Meeting Date 24 & 25/4/2025

# SIDDHARTHA UNIVERSITY, KAPILVASTU

## Ph.D. COURSEWORK

## SUBJECT: EDUCATION

## PAPER II: GROUNDWORK OF EDUCATIONAL RESEARCH

Maximum Marks: 100

**Course Objectives:**

1. To make the doctoral students understand nature and types of variables and techniques of developing hypotheses in educational research.
2. To introduce to the doctoral students, the concept of population and sample in educational research.
3. To train the learners in use of various methods and tools of research in education.
4. To impart knowledge to the doctoral students of the statistical analysis of data in educational research.

**Course of study:**

### UNIT I

### VARIABLES & HYPOTHESES

1. The variables: Importance of Variables in research and need to operationally define the variables. Types of variables
2. The hypothesis: Concept of hypothesis. Need of hypothesis in research. Relationship between objectives and hypothesis. Major Types of hypothesis: The Research hypothesis and null hypothesis
3. Precautions in developing hypotheses.

### UNIT II

### POPULATION AND SAMPLE

1. The Population: what is population? Need to define population and its characteristics.
2. Sampling: Concept of sample and sampling. Determining the Sample size.
3. Types of Samples: Randomness and simple random sample, random numbers, The systematic sampling, The stratified random sample, The Area or Cluster Sample, The Non-probability samples.

### UNIT III

### METHODS AND TOOLS OF RESEARCH

1. Qualities of Psychological & Educational tests and Inventories: Validity, reliability, economy and interest.
2. Types of tests and inventories: Achievement tests, Aptitude Tests, Interest Inventories, Personality Inventories, Projective devices, The Questionnaire, The Attitude Scale.
3. The Observation, The Interview

### UNIT IV

### STATISTICS

1. **The Data**: Parametric & non-parametric data. Planning and Precautions in Collection of Data. Organization of data.
2. **Statistical measures**: Measures of Central Tendency. Concept of quartile and percentile. Measures of Dispersion, Measures of Relationship: Correlation and its interpretation.
3. **Measures of Relative Position**: Standard Scores. Normal Distribution and its Practical applications,

25.04.2025 25/4/25 25.04.25

# SIDDHARTHA UNIVERSITY, KAPILVASTU

## Ph.D. COURSEWORK

## SUBJECT: EDUCATION

## PAPER III (A): HISTORICAL RESEARCH

Maximum Marks: 100

**Course Objectives:**

1. To acquaint the doctoral students of the nature, scope and limitations of Historical research in educational context.
2. To clarify to the doctoral students the various sources of data in Historical research in education.
3. To make the learners understand the methods, tools and techniques used in Historical research.
4. To impart knowledge of techniques useful in enhancement of validity of Historical researches in education.

**Course of study:**

### UNIT I

### SCOPE OF HISTORICAL RESEARCH

1. Nature, purpose and scope of Historical research. Importance of Historical research in field of education.
2. Limitations of historical research
3. Examples of some great historical researches in Education.

### UNIT II

### SOURCES OF DATA IN HISTORICAL RESEARCH

1. Problems of 'Sources of Data' in historical researches.
2. Primary sources: Concept and types. Importance of Sources of Data in historical research. Difficulties in finding Primary Sources of Data, Examples of Primary sources of Data in different historical researches in educational situations.
3. Secondary and tertiary Sources of Data in historical researches in education. Their limitations. Examples of Secondary and tertiary of Data in different historical researches in educational situations.

### UNIT III

### METHODS AND TOOLS OF HISTORICAL RESEARCH

1. Document study: precautions in translating the historical documents. Interpreting the document through content analysis
2. Importance of 'Field work', 'excavation', and laboratory techniques in historical studies
3. 'Observation' and various other techniques of data recording used in historical research

### UNIT IV

### ENHANCING VALIDITY OF HISTORICAL STUDIES

1. Problems and difficulties encountered in Historical research: use of documents for reconstruction of past, choice of a subject, selection of sources, validity of inferences and reconstruction, evaluation of written documents & ghost writers, cause and effect relationships, synthesis of information.
2. Enhancing validity of historical studies through Historical Criticism:
    a. External Criticism
    b. Internal Criticism
3. Examples of topics for historical study in Education

25.04.2025

20/4/25

25.04.2025

# SIDDHARTHA UNIVERSITY, KAPILVASTU

## Ph.D. COURSEWORK

## SUBJECT: EDUCATION

## PAPER III (B): DESCRIPTIVE RESEARCH

**Course Objectives:** Maximum Marks: 100

1. To acquaint the doctoral students of the basic nature and scope of descriptive research in educational context.
2. To introduce to the doctoral students, general categories of descriptive research.
3. To make the learners aware of the evaluation studies in descriptive research.
4. To impart knowledge to the learners about Documentary analysis, Developmental studies, Follow up Studies, Replication and secondary analysis studies in descriptive research

**Course of study:**

### UNIT I

### DESCRIPTIVE RESEARCH: NATURE AND SCOPE

1. Characteristic features of and rationale behind descriptive research. Usefulness of Descriptive research in educational context.
2. Descriptive research: Causal comparative Research, Correlational Research.
3. Limitations of descriptive research.

### UNIT II

### CATEGORIES OF DESCRIPTIVE RESEARCH

1. *Studies of Diagnostic nature:* Case study: Characteristic features, advantages, Limitations
2. *Assessment studies:* The Survey (including Social survey and Public opinion survey): methodology, tools, Precautions in undertaking the study, Limitations
3. *Trend studies:* Characteristic features and Underlying rationale

### UNIT III

### DESCRIPTIVE RESEARCH: EVALUATION STUDIES

Characteristic features, Underlying rationale, Functioning, Precautions in undertaking the study, and Limitations of the *Evaluation Studies* in Descriptive research:

1. Programme evaluation,
2. School surveys:
3. Accreditation of Schools, and Colleges.

### UNIT IV

### OTHER DESCRIPTIVE STUDIES

Characteristic features, Underlying rationale, Functioning, Precautions in undertaking the study, and Limitations of each of the following categories of Descriptive research:

1. Documentary analysis,
2. Developmental studies,
3. Follow up Studies,
4. Replication and secondary analysis studies.

25.04.2025

25/4/25

25.04.25

# SIDDHARTHA UNIVERSITY, KAPILVASTU

## Ph.D. COURSEWORK

## SUBJECT: EDUCATION

## PAPER III (C): EXPERIMENTAL RESEARCH

Maximum Marks: 100

**Course Objectives:**

1. To acquaint the doctoral students of the basic nature, scope and key concepts of experimental research in educational context.
2. To clarify to the doctoral students the basic principles of experimental research.
3. To make the learners understand the idea underlying validity of experimental research.
4. To impart knowledge and application of experimental designs to the learners.

**Course of study:**

### UNIT I

### NATURE, SCOPE AND KEY CONCEPTS

1. Nature and purpose and scope of experimental research. Value of experimental research in education.
2. Role of following in experimental research:
    a. Experimental and control groups
    b. Variables (Independent and dependent variables, Confounding variables)
    c. Control of extraneous variables
3. Steps in experimental research

### UNIT II

### BASIC TENETS OF EXPERIMENTAL RESEARCH

1. Characteristics of experimental research: Control, Manipulation, Observation, Replication, Formation of equivalent groups
2. Meaning of 'Control' in context of experimental research. Idea of appropriateness & adequacy of control.
3. Various methods of control in experimental research.

### UNIT III

### VALIDITY OF EXPERIMENTAL RESEARCH

1. What is Experimental validity?
2. What are the threats to *External Experimental Validity*- Population and Ecological
3. What are the *Threats to Internal Experimental Validity*- History, Maturation, Pre-testing, Measuring instruments, Statistical regression, Differential selection of subjects, Experimental mortality, Interaction of selection and maturation

### UNIT IV

### THE EXPERIMENTAL DESIGNS & THEIR TYPES

1. Pre experimental designs - one shot case study design, one group pre test post test design, static group comparison design.
2. True experimental designs: pre- test post- test control group design, post- test only control group design.
3. Quasi experimental designs: non equivalent control group design, separate sample pre- test post-test design, counter balanced design, time series design, factorial design, Solomon Four group design.

25.04.2025 25/4/25 25.04.2025