INSTITUTE OF ADVANCED STUDIES IN EDUCATION

(DEEMED TO BE UNIVERSITY)

of

GANDHI VIDYA MANDIR, SARDARSHAHR

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SYLLABUS

SCHEME OF EXAMINATION AND COURSE OF STUDY

FACULTY OF EDUCATION

ENTRANCE TEST FOR Ph.D.

IASE(Deemed to be University), Gandhi Vidya Mandir, Sardarshahr
Department of Education

General Paper : (Research Methodology)

SYLLABUS

Duration: 1 Hours Max. Marks : 50

The question paper will contain 50 Multiple Choice Questions of 1 marks each. Answers will be made on OMR sheet. Question papers in science subjects will be in English and rest, other than those of languages, will be both in English and Hindi.

1. Foundations of Research: Meaning, Objectives, Motivation, Utility. Concept of theory, empiricism, deductive and inductive theory. Characteristics of scientific method - Understanding the language of Research - Concept, Construct, Definition, Variable. Research Process.
2. Problem Identification & Formulation - Research Question - Investigation Question - Measurement Issues - Hypothesis - Qualities of a good HypothesisNull Hypothesis & Alternative Hypothesis. Hypothesis Testing - Logic & Importance.
3. Research Design: Concept and Importance in Research - Features of a good research design - Exploratory Research Design - concept, types and uses, Descriptive Research Designs - concept, types and uses. Experimental Design: Concept of Independent & Dependent variables.
4. Qualitative and Quantitative Research: Qualitative research - Quantitative research - Concept of measurement, causality, generalization, replication. Merging the two approaches.
5. Measurement: Concept of measurement- what is measured? Problems in measurement in research- Validity and Reliability. Levels of measurementNominal, Ordinal, Interval, Ratio.
6. Sampling: Concepts of Statistical Population, Sample, Sampling Frame, Sampling Error, Sample Size, Non Response. Characteristics of a good sample. Probability Sample- Simple Random Sample, Systematic Sample, Stratified Random Sample & Multi-stage sampling. Determining size of the samplePractical considerations in sampling and sample size.
7. Data Analysis: Data Preparation - Univariate analysis (frequency tables, bar charts, pie charts, percentages), Bivariate analysis- Cross tabulations and Chisquare test including testing hypothesis of association.
8. Interpretation of Data and Paper Writing- Layout of a Research Paper, Journals in Computer Science, Impact factor of Journals, When and where to publish ? Ethical issues related to publishing, Plagiarism and Self-Plagiarism.
9. Use of Encyclopedias, Research Guides, Handbook etc., Academic Databases for Computer Science Discipline.
10. Use of tools I techniques for Research: methods to search required information effectively, Reference Management Software like Zotero/ Mendeley, Software for paper formatting like LaTeX/ MS Office, Software for detection of Plagiarism Recommended Books: 1. Business Research Methods- Donald Cooper & Pamela Schindler, TMGH, 9th editions. 2. Business Research Methods- Alan Bryman & Emma Bell, Oxford University Press. 3. Research Methodology- C. R. Kothari 4. Select references from the Internet

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