Question Paper 2009

Time:3 Hours **Marks: 100**

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

SECTION 1

Question No.1

For the following data obtain the
(a) Mode **(b)** Median **(c)** Coefficient of variation

Weekly Wages	30-39	40-49	50-59	60-69	70-79	80-89	90-99
No. of Workers	6	10	11	12	32	18	8

Question No. 2

(a) Find the Chain indices from the following price relative of four commodities using the Geometric Mean as an average

Year	**Commodities**			
	A	**B**	**C**	**D**
1951	81	77	119	55
1952	62	54	128	52
1953	104	87	111	100
1954	93	75	154	96
1955	60	43	165	88

(b) 200A cardisdrawnformawellshuffledpackof52playingcards,whatisthe probability that itis

(i) BlackCard **(ii)** A FaceCards

Question No.3

A population consist of four values 2, 4, 6, 10, Take all possible sample of size n=2 without replacement. Find the mean of each sample. Form a frequency table of sample Means and calculate Mean and Variance. Also Verify that

$\mu_{\bar{x}} = \mu$ **2) $\sigma^2_{\bar{x}} = (s^2/n) .(N-n/N-1)$**

Question No. 4

(a) Discuss the Association among 1000 school boys between the general ability and their mathematical ability form the following data. Using level of significance be 5%.

Mathematical Ability	General Ability		
	Good	**Fair**	**Poor**
Good	44	22	4
Fair	268	257	178
Poor	41	91	98

(b) Find Regression coefficient of the following case.

$\Sigma X=17.6$, $\Sigma Y=38.2$, $\Sigma X=17.6$, $\Sigma XY=94.7$, $\Sigma X=17.6$, $\Sigma X2=49.64$, $\Sigma X=17.6$, $\Sigma Y2=182$, $n=8$

Question No. 5

(a) Solve the following equation by any appropriate method. $(\sqrt{5x+4}) - (\sqrt{3x+1})=1$

(b) Solve the equation for x

$x + 1/3x = 1/x - 1/3$

(c) Question No.6

(a) Solve the following systems of equations:

2x+6y+4z=320

6x+6y+4z=480

3x+2y+z=192

(b) The 10th term of an arithmetic progression is 20 and 20th term is 40. Find the 7th term.

Question No. 7

(a) If the difference between the, simple and compound interest for 3 year at 5% is Rs.61. Find the principal amount

(b) Find the accumulated value of Rs.5000 invested at the end of each quarter year for 5 years at 8% compounded quarterly.

Question No. 8

Give answer of the following and unnecessary details will be penalized.

(i) Define a Matrix

(ii) Define a common Ratio

(iii) Define compound Interest

(iv) Define Annuity Due

(v) Define the Population

(vi) What is the difference between Sample and Sampling?

(vii) Define the term Correlation

(viii) Define Standard Deviation

(ix) What do you understand by Measure of Central Tendency?

(x) Define the weighted mean