

INTRODUCTION TO COMPUTING

(Common to CSE & IT)

Course Code: 15CT1101

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Course Outcomes:

At the end of the Course, the Student will be able to:

- CO 1** Summarize the basics of computer and Recognize I/O devices
- CO 2** Gain the knowledge of Memory and Compute different Number Codes
- CO 3** Distinguish different types of softwares.
- CO 4** Classify different types of languages and analyze the solution for a given problem.
- CO 5** Analyze different protective measures for keeping data secure.

UNIT-I

(10 Lectures)

INTRODUCTION TO COMPUTERS:

What is Computer? Characteristics of Computers. Generations of Computers. Classification of Computers. Basic Computer Organization. Applications of Computers.

INPUT AND OUTPUT DEVICES:

Input Devices, Output Devices, Soft Copy Devices, Hard Copy Devices.

UNIT-II

(12 Lectures)

COMPUTER MEMORY AND PROCESSORS:

Introduction, Memory Hierarchy, Processor Registers, Cache Memory, Primary Memory, Secondary Storage Devices, Magnetic Tapes, Floppy Disks, Hard Disks, Optical Drives, USB Flash Drives, Memory Cards, Mass Storage Devices, Basic Processor Architecture

NUMBER SYSTEMS AND COMPUTER CODES:

Binary Number System, Working with Binary Numbers, Octal Number System, Hexadecimal Number System, Working with fractions, Signed Number representation in Binary Form, BCD Code, Other Codes

UNIT-III**(11 Lectures)****COMPUTER SOFTWARE:**

Introduction to Computer Software, Classification of Computer Software, System Software, Application Software, Firmware, Middleware, Acquiring Computer Software, Design and Implementation correct, efficient and maintainable programs

OPERATING SYSTEM:

Introduction, Evolution of Operating System, Process Management, Memory Management, File Management, Device Management, Security Management, Command Interpreter, Popular Operating Systems

UNIT-IV**(10 Lectures)****INTRODUCTION TO ALGORITHMS AND PROGRAMMING LANGUAGES:**

Algorithm, Control Structures used in Algorithms, Some More Algorithms, Flow Charts, Pseudo Code, Programming Languages, Generations of Programming Languages, Categorization of High Level Languages, Some popular High Level Languages, Factors Affecting Selection of Programming Languages.

UNIT-V**(7 Lectures)****PROTECTING YOUR PRIVACY, YOUR COMPUTER AND YOUR DATA:**

Understanding the needs for Security Measures: Basic Security Concepts, Threats to Users, Threats to Hardware and Threats to Data.

Taking Protective Measures: Protecting yourself, Keeping your Data Secure, Safeguarding your Hardware

TEXT BOOKS:

1. Reema Thareja, *Fundamentals of Computers*, 1st Edition, Oxford University Press, 2014 (Unit-1 to 4)
2. Peter Norton, *Introduction to Computers*, 7th Edition, Tata McGraw Hill Education, 2015. (Unit-5)

REFERENCES:

1. William Sawyer, *Using Information Technology*, 5th Edition, Tata McGraw Hill, 2003.
2. E.Balagurusamy, *Fundamentals of Computers*, 1st Edition McGraw Hill, 2009
3. V. Raja Raman, Neeharika Adabala, *Fundamentals of computers*, 6th Edition, PHI, 2015.