

Ph.D / M.Phil – Part I: EDUCATIONAL TECHNOLOGY
PAPER I: RESEARCH METHODS AND ADVANCED STATISTICS

OBJECTIVES

1. To enable students to understand advance research methods and statistical tools in education
2. To enable students to understand the principles of evaluation, research and statistics
3. To help students in preparing model research proposals for research studies

Unit I: RESEARCH METHODS

Research – Nature, types and scope – Research Trends in Education – Qualitative Research Techniques – Historical case study, Participatory and Ethnography Research Methods – Quantitative Research Techniques – Survey, Experimental, Action, Longitudinal Research Methods – Tools for data collection: Observation, Interview schedule, Checklist Questionnaire, Achievement test and attitude scale – Design, Construction and Standardization of tools – Research Design.

Unit II: SAMPLING TECHNIQUES AND MEASUREMENT

Sampling Method – Purposive sampling, simple random sampling, systematic sampling, stratified sampling, cluster sampling, stage sampling – Theories of Probability – levels of confidence – Degrees of freedom – Hypothesis formulation and testing statistical significance, one tailed and two tailed tests – correlated and uncorrelated data – Scales of Measurement – Nominal scale, Ordinal scale, Interval scale and Ratio scale.

Unit III: INTRODUCTION TO STATISTICS

Introduction to statistics – meaning, scope, importance and limitations of statistics – concept of statistics, source of data, populations, parameters, samples and statistics – descriptive and inferential statistics, parametric and non-parametric statistics, variables – discrete and continuous variables, independent and dependent, intervening and manipulating variables – classifying and presenting the data, frequency table, presentation of data, Bar graphs, Histogram, Frequency polygon, smoothed frequency polygon, Cumulative frequency graph (or) Ogive and pie graph

Unit IV: ADVANCED STATISTICAL TECHNIQUE

Univariate Analysis: mean, median, mode – measures of central tendency, normal curve, practical application of normal probability curve, characteristics of normal probability curve – range – variance – percentile, standard scores (or) ‘Z’ scores – Type I and Type II error, sampling error, statistical significance–Bivariate analysis: Correlation methods – Chi-square, T-test, ANOVA and MANOVA

Unit V: COMPUTER APPLICATION AND REPORT PREPARATION

Computer Application: Statistical Package for Social Sciences (SPSS), Computer packages: word processing and graphs – Preparation of Research Documents: Preparation of Research proposals, writing of the report of the research studies, preparation of review of related studies, preparation of the review of research proposals and reports.

References

1. Kerlinger H Fred. (1964) Foundations of Behavioural Research: Educational Psychological Inquiry.
2. Goode & Hatt. (1952) Methods in Social Research
3. Paulin Young. (1961) Scientific Social Survey and Research
4. John Best. (1975) Fundamentals of Social Research
5. Edwards A L (1966) Experimental Design in Psychological and Education
6. Covers, P.S. (1980) Computer Programming In Basic, Madras Allied Publisher (p) ltd.

Ph.D – Part I / M.Phil : EDUCATIONAL TECHNOLOGY
PAPER II: EDUCATIONAL TECHNOLOGY

OBJECTIVES

1. To develop an understanding of advance technology in education
2. To be able to know and appreciate the different instructional media

Unit I: MODERN TRENDS IN EDUCATIONAL TECHNOLOGY

- Educational Technology – definition – meaning – scope – relevance to the present day.
- Application of principles of Educational Psychology to Educational Technology – conditions facilitating – Effective learning – teacher and learner roles.
- Principles of modern communication informal and non-formal situations of learning – nature and role of communication in class rooms – mass communication – the media and methods
- Distance education – the concept, principles and practices – the media and methods for distance education – life long education – role of radio and television
- The media – method relationship – their applications of classroom instruction – criteria for appropriate media – OHP, tape, slides, CAI, CCTV and so on.

Unit II: SYSTEMS OF EDUCATIONAL COMMUNICATION

- Psychology of Communication and its application to Educational Technology
- Models of Teaching – Analysis of different models with reference to Their format and principles
- Organization of message, instructional events and learning experiences in relation to teaching
- Multi-media approach to learning and instruction
- Concept of individualizing instruction – principles and practice of programmed learning and Keller Plan – Automated Learning

Unit III: IMPROVING TEACHING BEHAVIOUR

- Interaction analysis: meaning and significance
- Tools and methods of interaction analysis: Bales’ interaction process categories, Flanders’ system of interaction analysis, the verbal interaction category system (VICS) by Amidon and Hunter
- Micro teaching: descriptive analysis of the micro teaching skills and practicing in classrooms
- Bloom’s Taxonomy of Educational Objectives and Its application in classroom teaching

Unit IV: SYSTEMS APPROACH IN EDUCATIONAL TECHNOLOGY

- Systems Approach: concept, meaning and significance
- Systems approach as applied to Educational Technology: Input, Output and Process
- Development of educational Technology: Strategies, internal and external factors, system flow charts
- Need for inter-disciplinary approach to teaching – Operational models and expected behavioral outcomes

Unit V: AUDIO, VIDEO AND COMPUTER TECHNOLOGY IN EDUCATION

- Audio recording
- Film, Video presentation and scripting for video
- Television systems and interactive video
- Evaluating the media
- Computer Assisted Instruction: definition and fundamentals
- Methods of Computer Assisted Instruction: Drill & Practice, tutorials, demonstrations, etc.. – Computer Managed Instruction

References

1. Dececco, John, P. (1964). "Educational Technology", Holt-Rinehart & Winston Publishers: New York
2. Rowntree Derek (1982) "Educational Technology in Curriculum Development" London: Harper & Row
3. International Year Book Of Educational Technology, 1982-83
4. Aspects of Educational Technology XIII Educational Technology Twenty years on 1959 to 1979 –completed reports
5. Mala Reddy et. al. (1984). "Curriculum Development and Educational Technology".
6. Dececco, J.P. (1964). "Educational Technology: Reading in Programmed Instruction: New York
7. Sampath et. al. (1984) "Introduction To educational Technology"

Ph.D – Part I / M.Phil: EDUCATIONAL TECHNOLOGY
SPECIAL PAPER I: ADVANCED EDUCATIONAL TECHNOLOGY

OBJECTIVES

1. To study how audio, video, and computer technologies can best be exploited in teaching and learning
2. To study the principles involved in the production of media related materials

Unit I: MODERN COMMUNICATION TECHNOLOGY IN EDUCATION- MEANING, SCOPE AND CHOICE

- Systems approach to instruction and instructional designs
- Audio visual technology: projected and non-projected aids
- Individualized instruction: Keller Plan, PSI, CAI, CMI & PLM
- Advanced Techniques In Education: Multimedia, interactive video, teleconferencing, tele-bridge, teletext and videotex

Unit II: TECHNOLOGY IN LANGUAGE TEACHING

- Principles of Language teaching
- Approaches to Language teaching
- Different methods of teaching English as a second language
- Audio-video media in English language teaching
- Meaning and Need for Language Laboratory

Unit III: EDUCATIONAL TECHNOLOGY FOR FORMAL, INFORMAL AND NON-FORMAL SYSTEMS IN LEARNING: CONCEPT AND SCOPE

- Role, experience and applications of Educational Technology in school education and higher education
- Role, experience and applications of Educational Technology in Special groups: Special education and distance education
- Interpersonal approach: IEC, Social Marketing Approach, Participatory Communication approach
- Media approach: development communication approach, development support communication approach and media forum

Unit IV: PROGRAMMED LEARNING; THEORETICAL CONSIDERATIONS

- Programed learning: Theoretical considerations
- Types and Mechanics/steps of programming
- Programmed Learning/Instruction: some applications
- Difference between PLM and other individualized instructional techniques: CAI, CMI, Keller plan. Personalized system of instruction

Unit V: COMPUTER IN EDUCATION

- Methods of computer based instruction: Tutorials, Drill & Practice and instructional packages
- Development of computer based instructional packages
- Evaluation of computer based instructional packages
- Computerized test – construction and administration

References

1. J. Brown, et. al. “ An Instructional Technology Media and Methods”.
New Delhi: Mc Graw Hill
2. Henry Ellington. (1985) “ A Handbook of Educational Technology”
London : Kogan Press
3. Len Masterman. (1985) “ Teaching Of Media”, London : Comedia
4. Keval J. Kumar (1989) “ Reading in media Education” , Columbus: Ohio State University
5. UNESCO. (1984) “Media Education”
6. Duchi (Ed.) (1987) “ Development Communication at Grossroot Level”
7. UNESCO “Distance education in Asia and the Pacific” : Bulletin of the UNESCO regional office for education in Asia and the Pacific” (26) 1-119, I-XL, Dec. 1985
8. Billows (1971) “ The Techniques of Language Teaching” London: Longmans
9. Currie William. (1973). “New Directions In Teaching English Language”
10. Chauhans, S.A. (1978) “ A text book of Programmed instruction”, New Delhi: Sterling Publishers.
11. Dececco, J.P. (1964) “Educational Technology: Reading in Programmed Instruction” New York: Rinechart and Wington
12. David Hardisty and Scott Windeatt (1989) “Computer Assisted Language Learning” Oxford O.U.P
13. Sterhen et.al. (1985). “Computer based instruction methods and development” New York : Prentice hall
14. Kumar K.L (1996) “Educational Technology” New Delhi: New age International Publishers.

**Ph.D – Part I / M.Phil: EDUCATIONAL TECHNOLOGY
SPECIAL PAPER II: EDUCATIONAL COMMUNICATION**

OBJECTIVES

1. To Understand the principles of Communication
2. To Understand the usage of Audio-Visual medium in education
3. To Understand Educational Technology in teaching learning process
4. To Understand the usage of computers in education

Unit I

Types of Communication – Models: Lasswel, Shannon and Weaver’s model – role of communication in social change – Technology in Communication – Media and development – Communication and Information Technology – Research in Communication.

Unit II

Educational Technology: meaning and definition objectives, scope and classification, divisions, evolution and development – Hardware and Software – Concept of principles of learning – Application of learning principles in Educational Technology - Teaching models: Definition and meaning, characteristics and types – Glacer’s model, Bruner’s model – Macro and Microteaching

Unit III

Audio-Visual medium in Education: Definition and Psychology of the use of Audio-Visual aids – characteristics of good teaching aids – classification – projected and non-projected – Meaning and significance of Radio’s school Broadcasting programme – Education Broadcast in India – Press as medium of Education.

Unit IV

Educational Television – Satellite Instructional Television experiment – Cable TV, Community Television – Instructional television – Countrywide classroom – Different types of programmes and formats: - News programmes, TV Documentaries, Interview, Quiz programmes, children’s program, Commercial and Educational programmes.

Unit V

Use of Computer Technology In Education – Computers in classroom – Computer literacy – Computer as a teaching and learning tool – Capabilities and application of Computer – CAL, CAI, CML – Use of Computer in Research

Reference

1. Kumar J. Keval “Mass Communication in Media” , Jaico Publication House
2. Aggarwal J.C. “Essentials of Educational Technology-Teaching learning innovations in Education” ‘ Vikas Publishing House Pvt. Ltd
3. Kumar K.L. “Educational Technology”
4. Kaplar S. Paul “Educational Psychology for tomorrow’s teachers”

Ph.D – Part I / M.Phil: EDUCATIONAL TECHNOLOGY SPECIAL PAPER III : LANGUAGE TEACHING

OBJECTIVES:

- To help the students to know methods of language teaching and learning.
- To equip the students for using computer for testing the language competence.
- To provide introductory knowledge about language pedagogy.
- To enable students classify errors and evaluate language use.

UNIT I: LANGUAGE TEACHING AND LEARNING

Language-acquisition, learning, -first and second language acquisition/teaching
In different socio-cultural settings, cognate and foreign language, teaching /learning .Various
Approaches in language teaching. Using technology -teaching aids.

UNIT II: LANGUAGE, SOCIETY AND COMMUNICATION

Inter-relationship of language, society and communication- Mass media and society-language
use in different media –print, electronic. The process of communication-Models of
communication: Shannon and Weaver, Wilbur Schramm, Osgood, Barriers to communication.
Language variety-dialect, idiolect, pidgin, creole, sociolect, ecolect and register.

UNIT III: LANGUAGE PEDAGOGY AND ERROR ANALYSIS

Developing Language curriculum-syllabus-Textbook evaluation. Errors-Types of errors- Error
analysis at Phonological, lexical, semantic and syntactic level.

UNIT IV : USE OF COMPUTERS IN LANGUAGE TEACHING

Computer based language learning and Teaching, Use of computer aided packages for teaching
and material production, Meaning and Need for Language Laboratory to develop LSRW skills.

UNIT V :LANGUAGE TESTING AND EVALUATION

Principles and methods of language testing, Types of Tests- proficiency test, aptitude, diagnostic
prognostic test, achievement -reliability, validity, item analysis. Formative and summative
evaluation.

References :

1. Essentials of Educational Technology: Innovations in Teaching Learning – J.C. Aggarwal
2. Applied Linguistics and the Learning and teaching of foreign languages – Theo Van Ellis et al
3. Language Teaching – Robert Lado
4. Applied Linguistics – P. Corder
5. Educational Linguistics – Michael Stubbs
6. Understanding second language acquisition – R. Ellis
7. Computational Linguistics: An Introduction – R. Grishnan
8. An Introduction to Human Communication – G.A. Bordern
9. Approaches and Methods in Language Teaching - Jack.C. Richards and Theodore Rodgers
10. Essentials of Examination System: Evaluation, Tests and Measurement
