

M.Phil. (EDUCATION)
SYLLABUS
PAPER - II (Elective 4) - EDUCOMETRY

Objectives

After the completion of this course student will be able to

1. define and explain the concept of measurement, scales and index numbers.
2. analyze the role of test and measurement in education.
3. list the various mathematical functions
4. fit data to straight line/curve.
5. test goodness of fit.
6. compute coefficient of correlation, coefficient of determination, standard error of estimate and scale values.
7. find estimates of population.
8. describe the method of paired comparison.
9. explain scaling theories.
10. describe the steps involved in constructing an achievement test.
11. illustrate how the design and blue print of an achievement test. are prepared.
12. write a variety of questions –objective type, short type and essay type.
13. describe how an achievement test should be administered.
14. score an achievement test and interpret tests scores
15. identify good test items (Item analysis).
16. explain the steps involved in standardization of a test
17. describe the tools used to measure psychological variables like intelligence, personality, attitudes, aptitude, interest etc.
18. appreciate the recent developments in educational measurement.

UNIT I

Theory of measurement – numbers and their nature – scales-Transformation and Invariance of scale values – Index numbers – Role of measurement in education.

UNIT II

Mathematical functions – Linear, nonlinear, exponential, logarithmic. Curve fitting – transformations - relationships – fitting data to straight line. Testing goodness of fit – Standard error of estimate, coefficient of correlation, coefficient of determination- Estimates of population.

UNIT III.

The method of paired comparison – Rationale for the scaling of comparative judgment. Computation of scale values: scaling.

UNIT IV

The method of Rank order – Rank and rank values, use of means and medians in rank values, normalized rank method – the method of first choices.

UNIT V

Scaling from interval and ratio judgments – equal sense distances, a test of interval consistencies, method of equal appearing intervals – methods based on ratio judgments – the method of multiple stimuli, constant sum method.

The method of successive categories – scaling theory for successive categories; determining scale values and variability for stimuli – a test of internal consistency an evaluation of multi dimensional scaling objectivity of judgments – approaches to objectivity.

UNIT VI

Construction and Standardization of Achievement Tests.

Planning the Test

- a) Objective type test; simple forms, multiple choice
- b) Interpretive exercise; recognition, application, generalization, Inferences – interpreting pictures, graphs
- c) Essay.

Administering and appraising class room tests.

- a) Test administration principles-
- b) Scoring Test items, correction for guessing;
- c) Checklist for evaluating classroom test
- d) Item effectiveness – item analysis for norm referenced and criterion referenced tests.

Standardization of Test

- a) Establishment of Reliability and validity of the test.
- b) Establishment of Norm and Percentile Scores.

UNIT VII

Measurement of intelligence, personality, aptitude, attitudes and interest.
Recent developments in Educational measurement

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