Nepal Government
Ministry of Communication and Information Technology
National Information Technology Center (NITC)

Post: Computer Technician
Class: Non gazette I

Syllabus

1.1. Computer :- Introduction, Characteristics, Types and Applications of Computer
1.2. Overview of a computer system:-
  1.2.1.Hardware
      1.2.1.1.Input Unit: Keyboard, Mouse and Scanner
      1.2.1.2.CPU: Arithmetic Logic Unit, Control Unit, Memory Unit
      1.2.1.3.Output Unit: Monitor, Printer, etc.
      1.2.1.4. Storage devices: Primary Memory (RAM, ROM, Cache, Register) &
                 Auxiliary Memory (Floppy Disk, Hard Disk, Compact Disk, DVD, Flash
                 disk)
      1.2.1.5. Others: Network card, Modem, Sound card, etc.
  1.2.2.Software:- Definition, Types of Software and Programming Language
1.3. Introduction to ASCII, Unicode standards and font types
1.4. Security
  1.4.1. Physical Security of Information Technology Infrastructure
  1.4.2. Digital security: Antivirus, Firewalls, Antispyware, User authentication types,
           IPS/IDS
  1.4.3. Common security threats: Social engineering, Malware, Phishing, Spyware,
           Viruses, Worms, Trojans, Distributed Denial of Services
1.5. Basic electronics
  1.5.1. Difference between vacuum tube and semiconductor
  1.5.2. Working principal and use of:- P-N junction diode, Zener diode, light emitting
           diode, Bipolar junction transistor
  1.5.3. Basic concept of integrated circuits and its use

2. Hardware Maintenance and Troubleshooting
2.1. Hardware Maintenance
  2.1.1. Configure and apply BIOS settings
  2.1.2. Motherboard components, their properties and purposes (RAM slots, Chipsets,
          Jumpers, CPU sockets, etc)
  2.1.3. Installing and configuring expansion cards (Sound cards, Network cards,
          Graphics cards, etc)
  2.1.4. Installing and configuring storage devices
  2.1.5. Types and features of display devices (CRT, LCD, LED, Plasma)
  2.1.6. Connector types (BNC, RJ45, HDMI) and associated cables
  2.1.7. Installing and configuring various peripheral devices (Mouse, Keyboard,
          Scanner, Printer, Speaker)
2.2. Troubleshooting
   2.2.1. Troubleshooting of computer and its peripherals (keyboard, mouse, printer, scanner, speaker)
   2.2.2. Troubleshooting of connectivity (cables, network, etc)
   2.2.3. Troubleshooting of memory, processor, storage, display
   2.2.4. Troubleshooting of operating system and application software

3. Operating System
   3.1. Introduction, Types and Functions of operating systems
   3.2. Basic components of the operating systems
   3.3. Concept of file, folder, shortcut, desktop, etc.
   3.4. Introduction to the Windows Family of Products and Unix Family of Products
   3.5. Installation, backup, recovery and optimization of operating system
   3.6. Managing information storage, disks and partitions
   3.7. Managing Directory service, Users, Groups and Permissions
   3.8. Managing Network Printing
   3.9. Sharing file, folder, printer, application, etc.
   3.10. Installation and configuration of device drivers, applications, fonts
   3.11. Identifying and managing Security Threats to Operating Systems

4. Networking
   4.1. Basic Networking: Definition, Types, Topologies
   4.2. Client server and peer to peer network
   4.3. Connectivity and media: Network cables and connectors
   4.4. OSI Reference model
   4.5. Common TCP and UDP ports, protocols, and their purpose (e.g. Http, Ftp etc.)
   4.6. Network devices their functions, features and configuration. (Switch, Router, Access point, Modem, Firewall etc.)
   4.7. Application of Network utilities (e.g. IPCONFIG, PING, TRACERT, NSLOOKUP)
   4.8. Network cabling and cable testing
   4.9. Familiarity with IP Addressing, subnet mask, gateway, DNS, WINS, static and automatic address assignment
   4.10. Data Encryption Standards
   4.11. Multiplexing and multiple access technique, switching technique and system

5. Word Processing
   5.1. Concept of Word Processing
   5.2. Creating, Saving and Opening the documents
   5.3. Editing and formatting (text, paragraph, page etc.) of a document
   5.5. Mail Merge
   5.6. AutoCorrect, Spelling and Grammar Checking, and Thesaurus
5.7. Document Security
5.8. Document previewing and Printing

6. Spreadsheet
   6.1. Concept of Electronic Spreadsheet
   6.2. Creating, Opening and Saving Work Book
   6.3. Editing, Copying, Moving, Deleting Cells/Rows/Columns/Range/Worksheets
   6.4. Formatting (Cells, Rows, Columns, Worksheets etc.)
   6.5. Using Formula with Relative Cell and Absolute Cell Reference
   6.6. Using Functions
   6.7. Creating and editing Charts
   6.8. Inserting Header and Footer, Page Setting, Previewing and Printing

7. Presentation System
   7.1. Introduction to presentation applications
   7.2. Creating, Opening & Saving presentation
   7.3. Formatting Slides
   7.4. Slide Show and animation
   7.5. Inserting Built-in picture, Table, Chart, Graphs, and Organization Chart etc.
   7.6. Exporting and printing slides

8. Web Technology
   8.1. Introduction to Web Page and Content Management System
   8.2. Introduction to HTML
   8.3. HTML document
      8.3.1. Html Tags
      8.3.2. Working with Text, Hyperlinks, Images, Lists, Forms, Tables, Frames, etc.
   8.4. Familiarity with Cascading Style Sheet, Rich Site Summary and social networking
   8.5. Concept of Web server and Proxy server
   8.6. Social media in governance

9. Database Management System
   9.1. Introduction to Database and Database Management System
   9.2. Database design and Normalization
   9.3. Basic concept of Tables, Fields, Records, Relationships and Indexing
   9.4. Introduction to database applications
   9.5. Common data types
   9.6. Familiarity with Structured Query Language statements for manipulating database objects and information from database
   9.7. Creating, modifying and deleting forms/reports

10. Software Engineering
    10.1. Introduction to software engineering
    10.2. System analysis and design
    10.3. Software development life cycle, software project management
    10.4. Software design, requirement analysis and specification
    10.5. Software reliability, testing and maintenance
Note:

- Medium of exam is Nepali or English or Both
- No Negative marks