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SDV - 22

[Total No. of Questions : 5]

M.Com. (Semester - I) Examination, Nov. - 2011

ACCOUNTING & FINANCE

CO102 : Business Statistics

Duration : 2 Hours

Total Marks : 50

- Instructions : 1) Answer all questions.
2) Each question carries 10 marks.

Q1) Briefly explain the following : [5 × 2 = 10]

- Primary data and secondary data.
- Empirical relation between Mean, Median and Mode.
- Skewness and Kurtosis.
- Tabulation.
- A frequency distribution gives the following results :

Coefficient of variation = 6; Standard deviation = 1.5; and Karl Pearsons Coefficient of Skewness = 0.5. Find Mean and Mode.

Q2) a) What is straight line trend? How would you fit such a trend by the method of least squares? What are the limitations of such trend values. [10]

OR

b) The regression equation of profits (X) on Sales (Y) of a certain firm is $6y - 10x + 210 = 0$.

✓ The average sales of the firm were Rs. 88,000 and the variance of profit is $\frac{16}{25}$ th of the variance of sales. Find the average ~~sales~~ ^{profits} and the coefficient of correlation between sales and profits. [10]

Q3) a) What do you mean by mathematical expectation? In what way this is related with theoretical frequency distributions. Also explain the procedure of calculating probability under (i) Binomial distribution; (ii) Poisson distribution; and Normal distribution. [10]

OR

b) Among applicants to a post, 60% are males and the rest are females. While 60% of the male applicants are graduates; only 50% of the female applicants are graduates.

P.T.O.

- i) What is the probability of selecting a graduate for the post?
 ii) If a graduate is selected to the post; what is the probability that the selected candidate is a male.
 (Use decision tree diagram for solving the problem) [10]

Q4) a) Explain how Chi-Square (χ^2) distribution can be used for judging the agreement between observed and expected frequencies. Also explain the procedure of determining the degrees of freedom in different circumstances. [10]

OR

- b) In a random sample of 500 men from a particular district of Goa; 300 are found to consume alcohol. In another random sample of 1000 men from another district, 550 are found to consume alcohol. Do the data indicate that the two districts are significantly different with respect to consumption of alcohol habit among men? [10]

Q5) a) What is a control chart? How is it constructed? Explain the method of constructing control charts for \bar{X} (Mean) and R (Range). [10]

OR

- b) Draw a suitable control chart for the following data pertaining to the number of foreign coloured threads (considered as defects) in 15 pieces of cloth of $2m \times 2m$ of a certain make of synthetic fibre and state your conclusion. [10]

draw
control chart

7, 12, 3, 20, 21, 5, 4, 3, 10, 8, 0, 9, 6, 7, 20