

**M.A. (Economics)**  
**Semester-II ✓**  
**Paper-IX Statistical Methods in Economics**

Max. Marks: 100  
External Examination: 80  
Internal Assessment: 20  
Time: 3 Hours

**Unit-I**

Correlation and regression analysis; Simple correlation, Pearson, spearman's correlation coefficients. Partial and Multiple correlation analysis and multiple regression analysis, specification of a simple linear regression model, least square estimation of Linear regression coefficients, interpretation of correlation and regression coefficients and their properties. Coefficient of multiple determination.

**Unit-II**

Basic concepts and definitions of probabilities: Laws of Addition and multiplication; Conditional probability; Bay's Theorem; Basic concepts of sampling-random and non random sampling. Normal distribution and its properties.

**Unit-III**

Concept of estimators and its desirable properties. Estimation of cobb-douglas production function. Estimation of simple and exponential growth rates; forecasting with OLS.

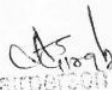
**Unit-IV**

Elements of statistical inference: Parameter and statistics; concepts of sampling distribution of a statistic, standard error, hypothesis testing, test of significance, Type I and Type II errors level of significance, Power of a test, z, t, chi-square and F tests.

**Note:**

The total marks for each theory paper will be of 100 marks including 20 marks for internal assessment.

The question paper will consist of three sections. Candidates will be required to attempt all the sections as per the breakup given below:

  
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### **Section A (16 Marks)**

It will consist of one question having eight parts of two marks each. Candidates will be required to attempt all the parts. Answer to any part should not exceed half page.

### **Section B (40 Marks)**


It will consist of eight questions. Candidates will be required to attempt five questions, each question carrying eight marks. Answer to any of the questions should not exceed three pages.

### **Section C (24 Marks)**

It will consist of four questions. Candidates will be required to attempt two questions, each question carrying twelve marks. Answer to any questions should not exceed six pages.

### **Suggested Reading**

- Gupta S. C. "Fundamentals of Statistics" S. Chand & Sons, New Delhi (1993)
- Spiegel, Murry R "Theory and problems of Statistics" (Schaum's outline series, McGraw Hill) (1992)
- Karmal P. H. and Polasek M. "Applied Statistics for Economists (4<sup>th</sup> edition), Pitman, Australia.

  
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