

Syllabus of F.Y.B.Sc. (Statistics)

Sem. I & II to

be effective from June 2014

F.Y.B.Sc. Sem-I

PAPER - 101

Descriptive statistics

Unit-1: **Collection of data :**

(30%)

- Concept of Data, Variables and Attributes,
- Types of data:
 - Qualitative and quantitative data, Discrete and continuous data,
 - Different types of scales: For attributes - Nominal and Ordinal,
For variables - Ratio and Interval.
 - Primary data,
 - Methods of collecting primary data (with advantages and limitations),
 - Characteristics of an ideal questionnaire.
 - Secondary data,
 - Sources of secondary data,
 - Precautions while using secondary data,
 - Difference between primary data and secondary data.

Unit-2: **Classification and Tabulation of data :**

(30%)

- **Classification:**
 - Meaning of classification,
 - Characteristics of a good classification,
 - Advantages of classification,
 - Types of classification,
- **Tabulation:**
 - Meaning of tabulation,
 - Objectives of tabulation,
 - Guiding rules for tabulation,



- Essential parts of a statistical tables,
- Types of tables,
- Difference between classification and tabulation
- Frequency distribution: Discrete and continuous frequency distribution, Cumulative frequency distribution,
- Bivariate frequency distribution: Discrete and continuous bivariate frequency distribution.
- Simple Numerical Problems.

Unit-3: **Diagrammatic and graphic presentation of data :** (40%)

➤ **Diagrams:**

- Introduction,
- Rules for construction of diagrams,
- Types of diagrams: Line diagrams, Bar diagrams (simple, multiple, Simple sub-divided and percentage-divided), Stem and leaf chart, Box plot, Circle diagram, Pie diagram.
- Importance and limitations of diagrams,

➤ **Graphs:**

- Introduction,
- Graphs of frequency distributions: Histogram, Frequency polygon, Frequency curve, Cumulative frequency polygon, Cumulative frequency curve.
- Importance and limitations of graphs,

➤ Difference between diagram and graph.

Books: (i)

(ii) Gupta S. C and Kapoor V.K. : Fundamentals of Mathematical Statistics, S. Chand and Sons, New Delhi

(iii) Gupta S.P. (2006) : **Statistical Methods** - 34th Edition S. Chand & Sons., New Delhi



PAPER – 102

Different Measures of Statistics

Unit-1: **Measures of central tendency :** (40%)

- Meaning of central tendency,
- Measures of central tendency: Mean (Arithmetic Mean, Geometric Mean, Harmonic Mean, Weighted Mean, Combined Mean), Median, Mode.
- Merits, demerits and uses of above measures of central tendency,
- Characteristic of an ideal measure of central tendency,
- Partition values: Quartiles, Deciles, Percentiles.
- Percentile rank,
- Limitations of measure of central tendency,
- Simple Numerical Problems.

Unit-2: **Measures of Dispersion :** (50%)

- Meaning of dispersion, Significance of measuring variation,
- Absolute and relative measures of dispersion: Range, Quartile deviation, Mean deviation, Standard deviation,
- Merits, demerits and uses of above different measures of dispersion,
- Characteristic of an ideal measure of dispersion,
- Variance, Combined variance, Coefficient of Variation.
- Empirical relationships among Quartile deviation, Mean deviation, Standard deviation.
- Simple Numerical Problems.

Unit-3: **Moments:** (10%)

- Moments (for simple and with frequency data) : Central



moments, Raw moments (about origin) , Moments about arbitrary value,

- Relations of above moments (Without Proof),
- Purpose of moments,
- Sheppard's correction for moments for grouped data (without derivation),
- Conditions for applying Sheppard's correction,
- Coefficients based on moments ($\beta_1, \beta_2, \gamma_1$ and γ_2),

Books : ➤ Simple Numerical Problems.

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