

# Statistics

## Class XI<sup>o</sup> Syllabus for I<sup>st</sup> Periodic Test

Theory Examination, Full Marks: 40, Time: 2 Hours

### Unit I: Introduction to Statistics

Definition and limitations of Statistics. Sample and Population, Qualitative and quantitative data. Collection of Statistical data (Primary & Secondary). Classification, Tabulation and diagrammatic representation (Pie chart, Line diagram and Bar diagram) of data. Discrete and continuous variable. Questionnaire.

Frequency distribution and cumulative frequency distribution and their graphical representations (Histogram, Frequency Polygon, Frequency curve and Ogives).

### Unit II: Mathematics

Arithmetic Progression (AP), Geometric Progression (GP).

#### Marks Distribution of Theory Examination

Very Short Answer (VSA):	5 Question $\times$ 2 Marks	$5 \times 2 = 10$
Short Answer (SA):	5 Question $\times$ 3 Marks	$5 \times 3 = 15$
Long Answer (LA):	3 Question $\times$ 5 Marks	$3 \times 5 = 15$

#### Syllabus for Half Yearly Examination

Theory Examination, Full Marks: 70, Time: 3 Hours

### Unit II: Mathematics

Binomial Expansions

### Unit III: Descriptive Statistics

Concept of Central Tendency, different measures of Central Tendency (Mean, Median and Mode). Quartiles, Deciles and Percentiles.

Concept of Dispersions, different measures of dispersions (Range, Quartile deviation, Mean deviation and Standard deviation), Relative measures of dispersions (coefficient of variation)

N.B.: Syllabus of I<sup>st</sup> Periodic test is also included in half yearly examination.

#### Marks Distribution of Theory Examination

Very Short Answer (VSA):	15 Question $\times$ 2 Marks	$15 \times 2 = 30$
Short Answer (SA):	5 Question $\times$ 3 Marks	$5 \times 3 = 15$
Long Answer (LA):	5 Question $\times$ 5 Marks	$5 \times 5 = 25$

### Practical Examination

**Three experiments** to be given in the examination as follows:

1. Drawing of Pie chart, Line diagram and Bar diagram.
2. Drawing of Histogram, Frequency Polygon, Frequency curve and Ogives.
3. Computation of A.M., G.M. and H.M. from ungrouped and grouped data.
4. Computation of Median and Mode, Quartiles, Deciles and Percentiles from ungrouped and grouped data.

### **Marks Distribution of Practical Examination**

Full Marks: 30, Time: 3 Hours

1. Experiments (5 + 5 + 10)	20 Marks
2. Practical Note Book (PNB)	5 Marks
3. Viva-Voce	5 Marks

### **Syllabus for 2<sup>nd</sup> Periodic Test**

Theory Examination, Full Marks: 40, Time: 2 Hours

#### **Unit II: Mathematics**

Cauchy-Schwartz's inequality.

#### **Unit III: Descriptive Statistics**

Moments, Sheppard's correction for moments (without proof), Skewness and Kurtosis and their measures based on moments and quartiles.

### **Marks Distribution of Theory Examination**

Very Short Answer (VSA):	5 Question × 2 Marks	$5 \times 2 = 10$
Short Answer (SA):	5 Question × 3 Marks	$5 \times 3 = 15$
Long Answer (LA):	3 Question × 5 Marks	$3 \times 5 = 15$

## Syllabus for Annual Examination

Theory Examination, Full Marks: 70, Time: 3 Hours

### Unit IV: Index Number

Definition of Index Number (Price, Quantity and Value indices). Uses and limitations of Index Numbers. Problems in construction of index numbers. Various Price index formulae (Laspeyres', Paasche's, Marshall-Edgeworth and Fisher). Tests for index numbers (Time reversal and Factor reversal). Basic concept of Cost of Living Index (CLI) and purchasing power of money.

N.B.: Syllabus of 2<sup>nd</sup> Periodic test is included in Annual examination.

### Marks Distribution of Theory Examination

Very Short Answer (VSA):	15 Question × 2 Marks	15 × 2 = 30
Short Answer (SA):	5 Question × 3 Marks	5 × 3 = 15
Long Answer (LA):	5 Question × 5 Marks	5 × 5 = 25

### Practical Examination

**Three experiments** to be given in the examination as follows:

1. Computation of Range, Quartile deviation, Mean deviation, Standard deviation and coefficient of variation from ungrouped and grouped data.
2. Computation of different measures of Skewness and Kurtosis from ungrouped and grouped data.
3. Computation of index numbers using Laspeyres', Paasche's, Marshall-Edgeworth and Fisher formulae.
4. Time reversal and Factor reversal tests of index numbers for the formulae given in the above experiments.
5. Different problems based on index numbers.

### Marks Distribution of Practical Examination

Full Marks: 30, Time: 3 Hours

1. Experiments (5 + 5 + 10)	20 Marks
2. Practical Note Book (PNB)	5 Marks
3. Viva-Voce	5 Marks