MASTER OF BUSINESS ADMINISTRATION (RETAIL) (MBARS)

00233

Term-End Examination

December, 2011

MRS-011 : QUANTITATIVE TECHNIQUE

Time : 3 hours   *Maximum Marks : 100*

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

1. (a)   Explain the following terms :   10
    (i)   Class interval
    (ii)   Commulative frequency table

    (b)   What do you mean by one dimensional   10
    diagram ? Discuss the utility and various
    limitations   of   diagrammatical
    representation.

2. (a)   From the following table find the value of   10
    median.

Measurements	11-15	16-20	21-25	26-30	31-35	36-40	41-45	46-50
Frequency	7	10	13	26	35	22	11	6

    (b)   Distinguish between the following :   10
    (i)   Geometrical Mean and Harmonic
    Mean
    (ii)   Quartiles and deciles

3. (a) The following data regarding the height **10**
   (y) and the weight (x) of 100, college
   students are given below.
   $\Sigma x = 15000$ $\Sigma x^2 = 2272500$
   $\Sigma y = 6800$ $\Sigma y^2 = 463025$
   $\Sigma xy = 1022250$
   Find the correlation of coefficient between
   height and weight and state the equation
   of regression of height one weight.

   (b) Using the method of least squares, fit a **10**
   straight line to the following data !

x	1	2	3	4
y	3	7	13	21

4. (a) Write short notes on : **10**
   (i)   Seasonal Variations
   (ii) Cyclical Variations

   (b) Explain Laspeyres' and Paasche's price and **10**
   quantity index numbers.

5. (a) Of the cigarette smoking population 70% **10**
   are men and 30% women, 10% of these men
   and 20% of these women smoke 'WILLS'
   what is probability that a person seen
   smoking a 'WILLS'. Will be a Man.

   (b) A manufacturer knows that the razor **10**
   blades he makes contain on an average 0.5%
   of defectives. He packs them in packets of
   5. What is the probability that a packet
   picked at random will contain 3 or more
   faulty blades.

6. (a) Define Normal distribution and state the **10** properties of Normal distribution.

    (b) Differentiate between the following. **10**

        (i) Type I error and type II error

        (ii) Judgement sampling and random sampling.

7. (a) Define one way and two way classification **10** as used in the analysis of variance. Also discuss the utility of analysis of variance.

    (b) Intelligence test on two groups of boys and **10** girls give the following result. Examine if the difference is significant.

| Girls | Mean = 84 | SD = 10 | No. of Sample = 121 |
| Boys | Mean = 81 | SD = 12 | No. of Sample = 81 |

8. (a) Write a short note on Fisher's 'Z-distribution' **10** and the 'Kruskal-Wall's Test.

    (b) Draw appropriate Venn diagram for each **10** of the following :

        (i) $(A \cup B)'$ (ii) $(A' \cap B')$

        (iii) $(A \cap B)'$ (iv) $A' \cup B'$