BHARATHIDASAN UNIVERSITY
TIRUCHIRAPPALLI – 620 023
M. Phil. (Education) Full time & Part time Programme
Regulations

1. ELIGIBILITY FOR ADMISSION TO THE PROGRAMME AND EXAMINATIONS:

The M.Phil. (Education) Full time & Part time Programme are initiated by the Department of Educational Technology, Bharathidasan University. A Candidate shall be admitted to the programme provided he / she have passed M.Ed. (Master of Education) with 55% of marks and above as per the university norms.

2. GENERAL FRAMEWORK:

The duration of the M.Phil. programme shall be one year Full-Time programme, and two years for the Part-Time programme. The Full-Time and Part-Time programmes shall commence from July / August every year. Final Examination shall be conducted for the Full-Time and Part-Time candidates in April / May. Part – II Dissertation work will be submitted in August / September for the Full time candidates and next April / May for the Part time candidates

The M.Phil. candidates shall take three courses (1) Research Methodology (2) Second paper is E-Learning and E-Content Development (3) Third paper on Topic of Research. Besides these three courses, which are aimed to equip the candidates for pursuing research (4) shall be offered on the general skills required on teaching, learning process, such as (i) Computer Application Skills (ii) Communicative Skills (iii) Pedagogical skill including practical training in teaching. For each course, 25% of marks would be allotted for the Continuous Internal Evaluation, and the remaining 75% would be allotted for the University Examination. The following components shall be adopted for continuous internal evaluation / assessment.

1. CAI   - 15 Marks
2. Assignment   – 5 Marks
3. Seminar   – 5 Marks
          _____
   Total   25 Marks
          _____

The syllabi for the all the 4 courses shall consist of five units.

3.   PRESCRIPTION OF COURSES

Sl. No.	Part - I	Course Code	IE	EE	Total
			Marks		
1.	Research Methodology and Statistics in Education	MPHET1	25	75	100
2.	E-Learning and E-Content Development	MPHET2	25	75	100
3.	Guide Paper related to Core area of research*	MPHET3	25	75	100
4.	Teaching and Learning Skills	MPHET4	25	75	100
	Part - II				
5.	Dissertation		50**	150**	200
				Total	**600**

* - Syllabus designed by the respective guide and the candidate

** - Average marks of Internal examiner and External Examiner

4.   SCHEME OF EXAMINATION:

There shall be an examination for full time at the end of the year. The course will blend the theoretical and practical aspects. The theoretical aspects will introduce students to the concepts, principles, types and strategies in education. The practical aspects will expose students to the development, application and evaluation of educational technology materials.

4.1 Dissertation

(a)   Candidates shall be required to submit a Dissertation and an abstract of it. This shall embody the record of original investment or a critical study of existing data or combination of both. This work shall be prepares under the direction of the research guide approved by the department.

(b)   Each work shall be accompanied by a certificate signed by the research guide and countersigned by the Head of the Department to the effect that it has not been the basis for the award of any degree or diploma or previously submitted dissertation.

(c)   There shall be internal and external assessment for each of the prescribed course. 25 marks shall be assigned for internal assessment and 75 marks for external examinations for theory courses. Each written paper shall be valued by an external examiner only. There shall be internal and external assessment for the Dissertation and Viva Voce.

(d)   Each Dissertation and the Viva Voce Examinations shall be valued / conducted by both the internal and external examiners as detailed below:

For Valuation of the Dissertation   - 150 marks

Viva Voce Examination   - 50 marks

The degree shall specifically state that the candidate has been awarded the M.Phil. (Education) degree, having passed the written examination (Part - I) and the Dissertation(Part - II).

Paper I: Research Methodology and Statistics in Education – MPHET1

Max. Marks: 100
Examination Duration : 3 Hrs
CIA-25;UE-75

(a) Course Objectives

The candidates are expected to:
1. Understand the meaning and process of research in education;
2. Select suitable research problem after consulting various sources;
3. Understand the various methods of sampling;
4. Understand the characteristics and use of different tools and techniques for data collection;
5. Understand the various methods and techniques in educational research;
6. Prepare a research proposal, dissertation, abstract and research article.
7. Understand and apply descriptive statistical techniques in educational/action research;
8. Understand and apply inferential statistics (parametric and non-parametric) in educational/action research;
9. Interpret results obtained through different techniques of analysis of data;
10. Draw generalizations on the basis of the results of a research study and
11. Develop research skills needed for a researcher in education.

(b) Course Content

Unit 1: Research in Education

Meaning, need, importance and purposes of research in education, types of research – basic, applied and action, methods, special characteristics and steps, paradigms for educational research – Positivist – Empiricist, Interpretive – Hermeneutic and Critical – methodological pluralism.

Review of related research and literature; Purpose and need at different stages of research, sources and types. Web-based Resources – Use of Internet.

Sources, criteria and selection of research problem and statement of the problem in different forms.

Meaning, characteristics and types of variables and inter-relationships among different variables.

Meaning, importance, characteristics, types and forms of hypothesis – the logic of hypothesis testing – deduction, induction, falsification; hypothesis verification and hypothesis generation from data; process of theory construction, grounded theory.

Unit 2: Methods of Research in Education

Historical: Need, significance, characteristics and steps in historical research, techniques used in historical research, source collection, criticism, and interpretation of data.

Descriptive: Characteristics and steps in descriptive research, surveys, correlation and causal comparative studies, case and developmental studies – nature and use – steps and interpretation.

Experimental: Need and significance, characteristics and steps in experimental research, Nature of quasi experimental research, Validity – internal and external, Role of Control, Designs – single group, parallel groups and rotation groups.

Naturalistic Inquiry – Characteristics, Naturalist paradigm, Contrasts of ontological, epistemological and methodological premises of conventional and naturalistic inquiry.

Sampling – Concept, need, selection of representative and adequate sample, methods – random, stratified, cluster and multistage, Non-probability sampling: quota, judgment and purposive.

Unit 3: Tools and Techniques for Data Collection and Report writing

Characteristics, types, construction and uses of : (a) Observation, (b) Questionnaire, Inventory, Checklist and Attitude Scale (c) Interview, (d) Rating Scales, (e) Schedule and (f) Tests (each to be discussed with reference to its types, purposes, principles of construction and use, advantages and limitations). Establishment of validity and reliability. Item analysis for testing the difficulty and discrimination levels.

Organization and writing of a research report. Format, chapterisation, style and bibliography. Various uses of Computer in research.

Unit 4: Descriptive and Inferential Statistics

Representation of data – Tabular representation of data with regard to level of measurement: Nominal, Ordinal, Interval and Ratio.

The Normal Distribution – Theoretical and Empirical Distributions, Characteristics of Normal Probability Curve (NPC), Deviation from normality and underlying causes, and Applications of NPC.

Correlation: Concept, types, coefficient of correlation - Assumptions, uses and interpretation of rank order, product moment, Biserial, Point- biserial, Tetra-choric, partial and multiple.

Regression and Predication: Concept of regression, regression equations (involving two variables only) and their uses, accuracy of prediction.

Sampling Distribution of Statistics

Concept of population, sample, parametric, statistics, sampling distributions, sampling error and standard error of statistics, degrees of freedom, estimation of parameters – Point and Interval-confidence limits and confidence intervals.

Unit 5: Test of Significance

Concept of Null Hypothesis, Types-substantive and statistical, testing of Null Hypotheses, Types of Error, Levels of Significance, Test of Significance-Directional (One-tailed) and Non-directional (two-tailed) tests.

Concept of chi-square, chi-square as test of goodness of fit and test of independence, contingency coefficient and its uses.

Analysis of variance – One way and two way – Analysis of co-variance – Concept, assumptions and Uses.

Discriminant function analysis; Factor analysis; Path analysis: Non-Parametric Statistics – Concept and uses of sign test, Mann Whitney U test, Introduction to SPSS.

[What is expected is the understanding the functions of statistics and skill in the correct choice of statistics for data analysis and hypothesis testing; No question on computation of statistics will be set for the examination]

Suggested Readings
1. Best J.W (1986) *Research in Education,* New Delhi: Prentice Hall of India Pvt. Ltd.
2. Borg, W.R. and Gall, M.D. (1983) *Educational Research – An Introduction,* New York, Longman, Inc.
3. Fraenkel, J.R., Wallen, N.E. (1983) *How to Design and Evaluate Research in Education,* Singapore: McGraw Hill, Inc.
4. Fogelman, 1977) *Piagetian Tests for Primary Schools,* NFER of UK.
5. Good, Carter, V. *Methodology of Educational Research,.* New York: Appleton Century Crafts.
6. Gupta, Santosh (1983) *Research Methodology and Statistical Techniques,* New Delhi: Deep and Deep Publisher.
7. Kerlinger, F.N. (1973) *Foundations of Behavioural Research,* New York: Holt, Rinehart and Winston.
8. Kaul, Lokesh (1984) *Methodology of Educational Research,* New Delhi: Vikas Publications.
9. Srivatsava, G.N.P. (1994) *Advanced Research Methodology*, New Delhi: Radha Publications.
10. Sidhu, K.S. (1987) *Methodology of Research in Education*, New Delhi: Sterling Publishers Pvt. Ltd.
11. Sukhia,S.P. Mehrotra P.V. and Mehrotra R.N. (1966) *Elements of Educational Research,* New Delhi: Allied Publications.
12. Tuckman, B.A. (1969) *An Introduction to Educational Research,* New York: The MacMillan Compaly.
13. Travers, R.M.W. (1969) *An Introduction to Educational Research,* New Delhi: Sterling Publishers Pvt. Ltd.
14. Van, Dalen, Debonald, B. and Meyer, William.J. (1979*) Understanding Educational Research: An Introduction,* New York: McGraw Hill Co.

15. Edwards. (1973). *Statistical Methods for Behavioural Sciences,* New York: Holt, Rinehart and Winston.
16. Ferguson, G. 1981). *A Statistical Analysis in Psychology and Education,* New York: McGraw Hill.
17. Garret, H.E. (1967) *Statistics in Psychology and Education,* Bombay Vakils.
18. Gullford, J. P. and B.Fruchter. (1987). *Fundamental Statistics in Education and Psychology.* Tokyo: McGraw Hill (Student-Sixth edition).
19. Levin,J. (1977). *Elementary Statistics in Social Research,* New York: Harper and Row Publishers.
20. McNemar, Quinn. (1969). *Psychological Statistics,* New York: Wiley & Sons.
21. Popham and Sirohic (1993). *Educational Statistics-Use and Interpretation,* New York: Harper and Row.
22. Siegal Sydney (1956). *Non-Parametric Statistics for Behavioural Science,* New York p: McGraw Hill.
23. Mangal. S.K. (2002) *Statistics in Psychology and Education*, New Delhi: Prentice Hall of India Pvt.Ltd.

Max. Marks: 100

Examination Duration   : 3 Hrs   **(CIA-25;UE-75)**

Objectives:

On completion of this course, the research scholars will be able to:

- understand the concept, scope and significance of ICT in Education
- understand the means of ICT integration into teaching and learning
- know the latest developments in the field of ICT, relevant to Education
- understand the concept and elements of e-learning.
- understand the concept and elements of virtual learning.
- understand and appreciate the role of LMS/LCMS.
- understand the different e-resources and use them
- understand the concept and features of educational multimedia
- understand the concept, features and forms of e-content and
- develop Short Learning Objects and e-Learning Modules.

UNIT I: ICT in Education

Information: Meaning and Significance, Relationship among Data, Information and Knowledge, Types of Information – Communication: Concept, Meaning, Definition, Need and Significance, Modes and Types of Communication – Process of Communication – Elements and Barriers – Classroom communication – Technology: Meaning, Need and Significance – ICT: Definition, Meaning, Scope, Trends and significance in the context of Education – ICT for Effective Teaching and Learning – ICT in classroom – ICT in Distance Education – ICT for Professional Development and ICT for Institutional Management.

Educational Radio: Historical Development. Strengths and Limitations, Role of AIR in Education – Gyanvani – Community Radio- Educational Television: Strengths and Limitations – Use of Television and Video in Education and Training – SITE, Countrywide Classroom – EDUSAT: Implications, ETV Network, Role of EMMRC, CITE, EMPC-IGNOU, UGC-CEC. Internet: Concept, and Importance, Origin and Development. Web: Concept and Importance, Origin and Development – Functions and services of the Web – Computer Mediated Communication: E-mail, Chat, Newsgroups, Forums. Search Engines and Web Utilities: Key words and Search Strategies – Audio and Video content on the web – Videoconferencing – Interaction.

UNIT II: E- Learning

E-Learning: Meaning, Concept, Importance, Strengths and Limitations -Elements and Dimensions of E-Learning - E-Learning Technologies - Virtual Learning: Virtual Classroom / Virtual University, Virtual Instrumentation / Virtual Labs- Merits and Limitations - Virtual Worlds: Educational Implications, Characteristics of the e- learner - Knowledge, Skill and Attitude requirements of the e- educators, e-tutor,   e-moderator – On-line tutoring. On-line Learning, On-line Courses- Learning Management Systems / Learning and Content Management Systems: Concept, Need and Significance – Proprietary and FOSS LMS/LCMS – Brahaspathi of UGC / IIT – Free Web Platforms for providing e-Learning: WikiEducator, WiZiQ – Course Management using LMS/LCMS – Standards for E-Learning – International and Indian Initiatives in E- Learning.

UNIT III: Use of E- Resources, Web 2.0 Technologies & Social Media

E- Resources: Meaning, Concept, Importance, Advantages and Limitations-Types of e – Resources – Forms of Digital information – On-line Libraries – On-line Journals and Abstraction Services, Full Text Databases – Gateways and Portals , E-theses Library, E-Resources in Indian Education : UGC – INFLIBNET,UGC INFONET, ERNET, DELNET, E–Journal Consortium, N.LIST, NPTEL,UGC – CEC. Web 2.0 Technologies - Nature and Characteristics of Web 2.0 – Blogs, Podcasts, Wikis, Web Quests, Applets, Hot Potatoes, Digg, Del.icio.us and other Web 2.0 technologies/ applications relevant for academic purposes – Internet Telephony – Audio / Video and Interactive Learning Content on the Web – Social Media : Face book, Orkut, MySpace Twitter and their educational implications.

UNIT IV: Educational Multimedia
Multimedia : Concept, Meaning and Advantages – Features of Multimedia : Multimodality, Interactivity, Immersion, Hypertextuality/Hyperlinkedness, Narrativity – Educational Multimedia – Origin and Development - Educational Potentials of Multimedia - Instructional Multimedia Development : Principles, Models and Guidelines – Stages of Development - Working with Text, Images, Audio, Video, Graphics and Animation – Evaluation of Multimedia : Need and Significance, Parameters and Methods – Principles of Instructional Multimedia Evaluation – Models, Techniques and Tools for Multimedia Evaluation.

UNIT V: E-Content Development
E–Content Development – Meaning, Need and Significance – Types and Forms of e- Content – Short Learning Objectives – Modules : Components – Stages of e- Content Development and Steps involved – Scripting for e- Content – Learning Object Repositories - E – Content Development initiatives in India : NPTEL, NMC-ICT – Role of UGC – CEC and EMMRC's Funding for e–Content Development. Parameters for Quality Assurance in e-Content – Standards and Benchmarking for Quality in e- Content.

Practical Activities
- Development of E-Content (SLOs / Modules)
- Analysis and Evaluation of Academic Websites.
- Analysis of E- Learning Portals.
- Analysis of Educational Multimedia.
- Creation of Blogs , Web Quests.
- Creation of tests using Hot Potatoes.
- Working with e-Learning Platforms (FOSS).
- Participation in Webinars / On-line Conferences
- Use of E – Resources.

References
- o Beetham Helen and Rhona Sharpe (2007). *Rethinking Pedagogy for a Digital Age : Designing and Delivering E- Learning.* London Routledge.
- o Counts E. L. (2003) *Multimedia Design and Production for Students and Teachers .* Boston: Allyn and Bacon.
- o Harasim, L.(1990) *Online Education: Perspectives on a New Environment.* New York:Prasser
- o Heinich, R., Molenda, M., Russell, J. & Smaldino,S. (1999) *Instructional Media & Technologies for Learning. 6 th edition.* New York : Merrill – Prentice Hall.

- Lee, William W ; Diana L Owens (2001) *Multimedia – Based Instructional Design: Computer – Based Training*. Jossey Bass.
- Mayer R (2005). *The Cambridge Handbook of Multimedia Learning* . New York : Cambridge Univesity Press.
- Mayer Richard E (2001); *Multimedia Learning,* Cambridge University Press, UK.
- Michael Allen's *Guide to E- Learning,* Michael W. Allen, Michael Allen, Wiley Publication, 2002.
- Peter Fenrich, *Creating Instructional Multimedia Solutions: Practical Guidelines for the Real World,* Informing Science Publications, 2005.
- Philips. R (1997) *Interactive Multimedia* London: Kogan Page.
- Resta, P (Ed.) *Information and Communication Technologies in Teacher Education: A Planning Guide.* Paris UNESCO 2002.
- Resta, P., Carroll, T. (Eds) , Austin, *"Redefining Teacher Education for Digital – Age Learners: A Call to Action, The Summary Report of the Invitational Summit on Redefining Teacher Education for Digital – Age Learners,"* Texas : The University of Texas at Austin Learning Technology Center, 2010.
- Richard Andrews, Caroline A. Haythornthwaite (2007) The Sage Handbook of E-Learning Research.
- Rosenberg, M.J(2001) *e- learning* new York: McGraw Hill
- Ruth Colvin Clark and Richard E . Mayer (2003). *E – Learning and the Science of Instruction: Proven Guidelines for Consumers and Designers of Consumer Learning.* Pfeiffer.

- S.M.Nafay Kumail., *E-Learning: An Expression of the Knowledge Economy,* Gaurav Chandha, , Tata McGraw- Hill Publication, 2002
- Schank,R.C.(2001) *Virtual Learning* McGraw Hill
- Singh P.P., Sandhir Sharma, E- Learning: *New Trends and Innovations,* Deep & Deep Publications, 2005.
- Som Naidu, E-Learning: *A Guidebook of Principles, Procedures and Practices,* CEMCA, 2006.
- Srinivasan. T.M (2002), *Use of Computers and Multimedia in Education* Horton , W (2001).
- Tay Vaughan, Multimedia Making it Work, Seventh Edition, McGraw- Hill Osborne Media, 2006.
- Usha Reddi and Sanjaya Mishra (2003). *Educational Multimedia :A Handbook for Teacher – Developers.* New Delhi : Commonwealth Educational Media Centre for Asia.
- Vaughan, T (1999) *Multimedia: Making it Work*, New Delhi: Tata McGraw- Hill [Fourth Edition].
- Volker, R., & Simonson, M. (1989) *Media for Teachers: An Introductory course in Media for students   in   teacher   education.* 5 th Ed. Dubuque: Kendall/ Hunt Publishing.
- Warlck, D.F (2005) *A Classroom Blogging: A Teacher's Guide to the Blogosphere.* Raleigh, NC : The Landmark Project.

(Syllabus designed by the respective candidate and the guide)
Max. Marks: 100
Examination Duration   : 3 Hrs
CIA-25;UE-75

Paper IV : Teaching and Learning Skills– MPHET4

Max. Marks: 100
Examination Duration   : 3 Hrs
CIA-25;UE-75

Objectives:
       After completing the course, the scholars will be able to:

➢ acquaint themselves with different parts of a computer system and their functions.
➢ understand the operations and use of computers and common accessories.
➢ develop skills of ICT and apply them in Teaching Learning context and Research.
➢ appreciate the role of ICT in teaching, learning and Research.
➢ acquire the knowledge of communication skills with special reference to its elements, types, development and styles.
➢ understand the terms Communication Technology and Computer mediated teaching and develop multimedia/E-content in their respective subject.
➢ understand the communication process through the web.
➢ acquire the knowledge of instructional technology and its applications.
➢ develop different teaching skills for putting the content across to targeted audience.

Unit 1: Computer Application Skills

Computer system: Characteristics, Parts and their functions – Different generations of computer – Operation of computer: Switching on/off/restart, Mouse Control, Use of keyboard and some functions of key – Information and Communication Technology (ICT): Definition, Meaning, Features, Trends – Integration of ICT in teaching and learning – ICT applications: Using word processors, Spread sheets, Power point slides in the classroom – ICT for Research: On-line journals, e-books, Courseware, Tutorials, Technical reports, Theses and Dissertations.

Unit 2: Communications Skills

Communications: Definitions – Elements of Communication: Sender, Message, Channel, Receiver, Feedback and Noise – Types of Communication: Spoken and Written; Non-verbal communication – Intrapersonal, interpersonal, Group and Mass communication – Barriers to communication: Mechanical, Physical, Linguistic & Cultural – Skills of communication: Listening, Speaking, Reading and Writing – Methods of developing fluency in oral and written communication – Style, Diction and Vocabulary – Classroom communication and dynamics.

Unit 3: Communication Technology

Communication Technology: Bases, Trends and Developments – Skills of using Communication Technology – Computer Mediated Teaching: Multimedia, E-content –

Satellite-based communication: EDUSAT and ETV Channels. Communication through web: Audio and Video applications on the Internet, Interpersonal communication through the web.

Unit 4: Pedagogy
Instructional Technology: Definition, Objectives and Types – Difference between Teaching and Instruction – Lecture Technique: Steps, Planning of a Lecture, Delivery of a Lecture – Narration in tune with the nature of different disciplines – Lecture with power point presentation - Versatility of Lecture technique – Demonstration: Characteristics, Principles, planning Implementation and Evaluation – Teaching-learning Techniques: Team Teaching, Group discussion, Seminar, Workshop, Symposium and Panel Discussion – Modes of teaching: CAI, CMI and WBI.

Unit 5: Teaching Skills
Teaching skills: Definition, Meaning and Nature- Types of Teaching Skills: Skill of Set Induction, Skill of Stimulus Variation, Skill of Explaining, Skill of Probing Questions, Skill of Black Board Writing and Skill of Closure – Integration of Teaching Skills – Evaluation of Teaching Skills.

References

1. Bela Rani Sharma (2007), Curriculum Reforms and Teaching Methods, Sarup and sons, New Delhi
2. Don Skinner (2005), Teacher Training, Edinburgh University Press Ltd., Edinburgh
3. Information and Communication Technology in Education: A Curriculum for schools and programmed of Teacher Development, Jonathan Anderson and Tom Van Weart, UNESCO, 2002.
4. Kumar, K.L. (2008) Educational Technology, New Age International Publishers, New Delhi.
5. Mangal, S.K (2002) Essential of Teaching – Learning and Information Technology, Tandon Publications, Ludhiana.
6. Michael,D and William (2000), Integrating Technology into Teaching and Learning: Concepts and Applications, Prentice Hall, New york.
7. Pandey,S.K (2005) Teaching communication, Commonwealth Publishers, New Delhi.
8. Ram Babu,A abd Dandapani,S (2006), Microteaching (Vol.1 & 2), Neelkamal Publications, Hyderabad.
9. Singh,V.K and Sudarshan K.N. (1996), Computer Education, Discovery Publishing Company, New York.
10. Sharma,R.A., (2006) Fundamentals of Educational Technology, Surya Publications,Meerut
11. Vanaja,M and Rajasekar,S (2006), Computer Education, Neelkamal Publications, Hyderabad.

****