

SANATAN DHARMA COLLEGE, AMBALA CANTT

College with Potential for Excellence, UGC,New Delhi NAAC Accredited Grade "A+" with CGPA 3.51 in 3rd cycle ISO 9001:2015 & ISO 14001:2015 Certified



Department of Computer Science Lesson Plan (Session 2022-2023)

Class: BCOM CAV Sem: I

Course Code: Bc(VOC)-105

Duration: 16 Weeks

Date : September-December 2022

SYLLABUS

Nomenclature: Computer Fundamentals and Logical Organization

Maximum Marks: 100

External: 80 Internal: 20 Minimum Pass Marks: 40 Time: 3 hours

Note: Examiner will be required to set Nine Questions in all. First Question will be compulsory, consisting of objective type/short-answer type questions covering the entire syllabus. In addition to that, eight more questions will be set, two questions from each Unit. Student will be required to attempt FIVE questions in all. Question Number 1 will be compulsory. In addition to compulsory question, student will have to attempt four more questions selecting one question from each Unit.

UNIT-I

Algorithm, Flowchart, Types of Flowcharts, Rules for drawing Flowcharts, Pseudo Codes. Decision Tables, Characteristics of Good Algorithm, Documentation, Debugging.

Computer Languages, Analogy with Natural Languages, History of Programming Languages, Machine Language, Assembly Language, High Level Language, Programming Language, Translator, Compiler and Interpreter.

Unit II

Overview of C: History & Importance of C, Structure of a C Program.

Elements of C: C Character Set, Identifiers and Keywords, Data Types, Constants and Variables, Assignment Statement, Symbolic Constant.

Operators & Expression: Arithmetic Operator, Relational Operator, Logical Operator, Bitwise Operator, Unary Operator, Assignment Operator, Conditional operators and special operators. Arithmetic expressions, Evaluation of Arithmetic Expression, Type Casting and Conversion, Operator Hierarchy & Associativity.

Decision Making & Branching: Decision Making with IF Statement, IF-ELSE Statement, Nested IF Statement, ELSE-IF Ladder, Switch Statement, go to Statement.

Decision Making & Looping: for, while, and do-while loop, Jumps in loops, break, continue Statement.

Unit III

Functions: Definition, Prototype, Passing Parameters, Recursion. Arrays: Definition, Initialization, Processing an Array. Storage Classes in C: Auto, Extern, Register and Static Storage Class, Their Scope, Storage & Lifetime.

Unit IV

Pointers: Introduction, Pointer Variables, Pointer Operators, Pointer Assignment, Pointer Conversion, Pointer Arithmetic, Pointer Comparison, Pointers and Arrays, Pointers and Functions. Structure and Union.

TEXT BOOKS:

- Sinha P.K., Computer Fundamentals, BPB Publication, 2004
- Balagurusamy E., Programming in C, TMH Publication

REFERENCE BOOKS:

- Tucker Allen, Programming Languages Principles & Paradigms, TMH, 2002
- Kanetker Yashavant, Let Us C, BPB, 2010

Course Outcomes

After the completion of this course, prospective Computer professionals will have the ability to

Course Title	Programming Fundamentals and C
CO No.	Course Outcomes
CO-1	Student will be able to work on different operating systems – Windows, Linux Mac, Android, and Chrome.
CO-2	Student will learn different programming languages
CO-3	Student will learn the real time applications; operating systems for tabs, mobile phones, etc. – Android, etc
CO-4	Student will learn about open-source software: like Linux Ubuntu and concepts oftranslators, linkers and loader.
CO-5	Students will learn about the operating systems.

S.No	Instructional Technique	Assessment Methods (AM)
1	Chalk & Talk	Assignments
2	ICT tools	Quiz
3	Group discussions	Group Discussions
4	Industrial visit	Oral Tests
5	Case studies	Sessional
6	Small Projects	Presentations
7	Workshop	Seminar
8	Spoken Tutorials	University Exams
9	Flipped Class	
10.	E-Resources	

Detailed Lesson Plan

Week	Date	Topic to be Covered	Instructional Technique	Assessment Method
1	01.09.2022	Explain Course Outcomes	1-(PPT/Projector)	1
	02.09.2022	Introduction To Computers: Definition , Components And Characteristics Of Computers	2-(PPT/Projector)	1,2,4
	03.09.2022	Input Devices	2-(PPT/Projector)	1,2,3
2	08.09.2022	Output Devices	2-(PPT/Projector)	1,2,3
	09.09.2022	Memory Hierarchy, RAM, ROM, EPROM, PROM And Other Types Of Memory,	2-(PPT/Projector	1,2,4
	10.09.2022	Cloud Memory	2-(PPT/Projector)	1,2,3
3	15.09.2022	Logical Organization Of	2-(PPT/Projector)	1,2,3
	16.09.2022	Computer. Number Systems	2-(PPT/Projector)	1,2,3
	17.09.2022		2-(PPT/Projector)	1,2,4
4	22.09.2022	Binary Arithmetic Operations	2-(PPT/Projector)	1,2,3,4
	23.09.2022	Holiday		
	24.09.2022	Character Codes	2-(PPT/Projector)	1,2,3,4
5	29.09.2022	Error Detecting And Correcting Codes	2-(PPT/Projector)	1,2,3,4
	30.09.2022	Boolean Algebra	2-(PPT/Projector)	1,2,3,4
	01.10.2022	Boolean Algebra	2-(PPT/Projector)	1,2,3,4
6	06.10.2022	Boolean Functions: Truth Tables	1- Chalk & Talk	1,2,3
	07.10.2022	Simplifications Of Boolean Functions- SOP Form	1-Chalk & Talk	1,2,3
	08.10.2022	Simplifications Of Boolean Functions- POS Form	1-Chalk & Talk	1,2,3
7	13.10.2022	Digital Logic Gates	1,2-(PPT/Projector)	1,2,3,4
	14.10.2022	Combinational Logic- Adders	2-(PPT/Projector)	1,2,3,4
	15.10.2022	Half And Full Subtractors	2-(PPT/Projector)	1,2,3,4
8	20.10.2022	Assignment 1		1
	21.10.2022	Encoders	1-Chalk & Talk	1,2,3
	22.10.2022	Diwali Vacation		
9	27.10.2022	Decoders	1-Chalk & Talk	1,2,3
	28.10.2022	Multiplexors	1,2-(PPT/Projector)	1,2,3,4
	29.10.2022	De-Multiplexors	1,2-(PPT/Projector)	1,2,3,4
10	03.11.2022	Sequential Logic- Flip Flops	1,2-(PPT/Projector)	1,2,3,4
	04.11.2022	Types Of Flip-Flops	1,2-(PPT/Projector)	1,2,3,4

Week	Date	Topic to be Covered	Instructional Technique	Assessment Method
	05.11.2022	Shift Registers	1,2-(PPT/Projector)	1,2,3,4
11	10.11.2022	Counters	1,2-(PPT/Projector)	1,2,3,4
	11.11.2022	Machine Instructions, Instruction Formats	1,2-(PPT/Projector)	1,2,3,4
	12.11.2022	Addressing Modes	1,2-(PPT/Projector)	1,2,3,4
12	17.11.2022	Sessional		5
	18.11.2022	Instruction Cycles	1,2-(PPT/Projector)	1,2,3,4
	19.11.2022	Concept Of Microprogramming; I/O Interface, I/O Transfer - Program - Controlled, Interrupt Controlled	1,2-(PPT/Projector)	1,2,3,4
13	24.11.2022	Direct Memory Access	1,2-(PPT/Projector)	1,2,3,4
	25.11.2022	Computer Software – Introduction, Types Of Software - System, Application And Utility Software	1, 2-(PPT/Projector	1,2,3,4
	26.11.2022	Holiday		
14	01.12.2022	Programming Languages	1, 2-(PPT/Projector	1,2,3,4
	02.12.2022	Introduction And Functions Operating System	2-(PPT/Projector	1,2,3,4
	03.12.2022	Types Of Operating System	2-(PPT/Projector	1,2,3,4
15	08.12.2022	Assignment 2		1
	09.12.2022	Operating Systems For Tabs, Mobile Phones And Android etc	2-(PPT/Projector	1,2,3,4
	10.12.2022	Open Source Software: An Overview, Linux Ubuntu	2-(PPT/Projector	1,2,3,4
16	15.12.2022	Application Software: Spreadsheets	2-(PPT/Projector	1,2,3,4
	16.12.2022	Word Processors	2-(PPT/Projector	1,2,3,4
	17.12.2022	Database Management Software	2-(PPT/Projector	1,2,3,4
17	22.12.2022	Concepts Of Translators, Linkers And Loader	2-(PPT/Projector	1,2,3,4
	23.12.2022	Networks Basic, Types Of Networks	2-(PPT/Projector	1,2,3,4
	24.12.2022	Hardware And Software Required For Networking.	2-(PPT/Projector	1,2,3,4

	Teacher Incharge	Head of the Department
Name	Dr. Poonam Rani	Dr. Girdhar Gopal
Sign with Date		