INSTITUTE OF ADVANCED STUDIES IN EDUCATION
(DEEMED TO BE UNIVERSITY)

of

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SYLLABUS

SCHEME OF EXAMINATION AND COURSE OF STUDY

FACULTY OF EDUCATION

Ph.D. Course Work (Education) 2022

Scheme of Examinations for Ph.D. Course work (Education):

Programme Structure

The Ph.D. course work shall comprise of only one Semester (i.e. six months) in which there shall be four compulsory papers.

PAPER CODE	Name of Paper	Theory	Internal Assessment	Max. Marks	Min. Marks	Face to Face Contact
CWED-101	Paper- I Research Methodology	80	20	100	40	60 Hr
CWED-102 a CWED-102 b	Paper-II Paper-II (A) : Qualitative Research or Paper-II(B) : Quantitative Research	80	20	100	40	60 Hr
CWED-103	Paper-III Teacher Education	80	20	100	40	60 Hr
CWED-104	Paper -IV Research & Publication Ethics	40	10	50	20	30 Hr
CWED-105	Paper –V Review of Literature & Pilot Study	-	50	50	20	60 Hr
	Total marks	280	120	400	-	270

Note: Scholar has to select either Elective Paper II (A) & Paper II (B).

Areas of Research may be:

Psychology, Philosophy and Sociology of Education, Curriculum Development – Issues and Concern, Transaction of Curriculum and Co-curricular areas, Inclusive Education for differently abled students, Teacher Education- issues and concern, Educational Administration and Management, Finance in education, Professional ethics and commitments of teachers, Values in education, Peace & Harmony, Acts related to Elementary Education and Secondary Education, Instructional Communication and Technology, Yoga Education, Indian Culture,

Programme Details

Note:- Course Work

The course work for Ph.D. Program shall comprise of five papers.
Paper :-1 **: Research Methodology**

Paper II (A): **Qualitative Research**
Paper II (B): **Quantitative Research**
Paper III : Teacher Education
Paper-IV :**Research and Publication Ethics**
Paper-V : **Review of Literature and Pilot Study**

Objective of the Course:

The course will elaborate the research methodology and help the students to understand the conceptual framework, to do planning of research work, learn basic methods and learn various tools and techniques of the research, the preparation of the report, fundamentals of the qualitative educational research, the fundamentals of the quantitative educational research, the teacher education to the students, the Review of Literature and Pilot study to the students, research ethics and publishing ethics to the students.

Paper –I Research Methodology

PAPER CODE : CWED-101

Maximum Marks: 100   **Internal: 20**   **External: 80**

Learning outcomes: After completion of the course, the student teachers will be able to:

- Understand the nature, scope and different Methods of Educational Research.
- Gain knowledge about different types of tools and techniques of data collection.
- Know the basics and advanced methods of educational statistics.

Unit I: Conceptual Framework of Educational Research

- Research as a Process of Acquiring Knowledge
- Meaning, Nature and Scope of Educational Research
- Types of Educational Research : Quantitative,Descriptive, Historical/Philosophical, Developmental, Casual comparative, Correlational, Experimental (Weak, True and Quasi-Experimental and Action Research).
- Qualitative Phenomenology, Ethnography, Case Study, Grounded Theory, Narrative Analysis.(Purpose, Characteristics, Steps with common errors committed in planning and conducting the research).

Unit II: Planning of Good Research/Preparing and Research Proposal

- Formulation of the problem for research (Sources, Specification, Forming Research Questions ,problem-analysis procedures, evaluation of the Problem)
- Building Rationale for the Study (Review of related literature, Identifying the emerging trends from the review, building a strong rationale for selecting the problem.
- Specifying objectives and hypotheses of the Study.
- Choosing appropriate design and stating the procedure(Selecting appropriate methods , instruments/tools/techniques, Deciding about the subjects for the study, conditions for conducting the study including procedures of data collection and data-processing).
- Operational definitions of the concepts and terms used (with the statements of underlying assumptions, perceived limitations and specific delimitations of the study).

Unit III: Basic Methods of Educational Research

- Sampling - Types and Techniques of sampling
- Hypothesis and Testing of Hypothesis
    - Sources of Hypotheses
    - Type of Hypotheses (Null, Directional, Statistics)
    - Characteristics of good hypothesis
    - Hypothesis Testing and Theory
    - Errors in Testing Hypothesis

Unit IV: Tools & Techniques of Educational Research

- Tools, preparing, piloting and finalizing.

  -Tests, Tasks, Attitude Scales, Check lists, Questionnaires/ Opinionnaire, Interview Schedules for interview and observation, Inventory, Semantic Differentiate Scale.

  -Use of ICT

- Techniques, Observation, Interview, focused Group Discussion, Document, Case Study

Unit V: Preparation of Research Report

- General Guidelines: format, language style, bibliography and appendices
- Format of Research Report (Journal Article, Thesis and Dissertation, Paper at Professional Conferences)
- Preparation of the Manuscript
- Writing style
- APA Reference Style
- Preparation of summary and abstract
- Evaluating and Finalizing the Report (Including the process of converting dissertations and theses for publication as a journal article)

Practicum (Any two) :

- Review at least 10 Indian & 10 foreign Related Literature on a topic of research given by the expert/department justifying your selected research problem.
- Do critical review of any one research project/Work /book with regard to - Title or statement of the problem - Approach/Design - Research Hypothesis/Research Questions - Sampling - Tools - Statistical Techniques, finding and further action plan.

References

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- Lichtman, Marilyn (2006). Qualitative Research in Education-A User Guide. SAGE Publication.

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Paper – II (A) Qualitative Research
PAPER CODE : CWED-102 a

Maximum Marks: 100 **Internal: 20** **External: 80**

Learning outcomes: After completion of the course, the student-teachers will be able to:-

- Understand concept, characteristics & themes of qualitative research.

- Examine different types of qualitative research and their characteristics.

- Examine the concept of qualitative research.

- Develop a tool which allows for the evaluation and data collection of qualitative Research

- Design a framework or outline of qualitative research.

- Investigate appropriate methods of data analysis.

- Explain the processes of qualitative research

- Explain how to plan the research project of qualitative research.

Unit I: Introduction to Qualitative Research

- Meaning, concept and approaches of Qualitative Research.

- Research design. Procedures for designing and setting up a qualitative research study. Conceptual Frameworks, Research questions, validity in data gathering

- Research problem, choosing a problem, sampling, data collection, Ethical considerations in qualitative research.

- Objectives & research question.

Unit II- Qualitative Taxonomies

Meaning, Concept and description of

- Narrative research

- Phenomenology

- Ethnography

- Grounded theory

- Case study

- Action research

Unit III- Types of Qualitative research data analysis

- Meaning, Concept and basic steps in conducting research-

- Confidentiality; collecting background information, sampling, and Validity in data gathering.

- Data Collection Procedures: Interviews, Observations, Focus groups, Documents and archival data
- Interpretation & Representation
- Content & Semiotics analysis, SWOT/SWOC Analysis, Meta-Analysis, Thematic Analysis
- logical and inductive analysis, illustrative method; analogies, Triangulation of data

Unit IV-Use of computer application for data Analysis in Qualitative Research

Meaning, concept & its use of computer applications-

- MAXQDA
- ATLAS.ti
- QSR NVIVO
- Orange
- Mendeley, MS Word,

Unit V- Reporting and Evaluation in Qualitative Research

- Concept and Meaning of Evaluation or Analyzing of Data in Qualitative Research
- Coding data, Pattern recognition and data reassembly, Data displays
- Integrating and synthesizing data, reflexivity
- Strategies of data Interpretation in Qualitative Research
- Steps of preparing a report of the data in Qualitative Research

  (1) Abstract(2) Introduction (3) Research design (4) Methods, Site and sample Selection (5) Finding (6) Interpretation & Implications (7) Reference (8) Appendix.

Practicum (Any two) :

- Plan & Prepare a Qualitative Research proposal in the field of education.
- Analyze and interpret a set of qualitative data
- Identify a qualitative research problem and develop a research synopsis in the format prescribed by the university.

References

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Paper – II (B) Quantitative Research
PAPER CODE : CWED-102 b

Maximum Marks: 100   **Internal: 20**   **External: 80**

Learning outcomes: After completion of the course, the student-teachers will be able to:-

- Understand concept, characteristics & themes of quantitative educational research.
- Examine different types of quantitative educational research and their characteristics.
- Examine the concept of quantitative educational research.
- Develop a tool which allows for the evaluation and data collection of quantitative educational research.
- Investigate appropriate methods of quantitative data analysis.
- Analyze and present descriptive statistics through a variety of graphs and tables
- Conduct comparison of means tests (e.g., t-tests, correlation and ANOVA) and analyzing results
- Deal with issues such as influential cases (outliers), multicollinearity, heteroskedasticity, and non-normal data
- Deal with Non parametric alternatives to the above techniques (e.g., Mann-Whitney; Kruskal-Wallis)
- Explain how to plan the research project of quantitative educational research.

Unit I: Introduction to Quantitative Research
- Quantitative Research: Meaning, concept, steps and characteristics.
- Relevance of Quantitative Research in education. Scientific Inquiry and Theory Development,
- Nature and scope of Educational Research, Sources of Knowledge and Research.

Unit II- Scientific methods & Types of Quantitative Research
- Follow-up study and The post Hoc fallacy, Survey, Correlational Experimental, Applied Search, Action Research, descriptive research, Ex-post facto research.
- Techniques and Tools of data collection: Observation, interview, questionnaire, scales, inventory, checklist.
- Sampling techniques: Concept, need, probability and non-probability samples, sampling errors and their control.
- Heterogeneity & Homogeneity

Unit-III Sampling & Procedures
- Sampling: Concepts of Statistical Population, Sample, Sampling Frame, Sampling Error, Sample Size,
- Characteristics of a good sample. Probability Sample – Simple Random Sample,Systematic Sample, Stratified Random Sample & Multi-stage sampling. Determining size of the sample-
- Practical considerations in sampling and sample size.
- Measurement: Concept of measurement– what is measured? Problems in measurement inresearch – Validity and Reliability.
- Levels of measurement – Nominal, Ordinal, Interval, Ratio

Unit-IV Analysis of data

- Data Preparation with the use of SPSS– Univariate analysis (frequency tables, bar charts, pie charts,percentages)
- Measures of Central Tendency: Calculation of Mean, Median and Mode. Properties of mean, median and mode and when to use mean, median and mode.
- The Normal Curve and its Application
- Bivariate analysis – Cross tabulations and Chi-square test including testing hypothesis ofassociation.
- Comparison of Mean: t-Test, Mann-Whitney U test, ANOVA, ANCOVA, TWO Way ANOVA, MANCOVA, The Friedman test, Kruskal Wallis H test,
- Linear Regression and Correlation

Unit- V Use of Computer Assist Tools

- Use of tools / 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
- Use of tools for quantitative data: IBM-SPSS, IBM -AMOS, MS Excel

Practicum (Any two) :

- Plan and prepare a Quantitative Research proposal.
- Identify a Quantitative research problem and develop a research synopsis in the format prescribed by the university.
- Make a proposal of Pilot study related to the topic in which synopsis was made, after execution, analysis and after findings/conclusion. Write a report on your mini-research.

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Paper –III Teacher Education
PAPER CODE : CWED-103

Maximum Marks: 100   **Internal: 20**   **External: 80**

. **Learning outcomes: After completion of the course, the student teachers will be able to:**

- Understand the meaning, scope, and objectives of teachers education at different levels.
- Know the different issues, concerns and innovative Practices in Teacher Education.
- Understand the nature, purpose, scope, areas, problems, and trends of research in teacher education.

Unit-I : Teacher Education

- Concept, nature, aims and scope of professional development of teachers.
- Teacher education in post independence period (Policy perspective, recommendation of various commissions and committees and NPE, 1986, NCF-2005, NCFTE-2010 NEP, 2020)
- National curriculum framework for teacher education, 1998 And 2010.
- Institutions and agencies of teacher education MHRD, UGC,NCTE,NCERT and SCERT and other state level agencies of teacher education (IASE,CTE,DIET,DRC)
- Approaches to teacher education – Consecutive Vs. integrated, face to face, distance mode, initial vs. continuum.

Unit-II : Professional Preparation of Teachers

- Organisation of Pre-service teacher education-Need and relevance.
- Organisation of in-service teacher education – Training Approaches - Task analysis compound approach, system approach, constructivist approach, Reflective teaching.
- System Reform – Major shift in Teacher Education programme – Pre-service education –In-service Education.
- Use of Technology and Media in teacher education.

Unit-III: Technique for Higher Learning:

Objective, procedure, & outcomes of :

- Conference technique
- Seminar technique
- Symposium technique
- Workshop technique
- Pre & panel discussion

Unit-IV: Innovative Practices in Teacher Education

- Concept of innovation in teacher education programme
- Incentive & award for innovative practice
- Micro –teaching & its steps
- Simulated social skill training
- Team teaching ,
- Practice teaching vs. internship
- Interaction analysis technique

Unit-V: Effectiveness of Teacher Education Programmes

- Assessment of teaching learning process
- Technique
- Type of evaluation
- Objective & criteria of evaluation of teacher education programmes
- Technique of evaluation of teacher education programmes
- Critical evaluation of teacher education programmes

Practicum (Any two) :

- Make a study on the Annual Reports of SCERT/RIE/NCERT/NUEPA to identity various programmers for professional development of teacher educators.
- Select any one current practice in teacher education and trace the background of its formulation as a policy.
- Collect and analyze information about cooperation between schools and other institutions (such as businesses and colleges) in your community. To what extent has such cooperation helped the schools?

References

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Paper- IV Research and Publication Ethics (RPE)
PAPER CODE : CWED-104

Maximum Marks: 50   **Internal: 10**   **External: 40**

Learning Outcomes: After the completion of the paper, the student's will be able to:

- Explain how national/cultural context may affect researchers' views of intellectual property and data ownership.

- Define plagiarism and explain how it may be viewed differently in different research cultures.

- Identify gaps and differences in national protocols and policies regarding equal access, transparency, and confidentiality.

- Explain how cultural, political, and economic contexts may shape views on information sharing and data access.

- Identify differences in national or cultural norms regarding authorship order and other formal acknowledgment procedures.

- Describe scenarios when information and data sharing may not be possible due to national security or political concerns.

- Define ethical values and principles and explain how they differ from laws, policies, and codes of conduct.

- Explain how culture may shape values and ethical principles.

- Identify common ethical challenges that arise in international research collaboration(s) in one's field.

Unit – I Philosophy, Ethics and Scientific Conduct

- Introduction to philosophy: definition, nature and scope, concept, branches

- Ethics: definition, moral philosophy, nature of moral judgments and reactions

- Ethics with respect to science and research.

- Intellectual honesty and research integrity.

- Scientific misconducts: Falsification, and Plagiarism (FFP)

- Redundant publication: duplicate and overlapping publications, salami slicing.

- Selective reporting and misrepresentation of data.

Unit – II Publication Ethics

- Publication ethics: definition, introduction and importance.

- Best practices/standards setting initiatives and guidelines: COPE, WAME, etc.

- Conflicts of interest

- Publication misconduct: definition, concept, problems that lead to unethical behavior and vice versa, types.
- Violation of publication ethics, authorship and contributor ship.
- Identification of publication misconduct, complaints and appeals.
- Predatory publishers and journals.

Unit – III Open Access Publishing

- Open access publications and initiatives.
- SHERPA/RoMEO online resource to check publisher copyright & self-archiving policies.
- Software tool to identify predatory publications developed by SPPU.
- Journal finder/journal suggestion tools viz. JANE, Elsevier Journal Finder, Springer Journal Suggester, etc.

Unit – IV Publication Misconduct

A. Group Discussions

- Subject specific ethical issues, FFP, authorship.
- Conflicts of interest.
- Complaints and appeals: examples and fraud from India and abroad.

B. Software tools

- Use of plagiarism software like Turnitin, Urkund and other open source software tools

Unit – V Databases and Research Metrics

A. Databases

- Indexing databases
- Citation databases: Web of Science, Scopus, etc.

B. Research Metrics

- Impact Factor of journal as per Journal Citation Report, SNIP, SJR, IPP, Cite Score.
- Metrics: h-index, i10 index, altmetrics.

Practicum (Any two) :

- Go through a Ph.D thesis and find out the areas of the application of ethics in it.
- Find out the precautions taken in a Ph.D thesis with regard to Research and Publication Ethics (RPE)
- Find out the areas of Publication Misconduct and Open Access Publishing in a Ph.D thesis with regard to Research and Publication Ethics (RPE)

Reference:

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- https://doi.org/10.1038/489179a

- Indian National Science Academy (INSA), Ethics in Science Education. Research and Governance (2019), ISBN:978-81-939482-1-7. http://www.insaindia.res.in/pdf/ethicsbook.pdf

Paper -V Review of Literature & Pilot Study
PAPER CODE : CWED-105

Maximum Marks: 50   **Internal: 50**

Learning outcomes: After completion of the Course, the Student Teachers will be able to:
- Do the review of the literature
- Use the reference materials
- Conduct a review of the literature
- Be able to use Bibliometrics, Scientometrics and Informatics etc
- Be able to write the report

Unit I: Review of Research: Concept, Purpose and Importance.
The functions of Review;
- Conceptual frame of reference,
- Status of research,
- Research Approach, Method, Instrumentation and Data Analysis,
- Probability of success and significance of findings,
- Stating the definitions, assumptions, limitations and hypotheses,
- Selection of Tools and Design.

Unit II: Use of Reference Materials
- Use of Reference Materials: Using library; Card catalogue, library classification-Dewey decimal system of classification.
- Encyclopedias, Handbooks of research on teaching, First, Second and Third handbooks of psychological and social instruments,
- Research of surveys in Education I-VI, DAI, Journals and Research Abstracts,
- Dictionaries of Education, Yearbooks,
- Role of association of Indian Universities, NCERT, New Delhi in research survey.

Unit III: Conducting a Review of the Literature
- Conducting a review of the literature:listing key words, checking preliminary sources, reading and noting selected references.
- Preparing references at the time of review of literature.
- Strategies for undertaking and writing review of research literature
- Review of different Methods of statistical analysis of
- qualitative and quantitative data
- Writing and publishing research reports / papers

Unit-IV. Bibliometrics, Scientometrics and Informatics
- Definition and concepts
- Bibliometric Laws: Bradord's Law, Zipf's Law Lokta's Law
- Bibliographic Coupling
- Obsolescence
- Citation Analysis
- Webometrics
- Citation Studies
- Informatics
- Scientometrics

Unit-V. Report Writing

- Writing – organizing the writing, drafting the manuscript, style, Preliminaries-preface and acknowledgement, list of tables and illustrations;
- The Text-chapters and subheadings, quotations, use of numbers abbreviations, footnotes, table and illustrations, pagination; References, Appendix, Bibliography.
- Preparation of Synopsis, Preparation of Literature Review Structure, Style and Contents, Guidelines for Research Reporting
- Style Manuals – Chicago, MLA and APA etc
- E – Citation and Methods of Research Evaluation
- Use of Various computer assist tools for bibliometrics and referencing.

Practicum (Any two) :

- Conduct a review of research in the area of research interest under the guidance o supervisor.
- Prepare a review of a Ph. D. thesis.
- Make use of at least computer assisted tool (any one)
- Research Project/pilot study with the following overview

The research project will be the focal point of education field. It is intended that student will apply most of the topic areas of the class in the conduct of the project:

Assessment of the education profession or academic opportunity and the research purpose

Formulating the research objectives

Design of survey or other information-gathering process

Sampling

Design of questionnaire or another instrument

Validity and reliability concerns

Testing of hypothesis

Interviewing or other data gathering

Data editing & tabulation

Data analysis

Conclusions for educational policy or academic contribution

Reference:

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- Shepard, K., (2005). "Presenting at Conferences, Seminars and Meetings", Response Books, New Delhi.
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Checklist for the Final Research Design (your document need not be structured like this)

A. Overview of the Topic

B. Motivation / Justification for the Research

    1. If the research is primarily applied, supply a discussion of the business situation orcontext

    2. If the research is primarily academic, supply a discussion of the academic context andhow your new knowledge would contribute.

    3. If the research has elements of both applied and scholarly research -- all of the above.

C. Literature Review and Secondary Research.

D. Statement of the Research Purpose, or "Research Problem". (This is very important.)

E. Statement of the Research Question(s)

    1. There will be at least one overall research question, or more. (Ch. 6 Creswell).

    2. There will then be more questions that are more specific. Some authors refer to these as"investigative questions", while other books use the term "research objectives".Whatever term you use, these are your specific informational needs

    3. These are the points that lead directly to your data specifications and your hypotheses

F. Discussion of Methodology

1. Information gathering technique(s)

        a. If secondary research is involved, what sources

        b. If qualitative research, what type

        c. If survey, what kind

        d. If multiple stages, how do they connect

2. Sampling plan

        a. Target respondent group(s)

        b. Sampling frame and specific method of drawing sample

3. Full questionnaire (or other data collection instrument) in final form

G. Hypotheses

These are important. (Sometimes referred to as "alternative hypotheses".) What youexpect to find versus what you would find if the hypotheses were not true -- the "nullhypotheses". Note that the use of this terminology varies somewhat from one disciplinaryarea to another.

H. Anticipated Usefulness of Results

1. Applied Research (if appropriate): Expected types of actionable findings &recommendations. Business decisions or strategies to be enabled by the findings

2. Academic Research: Expected findings and the resulting contribution to knowledge.Usefulness in the Education field

• Length: three to five pages.

The sections of your report may vary as a function of the topic and the methodology you have used. The following is merely a suggested starting point.

• Title Page

• Table of Contents

• Summary (one page)

• Background and Business and/or Academic Perspective

• Literature Review

• Findings from Secondary Sources

- Research Purpose
- Research Questions and Hypotheses
- Methodology
- Type of survey or other technique
- Information to be gathered
- Sampling plan
- Reasons for this methodology and its limitations
- Analysis
- Approach
- General results
- Results of hypothesis testing
- Supplemental analysis & findings
- Conclusions & Recommendations
- Appendices
- Questionnaire, visual aids for interviewing, sampling data
- Key tables of quantitative results & other information if and as needed

Your written report, to be submitted at the drop-box of our Cyber site, should provide the following:

1. Name of journal

2. Tables of contents of the reviewed journal issues

3. Indicate which articles contain quantitative research

4. Brief explanation (short paragraph) of each of those articles

a. Brief overview

b. What methods of analysis used

c. How the method helped to achieve objectives of the article

Article critiques. There will be two of these. One of article the instructor will supply; another to be chosen by the student. These are to be two pages, with a format as shown in the box below.

The primary resource for conducting article critiques is the Pyrczak book, with the additional challenge of providing substantive comment on the scholarly content of the article. Appendix 1 gives some supplemental ideas to give you some pointers on how to get started.

Format for Article Critiques

Date

Citation

Keywords

Important or new terms and their definitions

Research purpose and/or research question(s)

Main Points

Research approach – methodologies used

Article strengths

Article weaknesses

How well the research answered the research question(s), or achieved

the research purpose