सामान्य विषय–1

कम्प्यूटर शिक्षा

1- <u>Introduction to Computers</u>

- ➢ **History & Development**
  - ■ Chronology
  - ■ Generations
- ➢ **Definition of a Computer System**
- ➢ **Types of a Computer System**
  - ■ On basis of Data Representation (Analog, Digital & Hybrid)
  - ■ On basis of Size & Speed (Microcomputers (PC), Minicomputers, Mainframes & Super Computers)
- ➢ **Uses & Application area of Computers**
- ➢ **Advantages & Limitations of Computers**
- ➢ **Components of a Computers System**
  - ■ Hardware
    - ● Input Devices (Keyboard, Mouse, Trackball, Stylus, Light pen etc.)
    - ● Processing Devices
      - ◆ C.P.U. / Microprocessors
        - ❖ Overview & Basic Concept
        - ❖ Registers & Buses
        - ❖ Processing Speeds (GHz etc.)
      - ◆ Memory
        - ❖ Overview & Basic Concept
        - ❖ Capacity Terminology (Bits, Bytes, KBs, MBs, GBs, TBs etc.)
        - ❖ Processing Speeds (Bps, Kbps, Mbps etc.)
        - ❖ Types of Memory
          - ➔ Primary (RAM, ROM, Cache)
          - ➔ Secondary (HDDs, CDs, DVDs, PDs, Memory Cards etc.)
    - ● Output Devices (V.D.U., Printer)
  - ■ Software (System Software, Application Software)
- ➢ **Working of a Computer System**
  - ■ I-P-O (Input Processing & Output cycle)
  - ■ Overview of Instructing / Programming a Computer machine

2- <u>Working on Computers</u>

- ➢ **Working with System Software ('Operating System (OS)' module only)**
  - ■ Introduction to OS

- OS : Functions, Uses & Benefits
- Types of OS (Single User, Multiuser, Multitasking, Multiprocessing, Real-Time etc.)
- Introduction to different types of OS (Windows, Macintosh, Linux Ubuntoo etc.)
- Using Microsoft's Windows OS (Microsoft Windows XP)
  - Welcome screen
  - Desktop screen
    - Concept of a Desktop
    - Components of the Windows XP's Desktop (Icons, Taskbar, Clock & Calendar etc.)
    - Desktop's settings (Wallpapers, Screen Savers etc.)
    - Start Menu (Links, All Programs etc.)
  - Files & Folders management
    - Introduction to 'My Computers'
    - Working with Windows Explorer (Parts of a window, Control buttons, Scrolling etc.)
    - Working with Files & Folders (Creation, Deletion, Renaming, Coping, Moving, Nesting etc.)
  - System Management
- Turning ON & OFF your computer machine
  - Control Panel
    - Device (Printer, Fax, Mouse, Keyboard etc.) management
    - Program (Installation & Uninstallation) management
  - Recycle Bin

➢ **Working with Applications Software (Hand on practice over general applications)**
- Calculator, Notepad, MS Paint, Games etc.
- Installing new software & using it

➢ **Working with Multimedia**
- Introduction & Basic Concept
- Uses & Application
- Using some Multimedia Application (Windows Media Player, Microsoft's Encarta etc.)
- Uploading innovative teaching methods in different browsers

Internet
➢ **Introduction to Networking**
- Introduction & Basic Concept
- Uses & Application
- Types of Networks
- Performing setup to gather (Two or more systems in a network)

➢ **Introduction to Internet**
- Introduction & Basic Concept
- Components of Internet (Web Browser, Server, Website & Web pages, Hyperlinks)
- Services of Internet (WWW, Email, FTPs, Chatting etc.)
- Performing setup for Internet in a Computer System

- ➢ **Working on Internet**
  - ■ Using Microsoft's Internet Explorer
  - ■ Using basic Online-Services
    - • Search-Engines (Google, Bing, Yahoo etc.)
    - • Email (Gmail, Yahoo Mail etc.)
    - • Chatting (MSN, Yahoo Messenger etc.)
    - • Internet calling (Skype etc.)
    - • Social Networking (Facebook, Twitter, Google Groups, MSN etc.)
  - ■ Accessing Education related online links (Website, FB page, Twitter, Linkedin etc.)
    - • MHRD
    - • NCERT & SCERT of states
    - • D.I.E.T.
    - • UP Basic Education
  - ■ Downloading and Uploading content to and from Internet
    - • PDFs, Songs, Videos etc.
    - • Software : Free and Trial Versions (Installation & Updating from internet)
  - ■ Data Security
    - • Introduction to prevailing threats / frauds in the online world
    - • Steps to ensure security for personal and data
    - • Securing data through Antivirus (Downloading (free copy), Installation and Updating it)
- ➢ **Some useful Web tools**
  - ■ MS FrontPage : Creating & Hosting self made websites over internet
  - ■ MS Outlook : Managing daily tasks, Schedule and Mails
- ➢ **Using हिन्दी (Hindi) in Computing**
  - ■ Reading text in हिन्दी (Hindi) (using Google Translator, Babylon etc.)
  - ■ Writing text in हिन्दी (Hindi) (using Microsoft Language's Indic-Input Tool)

Using Software Application for Documentation and Professional use

- ■ **Need of I.T. Tools and their priority over manual work**
- ■ **Packages: Introduction & Basic Concept**
- ■ **Types of packages** (Word Processors, Worksheet Packages, Presentation Packages, Database Packages etc.)
- ■ **Introduction to Different Office Packages in market** (Microsoft's Office 2007, Oracle's OpenOffice.org etc.)

Working with a Office Package (Microsoft's Office 2007)

- ■ **Working with MS Word**
- ■ **Working with MS Excel**
- ■ **Working with MS PowerPoint**
- ■ **Working with MS Access**

Cyber safety and IT/Cyber Laws

3- Experimental/Sessional work
- ▪ Preparation of TLM using MS Paint.

- Create a worksheet in MS Excel, using data from class records (eg. Name & height of the student and marks obtained by them). Use this worksheet to create the different types to charts-
  - Line chart
  - Bar Chart
  - Pie Chart
  - Column Chart
- Practice of theoritical aspects, in the computer Lab of the Institution.
- Create a teaching video of your choice and upload on internet.
- Create a blog on academic issues.
- Translate any text into a different language (Hindi-English) using Google.
- Prepare a collection of reference material on any topic (alloted by the teacher) using different search engines (eg. Google) and websites of IGNOU, NCERT, UNESCO etc.
- Make a Power Point Presentation to create awareness about any one of the prevailing social issues in our society.
- Each student will write a critical review on the "Cyber safety and Cyber Laws" Practice of all the theoritical aspects in the Computer Lab of the Institution.