Computer Application
EG 1101 CT

Year: I   **Total: 4 hours /week**
Semester: I   **Lecture: 2 hour/week**
Tutorial: hours/week
Practical: 2 hours/week
Lab: hours/week

Course Description:
This course deals with the history of computer development, hardware components, Operating systems, Software applications, Computer networks and Internet. Students will learn classifications of computers, its architecture and software application installations, Peripheral devices installation, computer networks, internet and their use in various purposes.

Course Objectives:
On completion of this course the students will be able to:
1. Understand the basic architecture of Computer;
2. Identify major components of computer and their role;
3. Know the different Operating Systems like MS-DOS, Windows etc.;
4. Use the different Software applications and
5. Understand the basic networking and internet concept.

Course Contents:

Theory

Unit 1	**Introduction to Computers:**	**[2 Hrs.]**

1.1   History of computers
1.2   Generation and type of computers
1.3   Computer hardware and software

Unit 2	**Hardware Components:**	**[6 Hrs.]**

2.1   Major blocks of a digital computer
2.2   Input devices like keyboard, mouse, joystick, scanner, light pen etc.
2.3   Output devices like monitor, printer, plotter, sound card, speaker etc.
2.4   Central Processing Unit
2.5   Memory Unit: RAM, ROM, PROM, EPROM
2.6   Auxiliary storage devices:
    • Magnetic storage like floppy disk, hard disk, magnetic tape etc.
    • Optical storage like CD-ROM, DVD
    • Pen drive, flash memory card etc.

Unit 3	**Introduction to Operating System Software:**	**[6 Hrs.]**

3.1   Importance and use of operating systems (OS)
3.2   Type of OS: MS-DOS, Windows, Unix, Linux
3.3   File management, device management and memory management by OS
3.4   MS-DOS system files: io.sys, msdos.sys, command.com, config.sys, autoexec.bat
3.5   MS-DOS internal and external commands
3.6   Windows Operating System: Graphical User Interface and windows environment, file/folder management
3.7   Linux: GNU open source operating system

Unit 4   Application Packages: [7 Hrs.]
     4.1   Text Editors (edit in DOS, notepad in Windows, vi editor in Linux
     4.2   Word Processing Package: Microsoft Word
     4.3   Spreadsheet Package: Microsoft Excel
- Entering data
- Using formula
- Basic calculations
- Financial calculations
- Charts

     4.4   Concept of Database management system
     4.5   Database management package: Microsoft Access
     4.6   Presentation Package: Microsoft PowerPoint

Unit 5   Utility Programs: [2 Hrs.]
     5.1   Computer virus and its removal (antivirus programs)
     5.2   Multimedia: Audio, Video and Graphics

Unit 6   Networks and Internet: [7 Hrs.]
     6.1   Brief Introduction of LAN, MAN, WAN
     6.2   Topologies: Bus, Ring and Star
     6.3   Hub, Switch, Modem
     6.4   Network Cabling
     6.5   NIC
     6.6   Network OS
     6.7   Client and server concept
     6.8   File and print sharing
     6.9   Email/Internet
- World Wide Web (WWW)
- ISP
- Search Engines
- Internet Client: Web browsers like Internet Explorer, Netscape Navigator, Mozilla Firefox etc.,
- Email clients like Outlook Express, Netscape Mail etc.

Practical   [30 Hrs.]
1. Identification of major components of computer and familiarization with keyboard and mouse.   (1 session)
2. Internal and External DOS commands   (1 session)
3. Windows Graphical User Interface and file/folder management   (1 session)
4. Microsoft Word   (2 sessions)
   a.   Editing text
   b.   Formatting document
   c.   Creating tables
   d.   Creating graphics and word art
5. Microsoft Excel   (3 sessions)
   a.   Editing worksheet
   b.   Data formatting and manipulation
   c.   Analysis of data (use of functions for calculation)
   d.   Charts/Data presentation
   e.   Import/Export data

6. Microsoft Access   (2 sessions)
    a. Creating and manipulating data tables
    b. Query
    c. Forms/Reports
7. Using Multimedia and Internet/Email   (1 session)
8. Creating effective presentation using Microsoft PowerPoint   (1 session)
9. Project Work   (3 sessions)

The students will be assigned (individually or in group) a project work based on Microsoft Excel or Access. The students are required to prepare a short report in MS Word and prepare a short presentation in PowerPoint.

Textbooks:
   1. Rajaraman, "*Fundamentals of Computers*", Prentice-Hall of India

References:
   1. B Ram, "*Computer Fundamentals*", Willey Eastern Publishers
   2. S Saxena, "*A First Course in Computers*", Vikash Publishing
   3. Winn Rosch, "Harware Bible"
   4. Noel Kalicharan, "Introduction to computer Studies", Cambridge Low Price Edition
   5. P.K Sinha, "Computer Fundamentals"