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MBA 1st Semester Examination

Business Statistics (N.S.)

MBA-102

Time : 3 Hours   Max. Marks : 60

The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/ continuation sheet will be issued.

Note : All questions are compulsory in section "A" which carry two marks each. Attempt any four questions from section "B" carrying five marks each and attempt any two questions from section "C" which carry ten marks each.

SECTION - A

1. (a)   What is frequency polygon?

    (b)   When is mode useful over other averages?

    (c)   What is Laranz curve?

    (d)   What is symmetrical distribution?

    (e)   What is time reversal test?

    (f)   What do you understand by the term conditional probability?

    (g)   What is Poisson distribution?

    (h)   What is null hypothesis?

    (i)   Define rank correlation.

    (j)   Define cyclical functuations.

SECTION - B

2. Calculate the Median and mode of the distribution of weights of 150 students from the data given below:–

   Weight (kg) : 30-40 40-50 50-60 60-70 70-80 80-90
   Frequency :   18   37   45   27   15   8

3. State and explain the Fisher's ideal index. Why it is called ideal?

4. A company gives "on the job" training to its salesman which is followed by a test. It is considering whether it should terminate the services of any salesman who does not do well in the test. The following data give the test scores and sales made by nine salesman during the last one year:

   Test scores   :   14 19 24 21 26 22 15 20 19
   Sales (Rs'000):   31 36 48 37 50 45 33 41 39

   Complete the coefficient of correlation between test scores and sales. Does it indicate that termination of the services of salesman with low test scores is justified?

5. Explain what do you understand by the term "probability"? Discuss its importance in decision making.

6. 500 units from the factory are inspected and 12 are formed to be defective, 800 units from another factory are inspected and 12 are found to be defective, can it be concluded at 5% level of significance that production at second factory is better than the first factory?

7. What do you understand by "Statistical Estimation"? Explain the methodology used for estimating the mean of the population from the mean of the sample.

SECTION - C

8. Find the means of x and y variables and the coefficient of correlation between them from the following two regression equations:

   $3y - 2x - 10 = 0$

   $2y - x - 50 = 0$

9. Discuss the distinctive features of the binomial, Poisson and normal distribution. When does the binomial distribution tend to become a normal distribution?

10. Fit the straight line trend by the method of least square, to the following data. Assuming that the same rate of change continues, what would be the predicted sales for 1993?

Year :	1987	1988	1989	1990	1991	1992
Sales (Rs.'000) :	15	17	20	21	23	24

11. What do you understand by the term skewness and kinetosis? Discuss in detail their role in analysing the frequency distribution.