PAPER-IV (EDN: 04)
Information & Communication Technology (ICT) in Education
[100 Instructional Hours – 100 Marks]

100 Hours

Objectives:

The course will enable the student teachers to:
1. explain the concept of ICT in education
2. appreciate the scope of ICT for improving the personal productivity and professional competencies
3. explain the concept of educational technology
4. develop skills of interaction in the classroom
5. explain different approaches of ICT integration in education
6. appreciate the applications of e-learning in education
7. explain instructional strategies and models
8. explain the fundamentals of computers and operating systems
9. develop skills in using MS Office applications for education
10. use internet efficiently to access remote information, communicate and collaborate with others
11. describe social, economic, security and ethical issues associated with the use of ICT
12. develop the electronic teaching portfolio

Course Content:

Unit 1: Educational Technology   **8 Hours**
      1.1:   Educational Technology: Concept & Objectives
      1.2:   Forms of Educational Technology
      1.3:   Multisensory Instruction
      1.4:   Challenges for Educational Technology

Unit 2: Communication & Classroom Interaction   **10 Hours**
      2.1:   Communication: Concept, Elements, Process & Types of Communication
      2.2:   Barriers & Facilitators of communication
      2.3:   Communicative skills of English – Listening, Speaking, Reading & Writing
      2.4:   Flanders Interaction Analysis Category System (FIACS)

Unit 3: Fundamentals of Computers   **12 Hours**
      3.1:   Characteristics, Types & Applications of Computers
      3.2:   Hardware of Computer: Input, Output & Storage Devices
      3.3:   Software of Computer: Concept & Types
      3.4:   Computer Memory: Concept & Types
      3.5:   Viruses & its Management

Unit 4: Computer Networks & Internet   **12 Hours**
      4.1:   Concept, Types & Functions of Computer Networks

4.2: Internet and its Applications
4.3: Web Browsers & Search Engines
4.4: Legal & Ethical Issues

Unit 5: MS Office Applications   **16 Hours**
 5.1: MS Word: Main Features & its Uses in School Programme
 5.2: MS Excel: Main Features & its Applications in School Programme
 5.3: MS Access: Creating a Database, Creating a Table, Queries, Forms & Reports on Tables and its Uses in School Programme
 5.4: MS Power Point: Preparation of Slides with Multimedia Effects
 5.5: MS Publisher: Newsletter & Brochure

Unit 6: ICT in Education   **8 Hours**
 6.1: Concept & Importance of ICT
 6.2: Need of ICT in Education
 6.3: Scope of ICT: Teaching Learning Process, Publication Evaluation, Research and Administration
 6.4: Challenges in Integrating ICT in School Education

Unit 7: Instructional Strategies & Models   **10 Hours**
 7.1: Programmed Instruction
 7.2: Computer Assisted Instruction
 7.3: Computer Managed Instruction
 7.4: Mastery Learning Model of Instructional System

Unit 8: ICT Integration in Teaching Learning Process   **8 Hours**
 8.1: Approaches to Integrating ICT in Teaching Learning Process
 8.2: Project Based Learning (PBL)
 8.3: Co-Operative Learning
 8.4: Collaborative Learning
 8.5: ICT and Constructivism: A Pedagogical Dimension

Unit 9: E-Learning & Web Based Learning   **8 Hours**
 9.1: E-Learning
 9.2: Web Based Learning
 9.3: Virtual Classroom
 9.4: EDUSAT

Unit 10: ICT for Professional Development   **8 Hours**
 10.1: Electronic Teaching Portfolio
 10.2: Assistive Technology for Children with Special Needs
 10.3: ICT for Personal & Professional Development: Tools & Opportunities
 10.4: Open Education Resources: Concept & Significance

References:
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