



Sh. L. N. Hindu College, Rohtak (Haryana)

Course Plan

Department of Computer Science

Program: B.com, BBA, B.A

Fundamentals of Computing

(Course Code: 24CSCX01MD01)

SCHEME

Course Name	Fundamentals of Computing	Course Type	Theory
Course Code	24CSCX01MD01	Class	All U.G Classes
Instruction Delivery	Per week Lectures: 3, Tutorial: 0, Practical: 0 Total No. Classes Per Sem: 50(L) Assessment in Weightage: Sessional (25%), End Term Exams (50%)		
Course Coordinator	Mrs. Preeti Yadav	Course Instructors	Theory: Ms. Preeti Yadav & Ms. Madhu Vij

COURSE OVERVIEW

Fundamentals of Computing course covers the fundamentals of the computer along with computer application. The course provides the students with specialized knowledge of computer tools, problem solving, computer networking, data communication, programming, internet basics etc.

PREREQUISITE

Basic knowledge of Computer (Input Device, Output Device, Memory)

COURSE OBJECTIVE

The objective of this course is to introduce the basics of Computers and its working in a simple language to all undergraduate students, regardless of their specialization. It will help them to pursue specialized programs leading to technical and professional careers and certifications in the industry..

COURSE OUTCOMES (COs)

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

CO No.	Course Outcomes
1	Learn the fundamental concepts of Computers and understand various input and output devices.
2	Understand the concept of memory and its types.
3	Learn about the role of operating system and its functions.
4	Understand the concept of data communication, networking and Internet.
5.	Know about E-mail and the concepts related to Business data processing.



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COURSE CONTENT

Content
<p>UNIT-I</p> <p>Introduction: Historical evolution of computing, Computers and their classification, working of a computer, block diagram and its components, characteristics, benefits and limitations of computers, Human being vs Computer, Computer codes and their types.</p> <p>Input and Output Devices: Introduction to I/O concepts, Hardcopy and softcopy devices, keyboards, mouse, joysticks, trackballs, digitizer, voice recognition, optical recognition, scanners, terminals, point of sale terminals, machine version systems, Printer and its types.</p>
<p>UNIT-II</p> <p>Memory & Mass Storage Device: Characteristics of memory systems, types of memory, RAM, ROM, magnetic disks, floppy disk, hard disk, optical disks, magnetic tapes, concept of virtual and cache memory.</p> <p>Software and Operating System Concepts: Introduction, Software and its types, language translators, operating system and its functions, measuring system performance, assemblers, compilers and interpreters. Batch processing, Multiprogramming, multitasking, Multiprocessing, Time sharing, DOS, Windows, UNIX/LINUX.</p>
<p>UNIT-III</p> <p>Problem Solving and Programming Languages: Concept of problem solving, problem definition, programming languages and their classification, problem solving with computer, Concept of a programming and design techniques, computer program lifecycle and program development process.</p> <p>Data Communication: Introduction, forms of data transmission, Modem and its types, communication channels, data transmission modes.</p> <p>Computer Networks: Introduction to Computer Network, types of computers, Network, Network Topologies, Network Protocols, Applications of computer Networks.</p>
<p>UNIT-IV</p> <p>Internet: Introduction to internet, WWW, Web browsers, Evolution of Internet, Applications of Internet, Connecting to Internet, Internet Tools.</p> <p>Electronic Mail: Introduction to E-mail, setting up an E-mail Account, Composing and sending E-mails, E-mail Etiquette and best practices, managing E-mails, Security and Privacy, Advanced E-mail Features, E-mail in professional Settings, Troubleshooting common E-mail issues.</p> <p>Computer Applications: Computer application in Artificial intelligence, Banking, Education, Marketing, desktop publishing, CAD/CAM, project management, Military, Sports, Research& Development.</p>



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LESSON PLAN (THEORY AND TUTORIAL CLASSES)

L. No	Topic to be Delivered	Tutorial Plan	Unit
1	Introduction to Computer	Revision of Previous Topics	1
2	Historical evolution of computing		
3	Computers and their classification, working of a computer		
4	Block diagram and its components		
5	Characteristics, benefits and limitations of computers, Human being vs Computer		
6	Computer codes and their types	Q1) What is a Computer? Explain its characteristics and limitations. Q2) Draw a block diagram of components of the computer. Q3) Explain types of computer based on size?	1
7	Introduction to Input & Output Devices		
8	Hardcopy and softcopy devices, keyboards, mouse, joysticks, trackballs		
9	Digitizer, voice recognition, optical recognition, scanners, terminals, point of sale terminals		
10	Machine version systems		
11.	Printer and its types	Revision of Previous Topics	2
12.	Introduction to Memory & Mass storage device		
13.	Characteristics of memory systems, types of memory, RAM, ROM		
14.	Magnetic disks, floppy disk, hard disk, optical disks, magnetic tapes		
15.	Introduction to Virtual & Cache Memory		
16.	Introduction to software & its types		
17.	Language translators		
18.	Introduction to Operating system and its function	Q1) What is Secondary storage? Discuss the relative advantages and disadvantages of magnetic tape and magnetic disk storage?	2
19.	Measuring system performance, assemblers, compilers and interpreters		
20.	Batch processing, Multiprogramming, multitasking		
21.	Multiprocessing, Time sharing		
22.	DOS, Windows, UNIX/LINUX.		



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23.	Introduction to Problem, Concept of problem solving, problem definition	Revision of Previous Topics.	3
24.	Programming languages and their classification, problem solving with computer		
25.	Concept of programming and design techniques, computer program lifecycle and program development process.		
26.	Introduction to Data Communication, forms of data transmission	Q1) What is a programming language? Explain type of programming language. Q2) Write short notes on Assembler, Interpreter, Compiler and Linker.	3
27.	Modem and its types, communication channels, data transmission modes		
28.	Introduction to Computer Network, types of computers, Network		
29.	Network Topologies, Network Protocols		
30.	Applications of computer Networks.		
31.	Introduction to internet, WWW, Web browsers	Revision of Previous Topics.	4
32.	Evolution of Internet, Applications of Internet, Connecting to Internet, Internet Tools		
33.	Introduction to E-mail, setting up an E-mail Account		
34.	Composing and sending E-mails, E-mail Etiquette and best practices		
35.	Managing E-mails, Security and Privacy, Advanced E-mail Features		
36.	E-mail in professional Settings, Troubleshooting common E-mail issues.	Q1) What is the Internet? Explain the application of the Internet. Q2) What is ISP? Explain its components.	4
37.	Computer application in Artificial intelligence, Banking, Education		
38.	Desktop publishing , Marketing		
39.	CAD/CAM, project management		
40.	Military, Sports, Research& Development.		



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Text Book

Dr. Ramesh : Fundamental of Computing, Unique publication.

Reference Books

- Gill Nasib Singh : Handbook of Computer Fundamentals, Khanna Book Publishing Company.
- Donald Sanders : Computers Today, McGraw Hill Publishers.
- Davis : Introduction to Computer, McGraw Hill Publishers.
- P.K. Sinha and Priti Sinha : Computer Fundamentals, BPB Publications.

Web/Links for e-content

- <https://www.javatpoint.com/computer>
- <https://www.geeksforgeeks.org/computer-memory/>
- <https://www.javatpoint.com/computer-network-tutorial>
- <https://www.geeksforgeeks.org/introduction-to-internet/>



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PRACTICE QUESTIONS (THEORY QUESTION BANK)

S.No	Problem
1	What is a Computer? Write various characteristics of computers.
2	Explain the different advantages and limitations of computers.
3	Describe the basic anatomy of computers by giving suitable example of each part.
4	What are various types of computer? Discuss advantages of computers.
5	What is mean by generation in computer terminology? How many computer generations are there till now.
6	What are input devices? State any five input devices.
7	Write short note on OMR, OCR and MICR.
8	What are the output devices? Explain any two output devices?
9	Difference between Hard copy and Soft Copy Output devices.
10	Explain Scanners and its type.
11	Explain the working of dot matrix printers.
12	Differentiate between bit, a byte and blank space a word?
13	What is memory? Explain its type?
14	Write short note on Storage capacity, Data transfer rate and Access time
15	Differentiate between Static and Dynamic RAM?
16	Differentiate between Primary and Secondary Memory?
17	What is Cache Memory? How is it different from a Primary Memory?
18	What is Secondary storage? Discuss the relative advantages and disadvantages of magnetic tape and magnetic disk storage?
19	Explain the Memory Hierarchy?
20	What is Software? How many types of software? Also give two examples of each.
21	What is programming language? Explain type of programming language.
22	Write short note on Assembler, Interpreter, Compiler and Linker.
23	What is a Loader? Explain its types?
24	What is Operating System? Why is it necessary for a computer system.
25	Explain features of an operating system.



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26	Difference between Single user and Multi User Operating System.
27	What is a Computer Network?
28	Explain Use and Advantages of Computer Networking?
29	Explain types of Networking.
30	Explain Network Topologies.
31	Explain Client-Server Architecture.
32	What is the Internet?
33	What is WWW & Web Browser?
34	Explain the application of the Internet.
35	What is ISP? Explain its components.
36	Define the URL and Domain Name.
37	Explain the computer application in AI.
38	Explain computer application in Sports, research and development.
39	Explain the computer application in banking, education, marketing and desktop publishing.
40	Explain CAD/CAM .
41	What is the difference between IF() and SUMIF() Functions in Excel?
42	What are charts? What are its uses ? Explain types of charts.
43	What is slide? What are the basic components of a slide?
44	What is the use of slide sorter view in PowerPoint.
45	What is sound? How it can be added into a presentation? Explain.
46	What is animation? How it can be added in a presentation.
47.	How can transition be created? Explain.