Indian Statistical Institute
Documentation Research and Training Centre
M.S. in Library and Information Science
Semester-I: Final-Term Exam (AY 2023-24)
Paper –05: Foundations of Information and Communication Technology

Answer any **FIVE** questions
All questions carry equal marks

Date: 24th Nov 2023

Max. Marks: 100
Time: 3 hrs

1. Discuss the historical development of digital computers and highlight the changing characteristics of different generations of computer technologies

2. What is an operating system? Explain the need and functions of an OS. State the features of UNIX Operating System and its directory structure.

3. Delineate the areas of developments in Communication technologies and discuss the relations between network types and network topologies

4. Write short notes on any TWO of the following
   a) Different types of Computer memories and their interrelations
   b) What is a Character set and describe different Number Systems
   c) Diagrammatically present a computer system organisation and describe the features of different Input and Output Devices

5. Discuss the Social, Ethical and Security Issues emerged from the ICT developments. Highlight some key contributors in this context.

6. Discuss the following:
   a) Database Management Systems(DBMS) and their key components
   b) Describe features of ROM and RAM and their importance

7. Discuss the TCP/IP and the features of different OSI layers. Enumerate different types of IP Addresses with their ranges.

8. Examine the emergence of Web 2.0 and discuss different Web 2.0 Technologies with examples.

9. Write short notes on any TWO of the following:
   a) Describe the development Mark-up Languages and features of HTML
   b) Enumerate the stages of development of Information Society
   c) What is a Search engine? State the features of important search engines