Appendix ‘A’
(Outlines of Tests)

Paper-A: Statistics -I (Written) : 75 Marks
Paper-B: Practical : 25 Marks

Appendix ‘B’
(Syllabi and Courses of Reading)

Paper-A: Statistics-I 75 Marks

Candidates are required to attempt five questions in all, at least two from each section.

Section-I: Descriptive Statistics (Weight 2/10):


Index Numbers (Weight 1/10):

Construction and application of wholesale price Index Numbers. Fixed and Chain base methods. Weighted Index Numbers (Laspeyre’s, Paasche’s Fisher’s Ideal and Marshall-Edgeworth’s Indices). Tests for the consistency of Index Numbers Construction of Consumer price Index Numbers. Sensitive price Indicator.

Time Series (Weight 1/10):


Simple Regression and Correlation (Weight 1/10):

Logic of regression and correlation. Scatter diagram, simple linear regression model, least square estimators and their properties, standard error of estimate. Meaning and application of linear correlation coefficient. Properties of correlation co-efficient. Correlation coefficient for bi-variate
frequency distribution. Meaning, Derivation and Application of Rank correlation for distinct and tied ranks.

**Section-II: Probability (Weight 2/10):**


**Discrete Random Variable and Discrete Probability Distributions (Weight 2/10):**

Random variable, Distribution function, discrete random variable. Probability distribution of a discrete random variable. Joint distribution of two discrete random variables, marginal and conditional distributions, mathematical expectation and its properties, mean, variance and moments. Concept of m.g.f. and its properties. Uniform, Bernoulli, Binomial, Hyper-geometric and Poisson distributions, mean, variance and shape of these distributions and their properties. Application of these distributions with examples from various fields. Multinomial distribution (only application).

**Continuous Random Variable & Continuous Probability Distributions (Weight 1/10):**

Continuous random variable. Probability distribution of a single continuous random variable, probability density function and distribution function. Mean, variance and moments of continuous random variable. Uniform and Normal distribution. Mean, variance and shape of these distributions and their properties. Application of these distributions. Normal approximation to the Binomial and Poisson distribution (just application). Fitting of Normal distribution by area method.

**Note:** Separate practicals, each consisting of 25 marks will be held in third year and fourth year from the syllabus of these years respectively. Moreover, minimum 24 practicals according to the weightage of each topic may be covered.

**Paper-B: Practical 25 Marks**

There will be two questions from each section and candidates are required to attempt one from each section. The distribution of marks will be as under:

- Each question of 9 marks i.e. 9 + 9 18 Marks
- Practical Note Book: 03 Marks
- Viva Voce: 04 Marks
**Recommended Books:**