

Exam. Code : 105403

Subject Code : 1475

B.B.A. 3rd Semester

STATISTICS FOR BUSINESS

Paper—BBA-303

Time Allowed—Three Hours] [Maximum Marks—50

SECTION—A

Note :— Attempt any **TEN** short answer type questions.
Each question carries **1** mark and the total weightage is **10** marks.

1. (a) Define the skew symmetric matrix.

(b) If $\begin{bmatrix} x+3 & 4 \\ y-4 & x+y \end{bmatrix} = \begin{bmatrix} 5 & 4 \\ 3 & 9 \end{bmatrix}$. Find the value of x and y .

(c) What is tabular presentation of data ?

(d) What is histogram ?

(e) Calculate median from the following data items :

200, 217, 316, 264, 296, 282, 317, 299

(f) Can mean be calculated in open ended series of data ?

(g) What do you understand by the term "Correlation" ?

- (h) Discuss any two properties of regression coefficients.
- (i) What do you understand by the term “Unweighted Index Number” ?
- (j) Describe the term “Seasonal fluctuations” in context to time series analysis.
- (k) A single letter is selected at random from the word ‘PROBABILITY’. What is the probability that it is a vowel ?
- (l) Write any two assumptions of Binomial distribution.

SECTION—B

Note :— Attempt any **TWO** long answer type questions. Each question carries **10** marks and the total weightage is **20** marks.

2. Solve the following system of linear equations by Matrix inversion method :

$$x + y + 2z = 4$$

$$2x - y + 3z = 9$$

$$3x - y - z = 2$$

3. What do you understand by the term ‘Sampling’ ? Discuss in detail various methods of sampling techniques.

4. Calculate interquartile range, quartile deviation and coefficient of quartile deviation from the following data values :

Age Group	0-20	20-40	40-60	60-80	80-100
No. of persons	4	10	15	20	11

5. Calculate mean and standard deviation for the following data values :

Age (Under)	10	20	30	40	50	60
No. of persons	15	32	51	78	97	109

SECTION—C

Note :— Attempt any **TWO** long answer type questions. Each question carries **10** marks and the total weightage is **20** marks.

6. Calculate coefficient correlation by means of ranking method from the following data :

X	40	50	60	60	80	50	70	60
Y	80	120	160	170	130	200	210	130

Make corrections for tied ranks.

7. Calculate the regression equation of X on Y from the following data by the method of least squares. Also estimate the value of X when $Y = 10$:

X	1	2	3	4	5
Y	2	5	3	8	7

8. Construct index number of price from the following data by using :

(a) Laspeyre's method

(b) Fisher's method

Commodity	2013		2014	
	Price	Quantity	Price	Quantity
A	2	8	4	6
B	5	10	6	5
C	4	14	5	10
D	2	19	2	15

9. A bag contains five white and three red balls and four balls are successively drawn out and not replaced. What is the chance that they are alternatively of different colours ?