

Core Course
CC-101 Fundamentals of Computer

Course Introduction:

The course would make students acquainted with the basics of computers.

Objectives:

The student would be able

- 1) To understand the basic uses and applications of computer.
- 2) To know different types of memory and various input and output devices.
- 3) To get familiar with various computer codes.

No. of Credits: 3

Theory Sessions per week: 4

Teaching Hours: 40 hours

UNIT	TOPICS / SUBTOPICS	TEACHING HOURS
1	Introduction to Computers and its components	10 hours
	<ul style="list-style-type: none"> • Computer <ul style="list-style-type: none"> ○ Introduction to Computer ○ The Components of Computer ○ Advantages and Disadvantages of Computer ○ Generations of Computer ○ Computer Software ○ Categories of Computers <ul style="list-style-type: none"> ▪ Personal Computers ▪ Mobile Computers and Mobile Devices ▪ Consoles ▪ Servers ▪ Mainframes ▪ Super Computers ▪ Embedded Computers ○ Examples of Computer Usage ○ Applications of Computer in Society 	5 hrs
	<ul style="list-style-type: none"> • Components of Computer <ul style="list-style-type: none"> ○ The System Unit ○ Processor ○ Data Representation ○ Memory ○ Expansion Slots and Adaptor Cards 	5 hrs

	<ul style="list-style-type: none"> ○ Ports and Connectors ○ Buses ○ Bays ○ Power Supply ○ Mobile Computers and Devices 	
2	Input and Output Units	10 hours
	<ul style="list-style-type: none"> ● Input Devices <ul style="list-style-type: none"> ○ Introduction to Input Devices ○ Keyboard ○ Pointing Devices <ul style="list-style-type: none"> ▪ Mouse ▪ Trackball ▪ Touchpad ▪ Pointing Stick ▪ Light Pen ▪ Touch Screen ▪ Pen Input ○ Controllers for Gaming and Media Players <ul style="list-style-type: none"> ▪ Gamepads ▪ Joysticks and Wheels ▪ Light Guns ▪ Dance Pads ▪ Motion-Sensing Game Controllers ▪ Touch-Sensitive Pads ○ Voice Input ○ Input for PDAs, Smart Phones and Tablet PCs ○ Digital Camera ○ Video Input <ul style="list-style-type: none"> ▪ PC Video Cameras ▪ Web Cams ▪ Video Conferencing ○ Scanners and Reading Devices <ul style="list-style-type: none"> ▪ Optical Scanners ▪ Optical Readers (OCR, OMR, BCR, RFID Reader, MICR, Magnetic Stripe Card Reader, Data Collection Devices) ▪ Terminals (Point-of-Sale Terminal, Automated Teller Machine) ▪ Biometric Input 	5 hrs

	<ul style="list-style-type: none"> • Output Devices <ul style="list-style-type: none"> ○ Introduction to Output Devices ○ Display Devices ○ Flat-Panel Displays ○ CRT Monitors ○ Printers <ul style="list-style-type: none"> ▪ Non-Impact Printers (Ink-Jet, Photo, Laser, Thermal, Mobile, Label and Postage, Plotters and Large-format Printers) ▪ Impact Printers (Dot-matrix, Line) ○ Speakers, Headphones and Earphones ○ Fax Machines and Fax Modems ○ Multifunction Peripherals ○ Data Projectors ○ Force-Feedback Joysticks, Wheels and Gamepads 	5 hrs
3	Storage	10 hours
	<ul style="list-style-type: none"> • Storage <ul style="list-style-type: none"> ○ Introduction to Storage ○ Magnetic Disks ○ Optical Disks ○ Tape ○ PC Cards and Express Card Modules ○ Miniature Mobile Storage Media ○ Microfilm and Microfiche ○ Enterprise Storage 	9 hrs
	<ul style="list-style-type: none"> • Files <ul style="list-style-type: none"> ○ Introduction to Files ○ Types of Files 	1 hrs
4	Computer Codes	10 hours
	<ul style="list-style-type: none"> • Computer Codes <ul style="list-style-type: none"> ○ Introduction to Computer Codes ○ Decimal System ○ Binary System ○ Hexadecimal System ○ Octal System ○ 4-bit BCD System ○ 8-bit BCD System ○ ASCII code ○ 16-bit Unicode 	3 hrs

	<ul style="list-style-type: none"> • Conversion of Numbers (includes fixed and fractional numbers) <ul style="list-style-type: none"> ○ Non-Decimal to Decimal ○ Binary to Decimal ○ Decimal to Binary ○ Binary to Octal ○ Octal to Binary ○ Octal to Decimal ○ Decimal to Octal ○ Binary to Hexadecimal ○ Hexadecimal to Binary ○ Hexadecimal to Decimal ○ Decimal to Hexadecimal ○ Hexadecimal to Octal ○ Octal to Hexadecimal 	7 hrs
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Textbook:

Introduction to Computers (First Edition 2008)

Publisher : Cengage Learning

By Gary B. Shelly, Thomas J. Cashman and Misty E. Vermaat

Reference Books:

1. Fundamentals of Computer(First Edition- 2009)

Publisher: McGraw-Hill

by Balaguruswamy

2. Computer Fundamentals(Fourth Edition- 2007)

Publisher: BPB Publications

by Pradeep Sinha and Priti Sinha

3. Computer Fundamentals(First Edition-2010)

Publisher: Pearson

by Anita Goel