

INTERMEDIATE PART-I (11th CLASS)**STATISTICS PAPER-I (OLD SCHEME)**

TIME ALLOWED: 2.40 Hours

SUBJECTIVE

MAXIMUM MARKS: 68

**NOTE: - Write same question number and its part number on answer book,
as given in the question paper.**

SECTION-I**2. Attempt any eight parts.****8 × 2 = 16**

- (i) Define Statistics in Plural Sense.
- (ii) Name the sources of Primary Data.
- (iii) Define the Weighted Mean.
- (iv) Find A.M, given $D = X - 10$, $\sum fD = 150$ and $n = 20$
- (v) Define Arithmetic Mean.
- (vi) In a skewed distribution if Mode = 15 and Mean = 10.5, find Median.
- (vii) Find the Median and Mode of the letter 'STATISTICS'.
- (viii) Define Chain Base Method.
- (ix) Define Unweighted Index Numbers.
- (x) Given $\sum P_1q_0 = 9000$ and $\sum P_0q_0 = 8490$, find Consumer Price Index Number.
- (xi) Find Paasche's Index Number when Laspeyre's Price Index Number = 107.42 and Fisher's Price Index Number = 105.24.
- (xii) Define Consumer Price Index Number.

3. Attempt any eight parts.**8 × 2 = 16**

- (i) What is meant by a Frequency Distribution?
- (ii) Define Frequency Polygon.
- (iii) Explain the meaning of the term Dispersion.
- (iv) State the advantages of the Range.
- (v) In a symmetrical distribution $Q_1 = 140$ and Median = 150. Find quartile deviation.
- (vi) Explain the moment about Mean.
- (vii) The first moment about $x = 25$ is 5. Find Arithmetic Mean.
- (viii) Given Mean = 50, Median = 48 and Standard deviation = 6. Find Kart Pearson's Coefficient of Skewness.
- (ix) Write down a definition of Probability.
- (x) Differentiate between Combinations and Permutations.
- (xi) Given $P(A \cap B) = 0.4$, $P(B) = 0.8$. Find $P\left(\frac{A}{B}\right)$
- (xii) Define Conditional Probability.

4. Attempt any six parts.**6 × 2 = 12**

- (i) Define Random Experiment. What are its two properties?
- (ii) Define Distribution Function with example.
- (iii) Define Mathematical expectation of Random Variable.
- (iv) Find the value of k in the probability distribution $x = 0 \quad 1 \quad 2 \quad P(x) = K \quad 2K \quad 3K$
- (v) Write down any three properties of expectation.
- (vi) What is Binomial Experiment.
- (vii) Describe the properties of Binomial Distribution.
- (viii) What is Hypergeometric Experiment?
- (ix) If $N = 40 \quad n = 5 \quad k = 4$, find Mean and S.D of Hypergeometric Distribution.

SECTION-II**NOTE: - Attempt any three questions.**

- 5.(a) The logarithms of 10 values of "X" are:- 4
1.8062, 1.2304, 1.6532, 1.5798, 1.4314, 0.7782, 1.6812, 1.0414, 1.7559, 1.5315
Calculate Arithmetic Mean of "X" values.

- (b) Find the value of Mode for the following data:- 4

Marks	10 – 19	20 – 29	30 – 39	40 – 49	50 - 59
Number of students	05	25	40	20	10

- 6.(a) Find Mean Deviation from Mean from the following data:- 4

Class	10 – 19	20 – 29	30 – 39	40 – 49	50 - 59
f	05	25	40	20	10

- (b) Find the coefficient of variation from the following frequency distribution. 4

x	37	42	47	52	57	62	67
f	15	13	17	29	11	10	5

- 7.(a) Compute index numbers of prices from the following data taken 1981 as base and using Median as average. 4

Prices			
Years	A	B	C
1981	18	85	52
1982	22	76	60
1983	28	80	66
1984	31	95	80

- (b) (i) From a pack of 52 cards, two cards are drawn. What is the probability that one is king and the other is queen. 4

- (ii) Six white balls and four black balls which are distinguishable apart from colour, are placed in a bag. If six balls are taken from the bag, find the probability that their being three white and three black.

- 8.(a) A random variable x has the following probability distribution. 4
Find probability distribution of y when $y = x^2 + 1$

x	0	1	2	3	4
$P(x)$	0.1	0.2	0.3	0.3	0.1

- (b) Find coefficient of variation from the data given in part a . 4

- 9.(a) In a binomial distribution the mean and standard deviation were found to be 38 and 5.6 respectively. Find n and p . 4

- (b) A committee of size 3 is selected from 4 Men and 2 Women. Find probability distribution for number of women on the committee. 4