# MASTER OF BUSINESS ADMINISTRATION EVERONN (MBAEV)

## Term-End Examination

## December, 2015

### MCN-038 : QUANTITATIVE TECHNIQUES

*Time : 3 hours*                                    *Maximum Marks : 100*

**Note :** *Attempt any **five** questions. All questions carry equal marks.*

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1.  (a)  The main objective of Business Statistics is to make inferences (e.g. prediction, making decisions) about certain characteristics of a population based on information contained in a random sample from the entire population. Explain the above statement with the help of a suitable example.

    (b)  What do you mean by the term 'Probability' ? Throw light on the properties and applications of Probability Distribution.          *20*

**2.** An investigator wants to know whether the height of Afghanis is more than the height of Indians or not. A sample of Indians show a mean height of 65 – 85 inches with a standard deviation of 2·5, while a sample of 100 Afghanis has shown a mean height of 66·2 inches with a standard deviation of 2·52 inches.

- Write the null hypothesis, alternative hypothesis and test statistic for the test.

- Carry out the test and write your conclusion. *20*

**3.** (a) What is the relation between correlation coefficient and regression coefficient ?

(b) How many types of series are there on the basis of quantitative classification ? Give the difference between Exclusive and Inclusive Series. *20*

**4.** (a) What is the probability of obtaining exactly 4 heads in 6 flips of a fair coin ?

(b) What is Geometric Mean ? Give the algebraic characteristics of Geometric Mean and state when Geometric Mean is useful. *20*

**5.** Distinguish between any *two* of the following : *2×10=20*

(a) Skewness and Kurtosis

(b) Standard Deviation and Variance

(c) Absolute Measure and Relative Measure

**6.** (a) Find the sample variance of the following sample of five numbers :

3, 3, 3, 3, 3

(b) Two workers on the same job show the following results over a long period of time :

|  | Worker A | Worker B |
|---|---|---|
| Mean time of completing the job (minutes) | 30 | 25 |
| Standard Deviation (minutes) | 6 | 4 |

- Which worker appears to be more consistent in the time he requires to complete the job ? Explain.

- Which worker appears to be faster in completing the job ? Explain. *20*

**7.** Briefly comment on any *two* of the following : *2×10=20*

(a) Dependence refers to any statistical relationship between two random variables or two sets of data.

(b) Measures of central tendency give us good information about the scores in our distribution.

(c) Regression analysis includes many techniques for modelling and analyzing several variables.

**8.** Write short notes on any *two* of the following : *2×10=20*

(a) Hypothesis Testing

(b) Statistical Sampling

(c) Lorenz Curve

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