B2	B3
Player A	A1	1	3	11
	A2	8	5	2

10. a) Explain the factors affecting inventory control.

**(Or)**

b) Describe deterministic inventory problems.

11. a) Explain EOQ Problem with more than one Price Break.

**(Or)**

b) Explain Probabilistic Inventory Single Period Problem without set-up cost.

12. a) Describe the rules of network construction.

**(Or)**

b) A project schedule has the following characteristics

Activities	1-2	1-3	2-4	3-4	3-5	4-9	5-6	5-7	6-8	7-8	8-10	9-10
Time (days)	4	1	1	1	6	5	4	8	1	2	5	7

Draw the network and determine the critical path, total project duration also calculate all the floats.

13. a) The following table shows the jobs of a network along with their time estimate

Job	1-2	1-6	2-3	2-4	3-5	4-5	6-7	5-8	7-8
a(job)	1	2	2	2	7	5	5	3	8
m(job)	7	5	14	5	10	5	8	3	17
b(job)	13	14	26	8	19	17	29	9	32

Draw the project network and find the probabilities that the project is completed in 40 days

**(Or)**

b) Explain time - cost optimization Algorithm.