

## **B.Ed. Two Year Programme**

### **E.4 : Education and Technology**

Maximum Marks: 100

#### **Course Objectives**

The paper aims to enable prospective teachers to:

- develop an understanding of the concept, nature, scope and importance of Educational Technology.
- distinguish between communication and instruction in order to design sound instructional system.
- create an awareness about models of teaching and teaching-learning aids in Educational Technology.
- obtain total perspective of the role of techniques in educational practice.
- acquaint with emerging trends in Educational Technology.
- reflect upon application of educational technology, as a whole, in the field of education.

#### **Course Contents**

##### **UNIT- I: Understanding Educational Technology**

1. Concept of Educational Technology: Types of Educational Technology, difference between hardware & software technology, their role in modern educational practice.
2. Educational Technology: Nature and assumptions, factors influencing the application of Educational Technology, development of Educational Technology.

##### **UNIT- II: Psychological Bases of Modern Technology**

1. Psychological bases of modern technologies with reference to Ausubel, Skinner and Bruner.
2. Instructional design - cybernetic psychology and system analysis.
3. Bloom's (Revised) taxonomy of objectives, constructivism and educational technology.

##### **UNIT – III: Communication & Interaction**

1. Communication & Interaction: Theory of communication, types of communication, communication & language, communication in the classroom, barriers in communication.
2. Print & non-print media in communication, various types of print & non-print media.

3. Educational Technology as a tool for social change: Reach, mobility and accessibility.

#### **UNIT – IV: Models of Teaching & Teaching-Learning Aids**

1. Concept, meaning and characteristics of models of teaching, models of teaching strategies, assumptions and fundamental elements of teaching models.
2. Teaching aids: Edgar Dale's cone of experience and components.

#### **UNIT – V: Innovations in Educational Technology**

1. Multimedia in Education: Computer Assisted Instruction (CAI), Tele-Conferencing, Programmed Instruction, Satellite Communication, Internet and use of multimedia presentation, web 2.0 tools, Open education resources and Information and communication technologies, ethical, social and technical issues.
2. Recent trends in Educational Technology
3. Issues in context: Differently abled learners, teacher replacing technology, learner's interpersonal relationship and technology.

#### **Practicum/Mini Projects (Any three of the following) –**

1. Development of the Programmed Instruction – Branching, Linear.
2. Writing of a term paper on the given course contents.
3. Development of communication plan.
4. Development of Multimedia Presentations.
5. Critical review of Educational program presented through video-cassettes, TV, CDs or any other medium (any two).
6. Interface with educational technology industry (through excursion).
7. Application and use of a recent technology tool in the classroom activities.

#### ***Suggested Readings***

Apple, M. (1991): The new technology: Is it part of the solution or part of the problem in education? *Computers in the Schools*, 8(2), 59-81.

Cheng, I., Safont, L.V. & Basu, A. (2009). *Multimedia in Education: Adaptive Learning and Testing*. New Jersey: World Scientific Pub Co Inc.

Collins, J., Hammond, M. & Wellington, J.J. (1997). *Teaching and Learning with Multimedia*. London: Routledge.

Dale, E. (1969). *Audiovisual Methods in Teaching*, (Edn 3). New York: Dryden Press.  
D'Antoni, S. & Savage, C. (eds) (2009). *Open Educational Resources: Conversations in Cyberspace*. New York: United Nations Educational, Scientific and Cultural Organization.

Goswamy, B. P. (2006). *Shaikshik Takniki Evam Kaksha-Kaksh Prabandh*. Delhi: Swati Publication.

- Jonassen, D.H. (ed) (2003). *Learning to Solve Problems with Technology: A Constructivist Perspective*, (Edn 2). California: Merrill.
- Joyce, B.R., Weil, M. & Calhoun, E. (2009). *Models of Teaching, Alternative eText Formats Series*, (Edn 8). Boston: Pearson/Allyn and Bacon Publishers.
- Kanvaria, V. K. (2014). A comprehension on educational technology and ICT for education. New Delhi: GBO. (Retrieved from [http://www.amazon.in/Comprehension-Educational-Technology-ICT-Education-ebook/dp/B00VV8KYZ6/ref=pd\\_rhf\\_se\\_p\\_img\\_1](http://www.amazon.in/Comprehension-Educational-Technology-ICT-Education-ebook/dp/B00VV8KYZ6/ref=pd_rhf_se_p_img_1))
- Leonard, D.C. (2002). *Learning theories: A to Z*. Westport: Greenwood Publishing Group.
- Mayer, R.E. (2009). *Multimedia Learning*, (Edn 2). New York: Cambridge University Press.
- Mishra, S. & Sharma, R.C. (eds) (2005). *Interactive Multimedia in Education and Training*. London: Idea Group Inc (IGI).
- OET (2000). *E-learning : Putting a World-class Education at the Fingertips of all Children : The National Educational Technology Plan*. Office of Educational Technology, US Department of Education. New York: DIANE Publishing.
- Pathak, R. P. (2007): *Shaikshik Prodyogiki Ke Naye Aayaam*. Delhi: S. M. Books.
- Roblyer, M.D. (2007). *Integrating Educational Technology into Teaching*, (Edn 4). Delhi: Pearson Education India.
- Saxena, P. K. (2008). *Shaikshik Prodyogiki Evam Kaksha Prabandh*. Delhi: KK Publications.
- Sharma, S. & Gupta, N. (2007). *Shaishik Takniki Evam Kaksha Kaksh Prabandhan*. Jaipur: Shyam Prakashan.
- Solomon, G. & Schrum, L. (2007). *Web 2.0: New Tools, New Schools*. Washington: International Society for Technology in Education.
- Spencer, K. (1991). *The Psychology of Educational Technology and Instructional Media*. Liverpool: United Writers Press.
- Timothy J. N., Donald A. S., James D. L., James D. R. (2010). *Educational Technology for Teaching and Learning*, (Edn 4). NOIDA: Pearson Education.