

**Elements and Devices of Computing Technology
BEG170CO**

Year: I

Semester: I

Teaching Schedule Hours/Week			Examination Scheme				
Theory	Tutorial	Practical	Internal Assessment		Final		Total
3	-	2	Theory	Practical*	Theory**	Practical	125
			20	25	80	-	

* Continuous

** Duration: 3 hours

Course Objective: To provide basic concept of computer system and its application

1. Types of Computers (3 hrs)

- 1.1 Operation: Analog and Digital
- 1.2 Uses: General purpose and Specific purpose
- 1.3 Capacity: Mainframe, Mini, Personal and Super computer

2. Basic Architecture (4 hrs)

- 2.1 Building blocks of a PC
- 2.2 CPU
- 2.3 RAM, DRAM, SDRAM, ROM, EPROM
- 2.4 Input/Output

3. Operating System (4 hrs)

- 3.1 Definition
- 3.2 Functions of operating system
- 3.3 Types of OS: DOS, Windows, Mac OS, Unix, Linux, OS/2

4. Programming Language and Compiler

- 4.1 Introduction to programming language
- 4.2 Assembler, interpreter and compiler
- 4.3 Program Design, Programming tools
- 4.4 Program Structure, Programming Algorithm
- 4.5 Program Specification

5. Software Applications (6 hrs)

- 5.1 Word Processor
- 5.2 Spreadsheet
- 5.3 Database
- 5.4 Graphics
- 5.5 Engineering applications
- 5.6 Customized Packages

6. Computer Peripherals (8 hrs)

- 6.1 Printer/Plotter
- 6.2 Scanner, Digital Camera, Digitizer
- 6.3 Sound system
- 6.4 Storage Devices: magnetic, optical, Zip drive,

7. Network and Internet

- 7.1 Peer to peer and dedicated server types

- 7.2 Topologies: Bus, Ring, Star
- 7.3 Network Cabling: 10BaseT, 10Base5, 100BaseT, Hub, Terminator, Coaxial, UTP, Fiber
- 7.4 Modern, Repeaters, Bridges, Routers, Radio Link
- 7.5 Networking Operating System: Novell Net Ware, Windows NT, LANtastic, Windows, UNIX, LAN Manager
- 7.6 Introduction to Client-Server Model

8. Computers in Business

(5 hrs)

- 8.1 Importance of computers in modern business
- 8.2 Business Information System
- 8.3 Introduction to e-commerce
- 8.4 Cyber Laws: Computer Crime, information privacy and Security

Laboratory:

Six lab exercise covering computer hardware and software
Demonstration of Computer Network

References:

1. Winn Rosch, "Hardware Bible"
2. P.K.Sinha, "Computer Fundamentals"
3. Peter Nortons's Introduction to Computers Tata McGraw-Hill Publishing Company Limited