

**MASTER OF BUSINESS ADMINISTRATION  
EVERONN (MBAEV)  
Term-End Examination**

**June, 2014**

**MCN-038 : QUANTITATIVE TECHNIQUES**

*Time : 3 hours*

*Maximum Marks : 100*

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*Note : (1) Attempt any five questions.  
(2) All question carry equal marks.*

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1. (a) “Business statistics is the science of ‘good’ decision making in the face of uncertainty and is used in many disciplines, such as financial analysis, econometrics, auditing, production and operations, and marketing research”. Explain the above statement with the help of a suitable example. **10+10**
- (b) What do you mean by Big M Method. Explain with the help of a suitable example.

2. (a) What is the best method of measuring Dispersion? Write the formula for calculating combined S.D. **10+10**
- (b) What do you mean by a Initial basic feasible solution? Throw a Light on NWC, VAG and Least Cost Method
3. (a) Why are two regression lines? Explain them briefly. **4x5**
- (b) What is cumulative frequency curve or ogive curve?
- (c) What do you mean by a Hungarian method?
- (d) What do you mean by nodes?
4. An Airline knows from experience that the distribution of the number of suitcases that get lost each week on a certain route is approximately normal with  $m = 15.5$  and  $s = 3.6$  **10+10**
- (a) What is the probability that during a given week the airline will lose than 20 suitcases?
- (b) What is the probability the airline will lose between 10 and 20 suitcases

5. The price of the standard family saloon car and the company market share was recorded for a random sample of 12 car manufactures 4+6+10  
=20

Selling Price	137	138	125	142	168	145	135	145	160	146	136	160
Market share%	14	15	10	8	9	7	11	5	3	5	7	2

- (a) Plot the data on a scatter diagram and comment.
- (b) Calculate the product moment correlation coefficient.
- (c) Test to find if the correlation coefficient differs significantly from zero
6. The heights of a sample of ten people are: 20

67	73	70	60	67	66	63	71	70	67
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Which are the correct real limits for the frequency table given below and why? Give reason for your answer

Frequency	(a)	(b)	(c)
1	60.5-63.5	60-62	59.5-62.5
0	63.5-66.5	63-65	62.5-65.5
5	66.5-69.5	66-68	65.5-68.5
3	69.5-72.5	69-71	68.5-71.5
1	72.5-75.5	72-74	71.5-74.5

7. Briefly Comment on **any two** of the following **10+10**
- (a) Probability is a positive measure, going from 0 to 1 which indicates the likelihood of occurrence of events.
  - (b) Selection may be with replacement or without replacement
  - (c) Mathematics is the abstract study of topics encompassing quantity, structure, space change and others.
8. Write short notes on of any two the following: **10+10**
- (a) Time Series and Forecasting
  - (b) Lorenz Curve
  - (c) Decision Theory

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