

**VEER NARMAD SOUTH GUJARAT UNIVERSITY, SURAT**  
**M.Sc. (I.T.) [Five Years Integrated Course]**  
**B.Sc. (Information Technology)**  
**1<sup>st</sup> Semester Syllabus**

Effective From July-2003

**Paper No : 102**  
**Paper Title : Computer Fundamentals.**

**[L : 4, P : 0 Hrs]**

**1. Introduction**

- 1.1. History of Development of Computers
- 1.2. Hardware, Software, Firmware and Operating Systems
- 1.3. Types of Computers

**2. Basic Computer Architecture**

- 2.1. Block Diagram
- 2.2. CPU architecture
- 2.3. Memory Organization
- 2.4. Addressing Techniques and Modes
- 2.5. Instruction execution

**3. Memory & Devices**

- 3.1. RAM, ROM, PROM, EPROM, EEPROM, Extended Memory, Expanded Memory, Virtual Memory, Cache Memory
- 3.2. I/O and Secondary storage devices: Floppy Disks, Hard Disk, VDU, Mouse, CD-ROM, Printers, Modem, Plotter, Web Camera, Joysticks, etc.
- 3.3. Disk Architecture

**4. Number System & Codes**

- 4.1. Various Number Systems and Arithmetic
- 4.2. Conversion of Numbers
- 4.3. Character Codes (ASCII, EBCDIC, BCD, Excess-3, Gray etc.)
- 4.4. Binary and Hexadecimal Arithmetic.

**5. Introduction to DOS and DOS Commands.**

**Main Readings:**

1. How Computers work - Ron White - Techmedia
2. Computer Fundamentals - V Rajaraman, PHI
3. Computer Fundamentals – P.K. Sinha , BPB
4. Using MS-DOS - Wyatt, PHI

**Supplementary Readings :**

1. Computer and Commonsense - Hunt & Shelley, PHI
2. Peter Norton complete guide to DOS 6.22- Peter Norton- PHI
3. DOS guide updated to 6.22 - Peter Norton - PHI
4. The Simple MODEM book - Potts, PHI.
5. Inside IBM PC - Peter Norton, TMH.

