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Roll No. | | | | | | | | | | | | | **Total No. of Pages : 03**

Total No. of Questions : 09

BBA (2012 & Onward Batches)
BRDM(2014 Batch)
Bachelor in Service Industry Management (SIM) (2014 Batch)
(Sem.–3)

BUSINESS STATISTICS

Subject Code : BBA-304
Paper ID : [C1167]

Time : 3 Hrs. **Max. Marks : 60**

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTIONS-B consists of FOUR Sub-sections : Units-I, II, III & IV.**
3. **Each Sub-section contains TWO questions each, carrying TEN marks each.**
4. **Student has to attempt any ONE question from each Sub-section.**

SECTION-A

1. Write briefly :

(a) Define quantitative classification.

(b) Show that the weighted A.M. of the square of first 'n' natural numbers whose weights are equal to the corresponding numbers is equal to $\frac{n(n+1)}{2}$.

(c) Find out H.M of following individual series 10, 20, 30, 40, 50, 60, 120.

(d) Write the merits of measures of Dispersion.

(e) Define coefficient of variation and coefficient of S.D.

(f) Find the probability that a leap year selected at random will contain 53 Sundays.

(g) Two random variables have the regression equations :

$$3x + 2y = 26 \; ; \; 6x + y = 31$$

Find out coefficient of correlation between x and y.

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(h) Explain :

(i) Time Reversal Test

(ii) Factor Reversal Test.

(i) Write components of Time-Series.

(j) Karl Pearson's coefficient of correlation between x and y is –0.75, their covariance = –15. If variance of x is 25. Find S.D of y series.

SECTION-B

UNIT-I

2. You are given the following incomplete frequency distribution, it is known that the total frequency is 1000 and that median is 413.11. Find out missing frequencies and then find value of mode.

x **:**	300–325,	325–350,	350–375,	375–400,	400–425,	425–450,	450–475,	475–500
f **:**	5,	17,	80,	—,	326,	—,	88,	9.

3. Calculate S.D. from the following :

Marks (below)	**:**	20	40	60	80	100
No. of students	**:**	8	20	50	70	80

UNIT-II

4. Compute Karl Pearson's Coefficient of correlation from following data :

x **:**	20	24	22	26	24	28	18	24	28	26
y **:**	14	18	24	18	26	16	20	24	14	26

5. From the data given below find the :

(a) Two regression equations

(b) The most likely marks in statistics when marks in Economics are 30

(c) Also find the coefficient of correlation between the two.

Marks in Economics	**:**	25	28	35	32	31	36	29	38	34	32
Marks in Statistics	**:**	43	46	49	41	36	32	31	30	33	39

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UNIT-III

6. Fit a straight line trend to the following data :

Year	**:**	1961	1971	1981	1991	2001
(Production in '000 tones)	**:**	20	24	16	20	28

Estimate the production for the year 1986.

7. Calculate price index number by :

(a) Laspeyer's method

(b) Paasche's method

(c) Bowley's method

(d) Fishers ideal method.

Commodities	**1999**		**2000**	
	Price	**Quantity**	**Price**	**Quantity**
A	20	8	40	6
B	50	10	60	5
C	40	15	50	10
D	20	20	20	15

UNIT-IV

8. A problem in statistics is given to two students A and B whose chances of solving it independently are $\frac{1}{2}$ and $\frac{1}{3}$ respectively. What is probability that :

(i) The problem is solved

(ii) Only one of them will solve the problem

(iii) None of them can solve the problem

(iv) Both of them can solve the problem.

9. Explain the following terms :

(i) Mutually exclusive and Equally likely events

(ii) Independent and Dependent events

(iii) Simple and Compound events

(iv) Exhaustive and Complementary events.

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