



**III Semester 5 Year B.B.A.LL.B. (Hon's) Examination, December 2013**  
**QUANTITATIVE TECHNIQUES**

Duration : 2½ Hours

Max. Marks : 70

- Instructions:**
1. Answer **all 5** questions.
  2. **One** essay type and **one** short note question or problem from **each unit** have to be attempted, which is referred as part **(a)** and **(b)** in all the units.
  3. Figures to the **right** indicate marks.

**UNIT – I**

- Q. No. 1. (a) Discuss the role and scope of quantitative methods for scientific decision making in business management.

Marks : 9

OR

Explain the different types of models used in Operations Research. Explain briefly the general methods for solving these Operations Research Models.

- (b) Write short note on :

Marks : 5

Characteristics of Operations Research

OR

State the advantages of Operations Research.

**UNIT – II**

- Q. No. 2. (a) Discuss and describe the role of linear programming in managerial decision making bringing out limitations.

Marks : 9

OR

What is a linear programming problem ? Discuss the scope and role of linear programming in solving management problems.

**P.T.O.**



(b) Write short note on :

Marks

What are the advantages of linear programming approach ?

OR

Characteristics of Linear Programming.

### UNIT – III

Q. No. 3. (a) Describe a general transportation problem. Explain how to determine an initial basic feasible solution to the problem using Vogel's method.

Marks : 9

OR

Write the different methods of transportation method .

(b) Write short note on :

Marks : 5

Degenerate Transportation Problem

OR

Vogel's Approximation Method.

### UNIT – IV

Q. No. 4. (a) A sales manager has to assign 4 salesmen to 4 territories. The possible profit for each salesman in each territory is given below. Find the assignment that maximizes the profit.

Marks : 9

		Territories			
		A	B	C	D
Salesmen	1	35	27	28	37
	2	28	37	29	40
	3	35	24	32	33
	4	24	32	25	28

OR

What is the unbalanced assignment problem ? How is it solved by the Hungarian method ?



(b) Write short note on :

Marks :

Balanced assignment problem

OR

Write the features of assignment problem.

Q. No. 5. (a) What is critical path ? State the necessary and sufficient conditions of critical path. Can a project multiple critical paths ?

Marks : 9

OR

The following list of activity must be accomplished in order to compete a construction project :

**Activity    Time (in weeks)    Predecessors**

A	3	None
B	8	None
C	4	A, B
D	2	B
E	1	A
F	7	C
G	5	E, F
H	6	D, F
I	8	G, H
J	9	I

Construct a network for this project. Find the critical path and the duration of the project.

(b) Write short note on :

Marks : 5

State the rules of constructing a project network.

OR

‘PERT’.

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