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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.

SECTION - A

All questions are compulsory and carry 2 marks each.

1. (a) Mention the advantage's of Arithmetic mean.

    (b) Define Karl Pearson's coefficient of correlation.

    (c) What do you understand by seasonal variations in time series data?

    (d) Briefly describe the steps that are used to develop a forecasting system.

    (e) Explain what is meant by sample space.

    (f) Explain Poisson distribution.

    (g) Null hypothesis.

    (h) Sampling errors.

    (i) F-test applications.

    (j) type-I error.   (10×2=20)

SECTION - B

Out of the 6 questions given, the student should answer ANY FOUR and all carry 5 marks each.

2. Blood Serum cholesterol levels of 10 persons are as under 240, 250, 290, 244, 256, 289, 274, 264, 278 and 251. Calculate standard derivation with the help of assumed mean.

3. Find the coefficient of correlation from the following data:

Cost :	40	64	63	91	83	76	26	99	36	75
Scales :	48	54	59	87	63	68	60	91	52	85

4. The two regression lines obtained in a correlation analysis of 70 observations are:

    $5x = 6y + 24$ and $1000y = 768x - 3707$

    What is the correlation coefficient and what is it's probable error?

5. What do you mean by time series analysis? Discuss its importance in business.

6. You are given the exports of electronic goods from 1990 to 1999. Fit a linear trend to the exports data and estimate the expected exports for the year 2005.

Year :	1990	1992	1994	1996	1998	1999
Exports (crores) :	12	17	14	19	24	22

7. Enumerate the procedure involved in the testing of hypothesis.

    (4×5=20)

SECTION - C

Out of the 4 questions given, answer ANY TWO and all carry 10 marks each.

8. Define normal distribution and give the salient features of normal distribution.

9. The marks obtained in a certain examination follow normal distribution with mean 50 and standard deviation 9 if 900 students appeared at the examination, calculate the number of student's scoring.

   (i) Less than 50 marks and

   (ii) More than 70 marks.

10. A coin is tossed 900 times and heads appear 490 times. Does this result support the hypothesis that the coin is unbiased.

11. Weights in kgm. of 10 students are given below:

    38, 40, 45, 53, 47, 43, 55, 48, 52, 49.

    Can we say that variance of distribution of weights of all students from which the above sample of 10 students was drawn, is equal to 200 square kg?

Degrees of freedom	x^2 0.05	x^2 0.01
9	16.92	21.67
10	18.31	23.21

(2×10=20)