



Department of Computer Science and Engineering

Diploma Computer Science and Engineering

Course Name : Fundamental of Information Technology-I

Course Code : DTIT-104

Semester : 1

L	T	P	Credits
3	0	0	3

Course Learning Objectives:

- Understand the concept, generations, characteristics, and types of computers.
- Understand computer hardware components, software types, and operating systems.
- Gain proficiency in using MS-Word, MS-Excel, and MS-PowerPoint for documentation, spreadsheets, and presentations.
- Understand computer networks, network topologies, and the fundamentals of the Internet.
- Understand the application of Information Technology across various functional areas of management

Course Outcomes:

After completion of the course, the students will be able to:

Course Outcome	Statement	Bloom's Level	Skill
CO1	Understand the concept of computers, generation of computers and type's computers.	L2 – Understand	Discipline Knowledge
CO2	Understand and analyze the different components of computer. They will be able to categorize hardware into input, output and storage devices. They will be able to understand the structure and working of C.P.U. They will be able to explain the different types of software and operating system available today.	L4 – Analyse	Discipline Knowledge, Problem Analysis
CO3	Will be able to use MS Office for making documents; excel sheets, presentation and reports.	L3 – Apply	Design, Skill Development
CO4	Will be able to analyze the different components and types of computer networks. Also, they will be able to understand and compare the different network topologies. They will be able to discuss about the functioning of internet and identify the various services available over the internet in recent times	L4 – Analyse	Problem Analysis, Design



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CO5	Will be able to throw light on the application of IT in different domains of management.	L2 – Understand	Discipline Knowledge, Life-long Learning
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Details of the Course:

Unit 1: Concept of Computer

Contact Hours/Teaching Hours: 9

Brief History of computers Generation and its Evolution, Characteristics of computer (Hardware, software), Criteria for using the computers, Organization and functions of computers, Advantages and Disadvantages of computers, Main Areas of computers and their Applications. Types of computers: Analog, Digital, Hybrid, General purpose and Special purpose computers, Micro-computers, Mini - computers, main frame computer, and Super computers.

Self-Learning Hours = 5

Students shall prepare a comparative note on the generations of computers and classify sample real-world computing devices by type (analog/digital/hybrid, general/special purpose).

Team Activity Hours = 2

Group discussion on the advantages, disadvantages, and application areas of computers across different industries

Unit 2: Computer Hardware, Software and Operating System

Contact Hours/Teaching Hours: 9

Input device: Keyboard, printing devices, voice speech devices, scanner, MICR, OMR, bar code reader, digital camera etc. Output devices: Visual Display unit, printers, plotters etc. Storage devices: magnetic storage devices, optical storage devices, flash memory etc. CPU: Structure of CPU. Software: Type of software with examples; Introduction to languages, compiler, interpreter and assembler. Operating System: Definition, function, types and Classification, Elements of GUI based operating system.

Self-Learning Hours = 5

Students shall prepare a labelled chart/report classifying input, output, and storage devices, and compare compiler vs interpreter vs assembler.

Team Activity Hours = 2

Group activity identifying and demonstrating the GUI elements of a common operating system (e.g., Windows/Linux).

Unit 3: Introduction to MS-OFFICE

Contact Hours/Teaching Hours: 10

Basic of MS-WORD, MS-EXCEL, AND MS –POWER POINT; Application of these software for documentation and Making reports through charts, presentations with sound and animation.

Self-Learning Hours = 6



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Students

Team Activity Hours = 3

Group activity to prepare a joint project report (Word document with an Excel-based chart, presented via PowerPoint).

Unit 4: Computer Network & Internet

Contact Hours/Teaching Hours: 9

Overview of computer Network, Type of computer network (LAN, WAN and MAN), Network topologies, components of computer network (servers, workstations, network interface cards, hub, switches, cables, etc.) Internet: Overview of Internet, Functioning of Internet, Basic Services over internet like www, Search engines, e-mail, web browsing.

Self-Learning Hours = 5

Students shall prepare a comparative note on LAN/WAN/MAN and on different network topologies (bus, star, ring, mesh).

Team Activity Hours = 2

Group exercise mapping the components and topology of the institution's own computer lab network

Unit 5: Information Technology

Contact Hours/Teaching Hours: 8

Information technology (IT) applied to various functional areas of management, such as production /operations, marketing, human resource, Finance and materials management.

Self-Learning Hours = 5

Students shall study and report on one real-world case of IT application in a functional area of management of their choice.

Team Activity Hours = 2

Group presentation on how IT tools support decision-making in a chosen functional area of management.

Course Articulation Matrix

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO01	3	1	-	-	-	-	1	2	-	-
CO02	3	2	1	1	-	-	1	3	1	-
CO03	2	1	1	2	-	1	2	1	2	-
CO04	2	3	2	1	-	-	1	2	1	1
CO05	1	1	-	-	2	1	2	1	1	1
Avg.	2.2	1.6	0.8	0.8	0.4	0.4	1.4	1.8	1	0.4



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Text Books:

1. V. Rajaraman, Introduction to Information Technology, PHI Learning.
 2. ITL Education Solutions Limited, Introduction to Information Technology, Pearson Education
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Reference Books:

1. Peter Norton, Introduction to Computers, McGraw-Hill Education.
 2. Alexis Leon & Mathews Leon, Fundamentals of Information Technology, Leon Press/Vikas Publishing
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Online Resources:

1. NPTEL – Introduction to Computers and Communication Technology (IIT/IISc, SWAYAM certified) — <https://onlinecourses.nptel.ac.in/>
2. GeeksforGeeks – Computer Fundamentals — <https://www.geeksforgeeks.org/computer-fundamentals/>
3. Javatpoint – Computer Fundamentals Tutorial — <https://www.javatpoint.com/computer-fundamentals>