

UTTARAKHAND OPEN UNIVERSITY, HALDWANI (NAINITAL)



Programme Name-MBA-First Semester/Diploma in Management –First Semester
Programme Code-MBA-13/DIM-10
Course Name-Quantitative Techniques in Management
Course Code-CP1004

Maximum Marks-40

Session -2014-15, Summer

Last Date of Submission: 31st January, 2015

Section-A

Section ‘A’ contains 08 short answer type questions of 5 marks each. Learners are required to answers 4 questions only. Answers of short answer-type questions must be restricted to 250 words approximately.

Discuss the following (1-8) –

1. Characteristics of Normal Distribution.
2. Find the number of distinct permutations of the letters of the word *Engineering*.
3. Given is the following information:

	X	Y
Mean	39.5	47.5
Standard Deviation	10.8	17.8

Simple correlation coefficient between X and Y is = + 0.42

Find the estimating equation of Y as well as of X.

4. Type I and Type II Errors.
5. Chi-square as a test of ‘goodness of fit’ ;
6. Advantages and limitations of an LP problem?
7. Difference between Assignment problem and Transportation problem.
8. Characteristics of ‘Queuing System’.

Section-B

Section ‘B’ contains 04 long answer-type questions of 10 marks each. Learners are required to answers 02 questions only.

1. 10 students got the following percentage of marks in “Quantitative Methods” and “Econometrics” of MBA. Find the coefficient of Rank Correlation.

X Marks in Quantitative Methods	Y Marks in Econometrics
8	84
36	51
98	91
25	60
75	68
82	62
92	86
62	58
65	35
35	49

Find the highest marks of both X and Y, and rank these.

2. Discuss the difference between Decision- Making under the conditions of certainty, uncertainty and risk.

3. A dairy firm has three plants located in a state. The daily milk production at each plant is as follows:

Plant 1: 6 million litres, Plant 2: 1 million litres, and Plant 3: 10 million litres

Each day, the firm must fulfil the needs of its four distribution centres. The minimum requirement of each centre is as follows:

Distribution centre 1 : 7 million litres, Distribution centre 2: 5 million litres,

Distribution centre 3 : 3 million litres and Distribution centre 4: 2 million litres

Cost (in hundreds of rupees) of shipping one million litres from each plant to each distribution centre is given in the following table:

Distribution centre Plant	D ₁	D ₂	D ₃	D ₄
P ₁	2	3	11	7
P ₂	1	0	6	1
P ₃	5	8	15	9

Find the initial basic feasible solution for given problem by using following methods:

- a) North- west corner rule
- b) Least cost method
- c) Vogel's approximation method

4. Discuss the different probability sampling schemes and state the advantages and disadvantages of each scheme.

