



# IIPM SCHOOL OF ENGINEERING AND TECHNOLOGY

**LESSON PLAN: 2023-24**

**Sub: Computer Application (Th.1b)**

**Course : Diploma Semester: 1<sup>st</sup> Duration : 60 hours**

**Faculty name : ASISH KUMAR DASH**

## SYLLABUS

*Topic wise distribution of periods*

Sl. No.	Topics	Periods
1	Computer Organisation	05
2	Computer Software	07
3	Computer Network and Internet	08
4	File Management and Data Processing	05
5	Problem Solving Methodology	05
6	Overview of C Programming language	15
7	Advanced features of C	15
	<b>TOTAL</b>	<b>60</b>

### **1. COMPUTER ORGANISATION**

Introduction to Computer Evolution of Computers Generation of Computers Classification of Computers

Basic Organisation of Computer (Functional Block diagram) Input Devices, CPU & Output Devices.

Computer Memory and Classification of Memory

### **2. COMPUTER SOFTWARE**

Software concept, System software, Application software

Overview of Operating System Objectives and Functions of O.S ,

Types of Operating System: Batch Processing, Multiprogramming, Time Sharing OS

Features of DOS, Windows and UNIX

Programming Languages Compiler, interpreter Computer Virus

Different Types of computer virus  
Detection and prevention of Virus  
Application of computers in different  
Domain

**3. COMPUTER NETWORK AND INTERNET**

Networking concept, Protocol, Connecting Media, Data Transmission mode  
Network Topologies, Types of Network  
Networking Devices like Hub, Repeater, Switch, Bridge, Router, Gateway & NIC  
Internet Services like E-Mail, WWW, FTP, Chatting, Internet Conferencing,  
Electronic Newspaper & Online Shopping  
Different types of Internet connectivity and ISP

**4. FILE MANAGEMENT AND DATA PROCESSING**

Concept of File and Folder  
File Access and Storage methods. Sequential, Direct, ISAM  
Data Capture, Data storage  
Data Processing and Retrieval

**5. FILE MANAGEMENT AND DATA PROCESSING**

Concept of File and Folder  
File Access and Storage methods. Sequential, Direct, ISAM  
Data Capture, Data storage  
Data Processing and Retrieval

**6. PROBLEM SOLVING METHODOLOGY**

Algorithm, Pseudo code and Flowchart Generation of Programming Languages  
Structured Programming Language  
Examples of Problem solving through Flowchart

**7. OVERVIEW OF C PROGRAMMING LANGUAGE**

Constants, Variables and Data types in C Managing Input and Output operations. Operators,  
Expressions, Type conversion & Typecasting  
Decision Control and Looping Statements (If, If-else, If-else-if, Switch, While, Do-  
while, For, Break, Continue & Goto)  
Programming Assignments using the above features.

**8. ADVANCED FEATURES OF C**

Functions and Passing Parameters to the Function (Call by Value and Call by  
Reference) Scope of Variables and Storage Classes  
Recursion Function and Types of Recursion  
One Dimensional Array and Multidimensional Array  
String Operations and Pointers  
Pointer Expression and Pointer Arithmetic Programming Assignments using the above  
features. Structure and Union (Only concepts, No Programming)

**Objectives:**

The students will get to know about the fundamentals of computer. They will get acquainted with various components of computer hardware, software etc. Idea on Role of operating system and its usability will also be known. Knowledge on word processing, electronic spreadsheet, presentation software and Internet will also be acquired. The students will be given brief knowledge about Programming methodology and C programming.

**Learning Outcome:** It enables the student in acquiring of knowledge and application of Computer in different domain.

It will make the student aware of in depth knowledge regarding different project using C- programming languages.

Sl.no	UNIT	Proposed Week for Teaching	Lecture No	Sub Topic	Important Teaching Points	Content Source
1	1	1 <sup>st</sup>	1	Introduction to computer and evolution of computer	Fundamental concepts	Computer Fundamentals and Programming in C by Reema Thareja
2			2	Generation of computer	Types of generation first, second etc	Computer Fundamentals and Programming in C by Reema Thareja
3			3	Classification of computer	Types of computer analog digital hybrid	Computer Fundamentals and Programming in C by Reema Thareja
4			4	Computer organization and input output devices	Block diagram input device and output device with examples	Computer Fundamentals and Programming in C by Reema Thareja

5		2 <sup>nd</sup>	1	Computer Memory and Classification of Memory	Primary memory secondary memory etc.	Computer Fundamentals and Programming in C by Reema Thareja
6	2		2	Software concept, System software, Application software	Kinds of software system software application software	Computer Fundamentals and Programming in C by Reema Thareja
7			3	Overview of Operating System Objectives and Functions of O.S	Definition memory management resource management input and output device management	Computer Fundamentals and Programming in C by Reema Thareja
8			4	Types of Operating System: Batch Processing, Multiprogramming, Time Sharing OS	Different types based on processor, job etc Real time os	Computer Fundamentals and Programming in C by Reema Thareja
9		3 <sup>rd</sup>	1	Features of DOS, Windows and UNIX	Features of DOS window7, window vista etc	Computer Fundamentals and Programming in C by Reema Thareja
10			2	Programming Languages Compiler, interpreter	Languages of computer	Computer Fundamentals and Programming in C by Reema Thareja
11			3	Computer Virus Different Types of computer virus Detection and prevention of Virus	Definition types functions and prevention	Computer Fundamentals and Programming in C by Reema Thareja
12			4	Application of computers in different Domain	Education,business,medical,rese arch etc	Computer Fundamentals and Programming in C by Reema Thareja
13	3	4 <sup>th</sup>	1	Networking concept, Protocol, Connecting Media	FTP,HTTP etc Wired and wireless	Computer Fundamentals and Programming in C by Reema Thareja
14			2	Date Transmission mode Types of Network	Simplex half duplex full duplex	Computer Fundamentals and Programming in C by Reema Thareja
15			3	Network Topologies	Bus mesh star tree etc	Computer Fundamentals and Programming in C by Reema Thareja
16			4	Networking Devices	Hub switch etc	Computer Fundamentals and Programming in C by Reema Thareja
17		5 <sup>th</sup>	1	Internet Services like E-Mail, WWW, FTP, Chatting,	Application of internet	Computer Fundamentals and Programming in C by Reema Thareja
18			2	Internet Conferencing, Electronic Newspaper & Online Shopping	Application of internet	Computer Fundamentals and Programming in C by Reema Thareja
19			3	Different types of Internet connectivity and	Types of connection Dial up, ASDL etc	Computer Fundamentals and Programming in C by Reema Thareja

				ISP		
20			4	Revision	Overall review	
21	4	6 <sup>th</sup>	1	Concept of File and Folder	Fundamental concept	Computer Fundamentals and Programming in C by Das & Mallick
22			2	File Access and Storage methods. Sequential, Direct, ISAM	Different methods Direct and sequential	Computer Fundamentals and Programming in C by Das & Mallick
23			3	Data Capture, Data storage	Bar code reader MICR etc	Computer Fundamentals and Programming in C by Das & Mallick
24			4	Data Processing and Retrieval	Retrieval of data	Computer Fundamentals and Programming in C by Das & Mallick
25		7 <sup>th</sup>	1	Previous year question discussion	Discussion of 1 year questions with answers	
26	5		2	Algorithm, Pseudo code	Char. Of algorithm Concept on pseudocode	Computer Fundamentals and Programming in C by Das & Mallick
27			3	Flowchart	Different symbols used in flowchart	Computer Fundamentals and Programming in C by Das & Mallick
28			4	Generation of Programming Languages	Types of generations	Computer Fundamentals and Programming in C by Das & Mallick
29		8 <sup>th</sup>	1	Structured Programming Language	Fundamental concepts	Computer Fundamentals and Programming in C by Das & Mallick
30			2	More examples on Flowchart	Questions on flowchart	Computer Fundamentals and Programming in C by Das & Mallick
31	6		3	Constants, Variables and Data types in C	Introduction to c programming	Computer Fundamentals and Programming in C by Reema Thareja
32			4	Managing Input and Output operations	Different i/p & o/p operation	Computer Fundamentals and Programming in C by Reema Thareja
33		9 <sup>th</sup>	1	Operators, Expressions	Types of operator	Computer Fundamentals and Programming in C by Reema Thareja
34			2	Type conversion & Typecasting	Different versions of conversion	Computer Fundamentals and Programming in C by Reema Thareja
35			3	Decision Control and Looping Statements (If, If-else, )	Concepts on looping	Computer Fundamentals and Programming in C by Reema Thareja
36			4	If-else-if, Switch,	Concepts of switch	Computer Fundamentals and Programming in C by Reema Thareja
37		10 <sup>th</sup>	1	While, Do- while	Concepts on while and do while loop	Computer Fundamentals and Programming in C by Reema Thareja
38			2	For, Break	Examples on for loop and break statement	Computer Fundamentals and Programming in C by Reema Thareja

39			3	Continue & Goto	Introduction	Computer Fundamentals and Programming in C by Reema Thareja
40			4	Programming on For LOOP	Some examples	Computer Fundamentals and Programming in C by Reema Thareja
41		11 <sup>th</sup>	1	More Examples on Programmings	Some examples	Computer Fundamentals and Programming in C by Reema Thareja
42			2	More Examples on Programmings	Some examples	Computer Fundamentals and Programming in C by Reema Thareja
43			3	More Examples on Programmings	Some examples	Computer Fundamentals and Programming in C by Reema Thareja
44			4	Previous year questions	Discussion of 1 year questions with answers	Computer Fundamentals and Programming in C by Reema Thareja
45		12 <sup>th</sup>	1	Previous year questions	Discussion of 1 year questions with answers	Computer Fundamentals and Programming in C by Reema Thareja
46	7		2	Introduction to Functions	Fundamental concepts	Computer Fundamentals and Programming in C by Reema Thareja
47			3	Passing Parameters to the Function Call by Value	Concepts on passing by value	Computer Fundamentals and Programming in C by Reema Thareja
48			4	Passing Parameters to the Function Call by Reference	Concepts on passing by reference	Computer Fundamentals and Programming in C by Reema Thareja
49		13 <sup>th</sup>	1	Scope of Variables	Introduction	Computer Fundamentals and Programming in C by Reema Thareja
50			2	Storage Classes	Concepts on storage classes	Computer Fundamentals and Programming in C by Reema Thareja
51			3	Recursion Function and Types of Recursion	Types of function	Computer Fundamentals and Programming in C by Reema Thareja
52			4	One Dimensional Array	Concepts on array	Computer Fundamentals and Programming in C by Reema Thareja
53		14 <sup>th</sup>	1	Multidimensional Array	Concepts on multi dimensional array	Computer Fundamentals and Programming in C by Reema Thareja
54			2	String Operations	Different operation on string	Computer Fundamentals and Programming in C by Reema Thareja
55			3	Pointers	Concepts on pointer	Computer Fundamentals and Programming in C by Reema Thareja
56			4	Pointer Expression	Types of pointer	Computer Fundamentals and Programming in C by Reema Thareja

57		15 <sup>th</sup>	1	Pointer Arithmetic Programming	Programming concepts	Computer Fundamentals and Programming in C by Reema Thareja
58			2	Structure and Union	Only definition	Computer Fundamentals and Programming in C by Reema Thareja
59			3	Previous year questions	Discussion of 1 year questions with answers	Computer Fundamentals and Programming in C by Reema Thareja
60			4	Previous year questions	Discussion of 1 year questions with answers	Computer Fundamentals and Programming in C by Reema Thareja

**Text book suggested :** Computer Fundamentals and Programming in C by Reema Thareja

Computer Fundamentals and Programming in C by Das & Mallick

Signature of

Faculty Member

Principal