

SEMESTER EXAMINATION-2021

CLASS – BBA SUBJECT

PAPER CODE: BBA C103 Statistics For Business Decisions

Time: 3 hour

Max. Marks: 70

Min. Pass: 40%

Note: Question Paper is divided into two sections: **A and B**. Attempt both the sections as per given instructions.

SECTION-A (SHORT ANSWER TYPE QUESTIONS)

Instructions: Answer any five questions in about 150 words each. Each question carries six marks. (5 X 6 = 30 Marks)

Question-1: Define A) Mode B) Correlation C) Regression D) Standard Deviation
Give formulas also.

Question-2: Discuss the Application of Statistics in business management.

Question-3: Explain the Scope and Limitations of Statistics.

Question-4: An urn contains 8 white and 3 red balls. If two balls are drawn at random, find the probability that: 1) both are white 2) both are red 3) one is of each color

Question-5: Discuss the Addition Theorem of probability.

Question-6: The following is the frequency distribution of the number of telephone calls received in 245 successive one-minute intervals at an exchange :

Number of Calls X : 0 1 2 3 4 5 6 7

Frequency f : 14 21 25 43 51 40 39 12

Obtain the mean number of calls per minute.

Question-7: Discuss the merits and Demerits of Mean and Median.

Question-8: Calculate the mean and standard deviation from the following data :

Value : 90—99 80—89 70—79 60—69 50—59 40—49 30—39

Frequency : 2 12 22 20 14 4 1

Question-9: Skewness helps us to determine the nature and extent of the concentration of the observations towards the higher or lower values of the variable. Discuss and give all types of Skewness with diagrams.

Question-10: What is Scatter Diagram? Draw Scatter plot for Linear and Logrthmic Correlation.

SECTION-B (LONG ANSWER TYPE QUESTIONS)

Instructions: Answer any FOUR questions in detail. Each question carries 10 marks.

(4 X 10 = 40 Marks)

Question-11: Explain the various approaches in Probability Theory.

Question-12: Discuss the Theory of Compound Probability.

Question-13: Explain the properties and importance of Normal and Poisson Distribution.

Question-14:

Fit a parabolic trend to the following data using the method of least squares and calculate the production for the year 2001 :

Year : 2001 2002 2003 2004 2005 2006

Production ('000 tons) : 100 107 128 140 181 192

Question-15:

From the following table calculate the coefficient of correlation by Karl Pearson's method.

- X: 6 2 10 4 8
- Y: 9 11 5 8 7

Question-16: *Ten competitors in a beauty contest are ranked by three judges in the following order :*

1st Judge R1: 1 6 5 10 3 2 4 9 7 8 $\rho_1, d_1=R_1-R_2, \rho_2, d_2=R_1-R_3, \rho_3, d_3=R_2-R_3$

2nd Judge R2: 3 5 8 4 7 10 2 1 6 9

3rd Judge R3: 6 4 9 8 1 2 3 10 5 7

Use the rank correlation coefficient to determine which pair of judges has the nearest approach to common tastes in beauty.

Question-17: *From the following data, obtain the two regression equations :*

Sales X: 91 97 108 121 67 124 51 73 111 57

Purchases Y: 71 75 69 97 70 91 39 61 80 47

Question-18: Discuss the concept of Time series and Explain its various types of Models.

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