

DEPARTMENT OF EDUCATIONAL TECHNOLOGY BHARATHIAR UNIVERSITY

P.G DIPLOMA IN E-LEARNING TECHNOLOGY

REGULATIONS AND SYLLABUS (EFFECTIVE FROM ACADEMIC YEAR 2007 ONWARDS)

1. ELIGIBILITY FOR ADMISSION TO THE COURSE

Candidate for admission to the first year of the PG Diploma course shall be required to have completed the UG Degree (any discipline) of this University or any other University recognized by Bharathiar University.

2. DURATION OF THE COURSE

The course shall extend over a period of one year comprising of two semesters. There shall not be less than prescribed instructional days for each semester. Examinations shall be conducted at the end of every semester for the respective subjects.

3. COURSE OF STUDY

The course of study for the PG Diploma in Educational Technology shall consist of the following:

I Semester

- 4 papers
- Examination shall be conducted at the end of the semester

II Semester:

- 4 papers (3+1) including Project Work
- Examination shall be conducted at the end of the semester

4. REQUIREMENT TO APPEAR FOR THE EXAMINATIONS:

A candidate will be permitted to appear for the University Examination for any semester if he / she secure not less than 75% of attendance in the number of instructional days during the semester.

A candidate may be permitted to appear for the University examinations even if he/she does not possess the minimum required attendance and allowed to continue to go for the subsequent semester and he/she should compensate the attendance requirement for both the present and earlier semester. If he/she could not earn the attendance even after continuing the subsequent semester then he/she should rejoin the course and redo the semester he/she last studied.

5. SCHEME OF EXAMINATIONS:

FIRST SEMESTER

Paper Code	Name of the Paper	University Examinations			
		Duration in Hrs	Max. Marks		
			Int	Ext	Total
Paper 1	<u>Theory</u> Psychology of Learning and Instruction	3	25	75	100
Paper 2	Educational Technology and Communication	3	25	75	100
Paper 3	Development and Applications of Electronic Media	3	25	75	100
Paper 4	Interactive Multimedia Instruction	3	25	75	100

SECOND SEMESTER

Paper Code	Name of the Paper	University Examinations			
		Duration in Hrs	Max. Marks		
			Int	Ext	Total
Paper 5	<u>Theory</u> Introduction to E-learning	3	25	75	100
Paper 6	Instructional Technology	3	25	75	100
Paper 7	Web Designing	3	25	75	100
Paper 8	Project Work and Viva-Voce	-	25	75	100

6. MEDIUM OF INSTRUCTION AND EXAMINATIONS

The medium of instruction and examination for the all the papers shall be in English.

7. PASSING REQUIREMENTS

(i) A candidate shall be declared to have passed the examination in a subject if he/she secured not less than 50% in the University examinations.

(ii) A candidate who successfully completes the course and passes the examinations prescribed in all the subjects of study shall be declared to have been qualified for the PG Diploma courses.

(iii) If a candidate does not complete the course successfully within a period of 2 years (4 semesters) from the date of his/her joining he/she will not be eligible to receive the PG Diploma.

8. CLASSIFICATION OF SUCCESSFUL CANDIDATES

(i) All the candidates securing not less than 60% of the aggregate marks shall be declared to have passed in **FIRST CLASS** provided they have passed the examination in every subject with in one year of joining the course.

(ii) Other successful candidates shall be declared to have passed the examinations in **SECOND CLASS**.

9. CONFERMENT OF THE DIPLOMA

No candidate shall be eligible for conferment of the Diploma unless he / she has undergone the prescribed course of study for a period of not less than two semesters in an institution approved by / affiliated to the University or has been exempted there from in the manner prescribed and has passed the examinations as have been prescribed therefore.

10. SYLLABUS

The syllabus for various subjects shall be clearly demarcated into five viable units in each paper / subject.

11. QUESTION PAPERS

The pattern of question papers for all the subjects shall be as follows:

Section A: Objective type of questions with no choice (20 questions – 4 from each unit)	20%
Section B: Short answer questions of either/or type (5 questions – 1 from each unit)	30%
Section C: Essay type questions of either/or type (5 questions – 1 from each unit)	50%

PAPER 1: PSYCHOLOGY OF LEARNING AND INSTRUCTION

Objectives

1. To understand the meaning, principles and methods of Educational Psychology.
2. To understand the process of learning and the factors/conditions that facilitates the learning process.
3. To enable the learners to use various styles and strategies of learning to design learning situations.

Unit I – Educational Psychology

Psychology: Meaning, Branches, Scope and Methods - Emerging areas of Educational Psychology: Technology and Education, Teaching students with special needs, classroom communication & management and Test & Evaluation - Bloom's Taxonomy of Educational Objectives: Cognitive, Affective and Psychomotor - Cognitive Development: Piaget's stages of cognitive development.

Unit II – Psychology of Learning

Learning: concepts, meaning and factors affecting learning – Approaches to learning: behaviorism, cognitivism and constructivism – types of learning: conditioning, problem solving and information processing – Individual Differences: Intelligence, Creativity, Aptitude, Motivation and Personality – Memory & Forgetting.

Unit III – Psychology of Perception and Attention

Concepts, Meaning, Approaches to Perception – Role of Senses in perception – Role of memory & forgetting in perception – Role of attention in perception – Psychology of color in perception & attention – Psychology of visual communication.

Unit IV – Instructional Theory & Practice

Concept, Meaning and theoretical trends in Instruction – Basic principles of Instruction: Assumptions & Components – Designing Instruction for complex skills - Approaches to Instruction: Behaviorism, Cognitivism & Constructivism – Piaget's Cognitive Development theory - Educational Implications of conditioning, information processing, meta-cognition and problem solving - Instructional design for learning hierarchies.

Unit V – Approaches to Learning & Instruction

Principles & Models of learning and instruction – behavioristic approaches to learning & instruction – Teaching critical thinking – learning how to learn – Role of attention, memory & forgetting in information processing

References

1. Skinner, E., Charles, Educational Psychology, New Delhi: Prentice Hall.
2. Lindgren Henry, Educational Psychology in the classroom. Asia Publishing House.
3. Stephens, Psychology of Classroom Learning, Holt Rinchart.

4. Dececco, Psychology of learning and instruction, New Delhi: Prentice Hall.
5. Gredles, R. Margaret, Learning and Instruction: Theory into Practice, Merrill, Prentice Hall.

PAPER 2: EDUCATIONAL TECHNOLOGY AND COMMUNICATION

Objectives

1. To understand the meaning, scope and concept of Educational Technology and Communication.
2. To compare the software approach with the hardware approach to educational technology.
3. To develop necessary skills in the use of media utilization and applications in the teaching-learning process.

Unit I – Concept & Principles of Educational Technology

Educational Technology: Definition, Meaning, Scope and Relevance to Modern Education – Technology of Education & Technology in Education

Foundations of Educational Technology: Psychology, Sociology, Communication and Management – Systems Approach as applied to Educational Technology

Unit II – Communication & Educational Technology

Communication: Definition, Meaning and Importance – Communication Process – Theories and Models of Communication: Shanon’s Model, Westley and MacLean’s Model, Leagan’s Model and Berlo’s Model

Education through Print, Radio, TV, Multimedia and Internet – Role of Audio-Visual Aids in Education: Projected & Non-projected Aids – Experiments and Projects in Utilization of Media in Education

Unit III – Mass Communication

Meaning, Principles and Process of Communication – Types of Communication: Interpersonal and Mass communication, Verbal and Non-verbal communication – Communication and Language – Communication and Culture – Creative Communication – Noise Factor and Communication – Media & Society – Concept, Meaning and Characteristics of Mass communication – Types of Mass Communication Media: Traditional, Print, Electronic Media

Unit IV – Audio & Visual Communication

Sound as Mode of communication – Development and Importance – Types of Sound and Audio communication - Uses of Audio Communication

Meaning, Forms, Development and Uses of Visual Communication – Visual Communication through Print, Slides, Films & Filmstrips, TV, Video and Computers – Role of Audio in Visual Communication

Unit V – New Information Technology in Education

Concept and development of telecommunication - Types of telecommunications: Optical fiber and Satellite communication – Edusat – Low-tech and High-tech Telecommunications: Multimedia, Interactive TV, LAN, Videotext, Teletext, Telebridge, WWW and Internet – Virtual teaching and learning.

Reference

1. The Process of Education, Bruner J.S, Vintage Books, 1963
2. Educational Technology, Dececo, John, Holt Rinebert Winston, 1964
3. The Technology of Teaching, Skinner B.T, Applenton Century Crofts, 1968
4. Handbook of Educational Technology, Freed P and Hency E, Kogam Page, 1984
5. Educational Technology in Curriculum Development, Rowntree D, Harper & Row, 1982
6. Introduction to Educational Technology, Kulkarni S.S, Oxford & IBH, 1986
7. Educational Technology, Kumar, K.L, New Age International (P) Ltd, 1997
8. Teaching Technology for College Teachers, Vedanayagam E.G, Sterling Publishers (P) Ltd, 1989
9. Essential of Educational Technology: Teaching Learning Innovations in Education, Aggarwal, J.C, Vikas Publishing House (P) Ltd, 1995

PAPER 3: DEVELOPMENT AND APPLICATIONS OF ELECTRONIC MEDIA

Objectives

1. To understand the growth & development of Electronic Media.
2. To know the evolution and ethics of Electronic Media.
3. To understand and realize the uses & utilization of Electronic Media for educational purposes.

Unit I – Evolution of Media

Historical background of Print Media: India & Global – Growth & Development of Print Media – Growth & Development of Electronic Media – Radio: State & Private sector's expansion – Television: Growth, Origin & development – State ownership – Commercial & Public service – History of Prasar Bharathi Broadcasting Corporation – Autonomy & programming pattern – Competition with Private Channels.

Unit II – Electronic Media for News Programmes

News: Concept, Definition & Elements of News – Language and Sources of News – Principles & Types of News Programs in Electronic Media – News gathering & Writing – Electronic News gathering – Satellite news gathering – News production team & their role – Television news language – TV news versus Print media news – News through Internet.

Unit III – Development of Cable & Satellite Communications

Development of Cable TV, CCTV – Advantages of Cable-TV over Satellite-TV – Characteristics of Cable-TV – Components of transmission chain – Cable bands & Radiation standards – Satellite: Types & Frequencies – Elements of Communication Satellite – Transmission Satellite links – INSAT programs – Satellite transponders & Sub-grouping – Network & program.

Unit IV – Media Law & Ethics

Overview of the constitution of India – Freedom & Restriction of Media – Fundamentals Rights of the Media – Directive Principles of State Policy – Parliamentary privileges: Central and State relations – History of Press/Media laws in India – Civil and Criminal Law of Defamation – Cinematography Act, 1953 – Prasar Bharathi Act – Trade mark Act and Patent Act.

Unit V – Applications of Electronic Media

Electronic Media services in Countries and Districts – Utilization & Uses of Electronic Media in Universities & Colleges – Role & Applications of Electronic Media in Formal, Non- formal & Informal Education, Journalism, Commercials, Advertising and Informatics – Impact of Electronic Media in Education – Applications of Electronic Media in Research.

References

1. Writing for the Mass Media, Sixth Edition, James Glenn Stovall, Allyn & Bacon, 2005 (Unit I, II, IV)

2. Broadcasting, Cable, the Internet, and Beyond: An Introduction to Modern Electronic Media, Joseph R. Dominick, Barry L. Sherman & Fritz Messere (Unit II)
3. www.indiacode.nic.in (Unit IV)
4. Electronic Media (with InfoTrac), John E. Craft, Frederic A. Leigh, Donald G. Godfrey, Wadsworth Publishing, 2000 (Unit I, III, V)

PAPER 4: INTERACTIVE MULTIMEDIA INSTRUCTION

Objectives

1. To know the basics of multimedia and tools used to develop multimedia.
2. To understand the project management and responsibilities of team members.
3. To learn the phases of instructional designing and interactivity designing.
4. To learn the proper use of media in learning.
5. To know the process involved in delivering multimedia products.

Unit I – Introduction to Multimedia

Benefits of Multimedia in Instruction – Media and Motivation – Issues Surrounding Multimedia

Multimedia Hardware: Platforms – Peripherals

Creation Tools: Painting and Drawing Tools – Image Editing Tools – 3-D Modeling and Animation Tools – Audio and Video Editing Tools

Authoring Tools: Card and Page Based Tools – Icon Based Tools – Time Based Tools – Cross-Platform Authoring – Evaluating Authoring Tools

Unit II – Project Management and Instructional Design

Project Management Issues – Roles of Project Managers, Instructional Designers, Subject-Matter Experts, Content Writers, Programmers, Media Producers

Instructional Development Phases: Analysis & Planning – Design – Development – Implementation – Evaluation & Revision

Unit III – Media

Text: Guidelines for Creating Text – Spacing – Justification – Fonts – Variable Spacing – Scrolling – Scrolling – Display Speed – Screen Focus Points – Hypertext and Hypermedia

Images: Images and Learning – Displaying Images – Appearance – Costs – Digitization

Animation: Animations and Learning – Displaying Animations – Costs

Audio: Audio and Learning – Scriptwriting Guidelines – Speech – Sounds – Music – Audio Quality – MIDI – Digitization

Video: Video and Learning – Strengths of Video – Difficulties with Professional Quality Video

Unit IV – Designing Interactivity

Interactivity: Definition – Purpose – Process of Interactive Design

Information Design: Product Definition – Audience and Environment – Development Choices – Organizing Information – Information Flowchart

Interaction Design: Orientation – Image Maps and Metaphors – Navigation – Usability – Functionality – Storyboard

Presentation Design: Tasks of Presentation Design – Resolution – Anti-aliasing – Color and Palettes – Interface Style – Layout – Interface Elements (Background, Panels, Buttons & Controls, Images, Text, Video, Sound, Animation) – Feedback and Error Messages

Unit V – Delivery

Testing: Alpha Testing – Beta Testing

Delivery: freezing the Product – Archiving – Project Debrief – Licensing, Copyright and Support Agreements – Copyright Issues – Legal and Ethical Issues – Packaging

References

1. Multimedia: Making it Work, Seventh Edition, Tay Vaughan, McGraw Hill Osborne Media, 2006 (Unit I)
2. Creating Instructional Multimedia Solutions: Practical Guidelines for the Real World, Peter Fenrich, Informing Science Publication, 2005 (Unit II, III)
3. Managing Multimedia: Project Management for Interactive Media, Second Edition by Elaine England, Andy Finney, Addison-Wesley Professional, 1998 (Unit II)
4. Interactivity by Design: Creating & Communicating with New Media, Ray Kristof, Amy Satran, Pearson Education Publication, 1995 (Unit IV)
5. Multimedia in Action, James E. Shuman, Course Technology Publication, 1997 (Unit V)
6. Designing Interactive Digital Media, Nicholas V. Iuppa, Nick Iuppa, Butterworth-Heinemann Publication, 1998
7. Principles of Interactive Multimedia, Mark Elsom-Cook, McGraw-Hill Publishing Co, 2000
8. Developer's Handbook to Interactive Multimedia, Rob Phillips, Kogan Page Publication, 1997

PAPER 5: INTRODUCTION TO E-LEARNING

Objectives

1. To understand the basic concepts of e-learning.
2. To understand the technology mediated communication in e-learning.
3. To learn the services that manage e-learning environment.
4. To know the teaching and learning processes in e-learning environment.

Unit I – Introduction

Evolution of Education – Generations of Distance Educational Technology – Role of E-Learning – Components of e-learning: CBT, WBT, Virtual Classroom – Barriers to e-Learning

Roles and Responsibilities: Subject Matter Expert – Instructional Designer – Graphic Designer – Multimedia Author – Programmer – System Administrator – Web Master

Unit II – Technologies

Satellite Broadcasting – Interactive Television – Call Centers – Whiteboard Environment

Teleconferencing: Audio Conferencing – Video Conferencing – Computer Conferencing

Internet: E-mail, Instant Messaging, Chat, Discussion Forums, Bulletin Boards, Voice Mail, File Sharing, Streaming Audio and Video

Unit III – Management

Content: E-Content, Dynamic Content, Trends – Technology: Authoring, Delivery, Collaboration – Services: Expert Service, Information Search Service, Knowledge Creation Service – Learning Objects and E-Learning Standards

Process of E-Learning: Knowledge acquisition and creation, Sharing of knowledge, Utilization of knowledge – Knowledge Management in E-Learning

Unit IV – Teaching-Learning Process

Interactions: Teacher-Student – Student-Student – Student-Content – Teacher-Content – Teacher-Teacher – Content-Content

Role of Teachers in E-Learning – Blended Learning – Cooperative Learning – Collaborative Learning – Multi Channel learning – Virtual University – Virtual Library

Unit V – Development Issues

Assessment in E-Learning – Quality in E-Learning – Tools for Development – Costs for Developing and Using E-Learning Environments – Challenges and Careers – Future of e-Learning

References

1. E-Learning: An Expression of the Knowledge Economy, Gaurav Chadha, S.M. Nafay Kumail, Tata McGraw-Hill Publication, 2002 (Unit I, III)
2. E-Learning: New Trends and Innovations, P.P. Singh, Sandhir Sharma, Deep & Deep Publications, 2005 (Unit II, IV, V)
3. Michael Allen's Guide to E-Learning, Michael W. Allen, Michael Allen, Wiley Publication, 2002

PAPER 6: INSTRUCTIONAL TECHNOLOGY

Objectives

1. To understand the meaning and significance of Instructional Technology
2. To relate instructional objectives to instructional technology
3. To assess the relative effectiveness among different instructional development models.

Unit I – Instructional Technology: Fundamentals

- Instructional Technology: meaning, definition, development and scope
- Writing instructional objectives: the ABCD method.
- Instructional Technology process: learner, teacher and curriculum, material triangle.
- Need assessment and task analysis procedures.

Unit II – Instructional Development Models

- Kemp model
- Instructional development institute model
- Inter-service procedures for instructional system development model.
- Criterion referenced instruction model
- UNESCO ISD model

Unit III – Instructional Design and Techniques

- Stages of instructional design: information processing, learning events and learning outcomes: concepts and meaning
- Instructional designs: objective-based, skill-based, competency based, learning style based and combination of teaching strategies and instructional designs.
- Instructional technology for large groups: Psycho-dynamics of group learning, lecture method, seminar, symposium, panel discussion, team teaching, project approach and workshop.
- Instructional technology – small groups: group discussions, simulation approach, role-playing, buzz group technique, brainstorming, case discussions and assignments.

Unit IV – Individualized Instructional Techniques

- Meaning, significance and importance
- Tutorials, mastery learning and Keller plan
- Programmed instruction: nature, types and development
- Computer assisted instruction: characteristics, types and development of CAI materials.
- Language Laboratory

Unit V – Instructional Evaluation and Remedial Teaching

- Measurement and Evaluation: meaning, significance and importance
- Criterion referenced and norm-referenced testing.
- Innovations in evaluation: credit system, semester pattern, grading system, question Bank and Computerized test construction and administration.
- Remedial teaching: meaning, diagnosis, principles of diagnosis, steps in diagnosis etc.

Reference

1. Kumar, K.L. (1997) Educational Technology. New Delhi: New Age International (P) Ltd.
2. Vedanayagam, E.G. (1989) Teaching Technology for College Teachers. New Delhi: Sterling Publishers (P) Ltd.
3. Aggarwal, J.C. (1995) Essential of Educational Technology: Teaching Learning Innovations in Education. Delhi: Vikas Publishing House (P) Ltd.
4. Romiszowski, A.J. (1974) The selection and Use of Instruction: A systems Approach. London: Kogen Page.
5. Khirk, Frederick, G. and Gustafson, Kent, (1989) Instructional Technology, New York: CBS College Publishing.
6. Davis, I.K. (1981) Instructional Technique. New York: Mcgraw Hill.
7. Trow, W.C. (1963) Teachers and Technology: New Designs of Learning. USA: Appleton Century Crofts.
8. Cuban, Lorry, (1986) Teachers and Machines: The classroom use of Technology, New York: Teachers College.
9. Paul, Sattler (1969) History of Instructional Technology.
10. Pillay J.K. (1989) Method of Teaching & Science of Learning, Madurai: Madurai Kamaraj University.
11. Stephen, M.A. and Stanely, R. (1985) Computer Based Instruction: Methods and Development. NJ: Prentice Hall.

PAPER 7: WEB DESIGNING

Objectives

1. To know the basics of networks and the network devices.
1. To understand and use basic HTML tags for designing web pages.
2. To know the design of table, frame and form using HTML tags.
2. To learn basic and advanced features of Dreamweaver to design a website.

UNIT I – Introduction to Networks

Computer networks: LAN, WAN, MAN, Internet, Intranet, Extranet – Client-Server Networks – History of Internet – DNS – ISP – Internet Connections – Network Devices: Cables, Hubs, Repeaters, Bridges, Routers, Gateways, Modems – FTP

UNIT II – HTML

Anatomy of HTML file – Lists – Nested Lists – Font – Anchor – Image – Sound – Colors – Horizontal rules – Borders – Alignment – mail to – Preformatted text – Title, Base, HREF, Meta tags – Transition effects – Visual Filters

UNIT III – Programming Principles

Table: Table Alignment – Cell Alignment – Colors – Adding Images

Frame: Multiple frames – Inline frames

Form: Label – Text – Text Areas – Password Input – Buttons (Button, submit, reset) – Checkbox – Radio Button – List Box – Hidden Input in Forms

UNIT IV – Designing Core Pages in Dreamweaver

HTML Editors – Features of Dreamweaver – Accessing the Code – Building Style Sheets – Working with Text – Inserting Images – Establishing Web Links

UNIT V – Advanced Design Features in Dreamweaver

Working with Div and Layer – Using Behaviors – Setting Tables – Interactive Forms – Creating Lists – Using Frames and Framesets – Using Templates – Using Library Elements

References

1. HTML 4.0 Sourcebook, Ian S. Graham, Wiley Publications, 1998 (Unit I, II, III)
2. Internet & World Wide Web – How to program, 3rd Ed., H.M. Deitel, P.J. Deitel, et al., Prentice Hall, 2003 (Unit I, II, III)
3. Dreamweaver 8 Bible, Joseph W. Lowrey, Wiley Publication, 2006 (Unit IV, V).
4. Dreamweaver MX: The Complete Reference, Ray West, Tom Muck, Mc Graw Hill Publications, 2002 (Unit IV, V)