

MSC (CA&IT) - Semester: I

(Effective from year 2023-24)

Course Code:	CAIT-103	Course Title:	Fundamentals of Information Technology
Course Credits:	04	Hour of Teaching/Week:	04
Internal Assessment Marks:	50	External Exam Marks:	50
Exam Duration	2.5 Hrs		

Unit	Contents
1	What is Computer? Representation of data / information. What is Data Processing? Characteristics of a Computer System, Evolution of Computer, Generation of computers, Block Diagram of Digital Computer, Classification of Digital Computers Classification of Computers, Functional Components of a computer- Central Processing Unit, Memory-Primary Memory RAM, ROM, Types of ROM, Booting, Secondary Storages Devices : Floppy and Hard Disks, Optical Disks CD-ROM, DVD, Mass Storage Devices : USB thumb drive. Input /Output Devices- Keyboard, Mouse, Trackball, Joystick, Digitizing Tablet, Scanners, Digital Camera, MICR, OCR, OMR, Bar-code Reader, Voice Recognition, Light Pen, Touch Screen, Monitors, Printers & types – Daisy wheel, Dot Matrix, Inkjet, Laser, Line Printer, Plotter, Sound Card and Speakers.
2.	Types of Software, Classification of System and Application Software, System Software - Operating System, Devices Drivers, Overview of languages- Machine language, Assembly language, high level languages, Types of high level languages, Generation of languages, Commands , Utility Program- Disk Cleanup Utility, Desk backup Utility, Antivirus Utilities. NUMBER SYSTEM: Binary, Octal, Decimal, Hexadecimal and Conversion between Number Systems, ASCII Codes.
3.	MICROPROCESSOR: Basic concepts, Clock speed (MHz, GHz), 16 bit, 32 bit, 64 bit processors: Types: CISC, RISC, Concepts of System Buses, Address Bus, Data Bus, Concepts of Accumulator, Instruction Register, Program counter, Commonly used CPUs and CPU related Terminologies: Intel Pentium Series, Intel Celeron, Cyrix, AMD Series, Xeon, Intel Mobile, Mac Series, CPU Cache, Concept of heat sink and CPU fan, Motherboard; Single, Dual and Multiple Processors.
4.	Computer Networks and Internet: What is network? Need for networking, Evolution of networking, Types of networks, Data Communication & Terminologies, Network Topologies, Network Devices-Modem, Ethernet Card, Hub, Switch, Repeater, Bridge, Router, Gateway; Switching Techniques, Transmission Media, Communication Protocols. Basic concept of Internet, World Wide Web, Web Browser, Web Server,

	Web Sites , Web Pages, URL, Domain Names, Hyper Text Mark Up Languages, Internet Address, Electronic Mail, Internet Service Provider, Search Engines.
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Text Books and References/ Online Resources:

1. <https://ciet.nic.in/smsw.php>
2. Basics of Information Technology-Sumita Arora,Dhanpat Rai & Co (Pvt.) Ltd.,New Delhi.
3. Foundation of Information Technology – D.S. Yadav, New Age International Publisher.
4. V. Raja Raman, “Introduction to Computers”, PHI, 1998.
5. Alex Leon & Mathews Leon, “Introduction to Computers”, Vikas Publishing House, 1999. Norton Peter, “Introduction to computers”, 4th Ed., TMH, 2001.

External Exam Format : As per Table 1.1, 1.2 and 1.3