

**CDS and Clearing Limited**  
**Thapathali, Kathmandu**  
**6<sup>th</sup> Level (Technical)**  
**Syllabus**

**Modality of Examination:**

The examination will carry 100 marks. The nature of questions will require objective type and essay type questions.

**1. Computer Basics (Hardware and Software)**

- i. General Components of Computers e.g. CPU, Monitor, Keyboard, Mouse, Printers, Hard disk, Floppy Drive, CD drives etc.
- ii. Software Types (System, Utility and Application)
- iii. Troubleshooting methods
- iv. Identifying problems
- v. General precautions

**2. Operating Systems**

- i. History & concepts of operating system
- ii. Computer System Structures
- iii. File Systems
- iv. Distributed Systems
- v. Microsoft Windows Operating System, Control Panel (Fonts, Add/Remove Programs, Printers etc.)
- vi. Hands-on with Microsoft Windows 2008, UNIX and Linux.

**3. Computer Networks**

- i. History and Evolution
- ii. Computer communication architecture
- iii. Network Topologies
- iv. Communication Media
- v. LAN/WAN/MAN
- vi. Internet & Intranet
- vii. Network Protocols
- viii. IP addressing & Routing
- ix. Standards Related to data communication

**4. Document and Spreadsheet**

- a. MS Word
  - i. Creating and Editing Document
  - ii. Formatting Text
  - iii. Working with List and Tables
  - iv. Producing a mass mailing document.
- b. MS Excel
  - i. Creating and working with single/ multiple workbooks and worksheets.
  - ii. Creating Formulas

- iii. Working with charts
  - iv. Managing Worksheet data
  - v. Analyzing data
  - vi. Working with Functions
- 5. Database Management System**
- i. Introduction to RDBMS and file system.
  - ii. SQL
  - iii. Normalization
  - iv. Data Concept & Recovery
  - v. Hands-on with Microsoft SQL Database Management System, Oracle Database Management System.
- 6. Internet , e-mail and Viruses**
- i. Basic Concept of Internet and e-mail
  - ii. Dial-up and Direct connection
  - iii. Concept of WWW, IP address, URL
  - iv. Basic knowledge of virus, worms and spy-wares.
- 7. IT Policy**
- i. Basic concept of IT policy in Nepal
  - ii. Electronic Transaction Act
  - iii. E-Commerce
  - iv. Software Piracy, cyber crime
- 8. Security**
- i. Concepts of Cryptography, Symmetric / Asymmetric key encryption
  - ii. Information Security
  - iii. Firewall & Design Principles
  - iv. Intruders & Virus Related Threats
  - v. Attackers and attacks
  - vi. Virus/worms/Spyware
- 9. Software Engineering**
- i. Project Management & software project planning.
  - ii. Software quality assurance & risk analysis.
  - iii. Software Testing Techniques
  - iv. Object Oriented software engineering
  - v. Client/Server software engineering
  - vi. web engineering, reengineering
- 10. Computer Architecture**
- i. Bus Structures
  - ii. Basic I/O Operations
  - iii. Execution of a complete Instruction
  - iv. CPU & Memory structures
  - v. Virtual Machines
- 11. Client Server Computing**
- i. Client Server Concepts and Architecture
  - ii. Network Operating System, Server Operating Systems.
  - iii. Network protection devices
  - iv. LAN and network management Issues.
  - v. Web Security
- 12. Stock Exchange and Central Depository Concepts**

- i. History of Nepal Stock Exchange Limited, Basic functions of Nepal Stock Exchange Limited
- ii. Roles and Duties of a Stock Broker, Concept of Central Depository System
- iii. Electronic Transaction Act, Central Depository Services Regulation, Securities Act.
- iv. Basic functions of a stock exchange (Listing, Trading, and Clearing & Settlement).
- v. Transfer of securities.
- vi. Roles and Duties of a Stock Broker.
- vii. Brief overview of Nepal Stock Exchange, Market Halt Rules, NEPSE Index, Group A classification.
- viii. Brief overview of Central Depository System, Role and Duties of a Depository Participants.

### **13. Acts & Regulations**

- i. Securities Act - 2063, Central Depository Service Regulation-2067