

Question Paper 2017**Time: 3 Hours Marks: 100**

Note: Attempt any five questions. All questions carry equal marks. Attempt at least two Questions from each section.

SECTION - I**Question No.1**

Groups	Frequency	Groups Rs.	Frequency
0 – 7	5	28 – 35	18
7 – 14	13	35 – 42	13
14 – 21	18	42 – 9	5
21 - 28	28		

Required: Calculate Arithmetic Mean, Median, Mode and Coefficient of variation

Question No.2

X	18	19	20	21	22	23	24	25	26	27
Y	17	17	18	18	18	19	19	20	21	22

Required: Calculate Co-efficient of correlation and also the line of regression y on x.

Question No.3

Calculate Price Index Numbers using Laspeyre's Paasche's Fisher's and Marshall's formula for 2001 taking 2000 as base year from the following data:

Commodity	2000		2001	
	Price	Quantity	Price	Quantity
Wheat	12	10	15	12
Rice	15	7	20	5
Jawar	24	5	20	9
Maize	5	16	5	14

Question No. 4

The Table of hair colours and eye colors of 200 persons is given below:

Eye Colour	Hair Colour			Total
	Light Black	Dark Black	Brown	
Blue	26	21	13	60
Black	25	42	21	88
Brown	19	18	15	52
Total	70	81	49	200

Test the Hypothesis that hair and eye colours are independent. The table value of Chi-Square at 4 degree of freedom at 5% level of significance is 9.49.

Question No.5

If $A = \begin{pmatrix} 2 & -3 & 4 \\ 1 & 5 & -2 \\ 4 & 2 & 6 \end{pmatrix}$ and $B = \begin{pmatrix} 1 & -2 & 3 \\ 4 & -5 & -6 \\ 7 & 8 & 9 \end{pmatrix}$

Find (i) $A+B$ (ii) $2A-3B$ (iii) AB

Question No. 6

(c) Solve the following Quadratic Equation:

$$2x^2 + 15x + 18 = 0$$

(d) The difference of two number is 33. The larger number is one more than three times the smaller number. Find the Numbers.

Question No. 7

(c) The sum of 10 terms of an A.P., Whose last term is 28, is 145. Find the first term and the common difference.

(d) (b) Find the sum of the series:

$$1, \frac{1}{2}, \frac{1}{4}, \frac{1}{8}, \frac{1}{16}, \dots \dots \text{to infinity cannot exceed } 2$$

Question No.8

Find out the effective rate of interest equivalent to the nominal rate of 8% p.a compounded quarterly.