

Attempt any Five Questions. Attempt At least Two Questions from Each Section

### SECTION – I

#### Question No.1

Following is the frequency distribution. Calculate Bowley's Coefficient of skewness

Scores	0-10	10-20	20-30	30-40	40-50	50-70	70-100
No of Matches (f)	3	7	12	18	31	24	21

#### Question No.2

The following data given the ages and blood pressure of 10 women

Age	56	42	36	47	49	42	60	72	63	55
Blood Pressure	147	125	118	128	145	140	155	160	149	150

- (a) Find correlation coefficient between age and blood pressure.  
 (b) Calculate two regression coefficients

#### Question No.3

Calculate price index numbers using Laspeyre's, Passche's Fisher's and Marshall's formula for 2011 taking 2009 as base year.

Year	Wheat		Rice		Maize	
	Price	Qty	Price	Qty	Price	Qty
2009	3.8	29	2.9	3	6.5	12
2011	5.8	24	4.5	2.5	7.8	14

#### Question No.4

Draw all possible sample of size 2 with replacement from the population 2,4,6,8,10. Make sampling distribution and show that

$$(i) \mu_{\bar{x}} = \mu \quad (ii) \sigma_{\bar{x}}^2 = \sigma^2/n$$

### SECTION – II

#### Question No.5

If  $A = \begin{pmatrix} 2 & -3 & 5 \\ k & 4 & 6 \\ 2 & 0 & 8 \end{pmatrix}$  is singular matrix then find K.

#### Question No.6

- (a) If the sum of two consecutive numbers is 27 find the numbers?  
 (b) Solve the equation  $2x=3-8x$

**Question No.7**

- (a) Which term of the sequence, 16,8,4,2,..... Is  $1/16$ ?
- (b) Find the first tem of Geometric progression whose 6<sup>th</sup> term and 7<sup>th</sup> term are  $32/9$  and  $64/27$  respectively.

**Question No.8**

A tract of land is leased in perpetuity at Rs.12,500 due at the beginning of each month. If worth 13.5% compounded monthly. What is the value of lease?

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