

Syllabus of Ph.D. Course Work (Education)

PAPER-III: STATISTICS IN EDUCATION

Time: 3 hours Max. Marks: 100

Theory: 80

Internal Assessment: 20

Note: Paper setters will set 9 questions in all, out of which students will be required to attempt 5 questions.

- Q. No. 1 will be compulsory and will carry 16 marks. It will comprise of 4 short answer type notes of 4 marks each to be selected from the entire syllabus.
- Two long answer type questions will be set from each of the four units, out of which the students will be required to attempt one question from each unit. Long answer questions will carry 16 marks each.

COURSE CONTENTS

Unit-I: Analysis of Data

- Types of Data
- Quantitative Data
 - i) Tabulation of Quantitative Data
 - ii) Analysis of Quantitative Data
 - Graphical Representation
 - Measures of Central Tendency
 - Measures of Variability
 - Measures of Relationship
 - iii) Qualitative Data
 - Analysis of Qualitative Data
 - Criticism of Historical Data
 - Content Analysis
 - Inductive Analysis

Unit-2: Statistical Testing of Hypothesis-I

- Classification of Statistical Test: Parametric and Non-Parametric Tests
- i) Parametric Test
 - Sampling Distribution of Means
 - a) Large Samples
 - b) Confidence Interval
 - c) Levels of Significance
 - d) Small Samples
 - e) Degree of Freedom
- 6
- ii) Application of Parametric Test
 - a) Application of Z-Test
 - b) Application of T-Test

Unit-3: Statistical Testing of Hypothesis-II

- Application of F-test (One Way and Two Way ANOVA)
- Non-Parametric Tests and Application of Chi-Square Test

- Non-Parametric Tests

a) When to use Parametric and Non-Parametric Tests

b) Chi-square

-Use of Chi-square as a Test of 'Goodness of Fit'

-Use of Chi-square

c) Contingency Coefficient

d) Sign Test

e) Median Test

Unit-4:

- The Normal Curve and its Application

- Analysis of Covariance (One Way ANCOVA) Concept, Assumption and Uses

- Factor Analysis: Extraction of Centroid Factors and Orthogonal Rotation

Selected Readings

Edwards, A.L.(1967) Statistical Methods for the Behavioural Sciences, New York: Holt, Rinehart and Winston

Garrett, H.E (1979): Statistics in Psychology and Education, 9th Indian Reprint Bond bay,

Vakils, Feffer and Simon.

Guilford, J.P (1973) Fundamental Statistics in Psychology and Education, New York, McGraw Hill Book Company.

Lindquist, E.F (1970) Statistical Analysis in Educational Research, New Delhi, Oxford and IBH

Siegel, Sidney (1956), Non-Parametric Statistics for the Behavioural Sciences, International

Student Edition, New York, McGraw Hill.

Walker, H.M and J. Lev (1965) Statistical Inference, Calcutta, Oxford and IBH Publishing

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