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BBA (Sem. - 3rd)

BUSINESS STATISTICS

SUBJECT CODE : BB - 304

Paper ID : [C0216]

[Note : Please fill subject code and paper ID on OMR]

Time : 03 Hours Maximum Marks : 60

Instruction to Candidates:

1) Section - A is **Compulsory**.
2) Attempt any **Four** questions from Section - B.

Section - A

Q1) *(10 × 2 = 20)*

a) Define secondary data.

b) Show that the weighted arithmetic mean of the square of 'n' natural numbers whose weights are equal to the corresponding numbers is equal to n (n + 1) / 2.

c) Prove that the product of the ratios of each of the 'n' observations to the G.M. is always unity.

d) The geometric mean and harmonic mean of two observations are respectively 18 and 10.8. Find the observations.

e) For numbers 1, 2, 3, 4, 5 calculate range and mean deviation from median.

f) If S.D. of a set of observations is zero, then all observations are equal. Comment.

g) Write direct method to find Karl Pearson's coefficient of correlation.

h) Define quantity index number.

i) State Bayes Theorem.

j) Write the significance of Time Series Analysis.

Section - B

(4 × 10 = 40)

Q2) Calculate the mode of given data set :

Mid Value :	5	15	25	35	45	55	65	75	85
Frequency :	4	5	8	12	16	28	15	3	2

Q3) Find the standard deviation of the (2n + 1) terms of an A.P.

Q4) The following is the record of number of bricks laid each day for 10 days by two brick layers A and B. Calculate the coefficient of variation in each case and discuss the relative consistency of two brick layers.

A:	700	675	725	625	650	700	650	700	600	650
B:	550	600	575	550	650	600	550	525	625	600

Q5) Data related to age of students and their games are given. Calculate the correlation between the age of students and their playing habits.

Age :	15	16	17	18	19	20
No. of Students :	250	200	150	120	100	80
Regular Players :	200	150	90	48	30	12

Q6) Calculate the index number for 1998 with 1990 as base using average of price relative method for the following data :

		Price	
Commodity	Weight	1990	1998
A	2	12	24
B	8	8	12
C	4	15	27
D	5	6	18
E	1	10	12

Q7) What is a trend in a time series. The following table gives the annual sales (in Rs'000) of a commodity.

Year:	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Sales:	710	705	680	687	757	629	644	783	781	805	872

Determine the trend by calculating 5-yearly moving average.