



Marwadi University

Bachelor of Computer Application

Semester I (w.e.f. July, 2016)

Subject Code: 05BC0103

Subject Name: Computer Fundamentals

Learning Objectives:

After completion of this course the student should be able to:

- Discuss the evolution of computers in different generations.
- Classify computers in different categories based on their capabilities.
- Describe the major components of computers and information technology applications: Hardware, software, data, processes, computer networks and people.
- Identify and internal and external components of the computer as well as understand their working.

Prerequisites:

- None

Unit	Course Content	Hours
1	Basics Of Computer, Computer Organization And Architecture : Introduction, Evolution Of Computer, Generation Of Computer, Classification Of Computers, Applications Of Computers, Introduction Of Computer Architecture, Central Process Unit, Internal Communications, Machine Cycle, The Bus, Instruction Set	10
2	Computer Codes And Computer Arithmetic: Introduction, Decimal System, Binary System, Hexadecimal System, Octal System, 4 – Bit Binary Coded Decimal (BCD) Systems, 8 – Bit BCD Systems, 16 – Bit Unicode , Conversion Of Numbers, Binary Addition, Binary Multiplication, Binary Subtraction, Binary Division, Signed/Unsigned Numbers, Complements Of Binary Numbers, Binary Subtraction Using Complements Representing Numbers, Integer Arithmetic, Floating – Point Arithmetic, Errors In Arithmetic, Laws Of Arithmetic	14
3	Memory And Storage Systems: Concept Of Primary & Secondary Memory, RAM, ROM, Types Of ROM, Cache Memory, Flash Memory, Secondary Storage Devices: Sequential & Direct Access Devices Viz. Magnetic Tape, Magnetic Disk, Optical Disks I.E. CD, DVD, Virtual Memory	08
4	Input And Output Devices : Introduction, Input Devices : Keyboard, Pointing Devices, Scanning Devices, Optical Recognition Devices, Digital Camera, Voice Recognition System, Data Acquisition Sensors, Media Input Devices Output Devices : Display Monitors, Printers, Impact Printers, Non-Impact Printers, Plotters, Voice Output Systems, Projectors, Terminals	08
5	Operating Systems, Software Packages And Languages:	08



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<p>Types Of Operating Systems : Batch Operating System, Multi Processing Operating System, Time Sharing Operating System, Online And Real Time Operating System</p> <p>Types Of Packages : Word Processing Packages, Graphical Packages, Database Packages, Presentation Packages, Animation/Video/Sound Packages</p> <p>Types Of Languages : Machine Level Language, Assembly Level Language, High Level Language</p> <p>Introduction Of Assembler, Compiler And Interpreter</p>	
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Reference Book(s):

1. Pradeep K. Sinha and Priti Sinha, "Computer Fundamentals", BPB Publications
2. V. Rajaraman, "Fundamentals of Computers", PHI Learning
3. Peter Norton, "Introduction to Computers", Tata McGraw Hill
4. E. Balagurusamy, "Fundamentals of Computers", Tata McGraw Hill
5. Ron White, "How Computers Work", TechMedia Publications
6. Alexis Leon and Mathews Leon, "Introduction to Computers", Vikas Publishing House