Th.1b. COMPUTER APPLICATION
(1st / 2nd sem Common)

Theory: 4 Periods per Week   I.A : 20   Marks
Total Periods: 60 Periods   End Sem Exam : 80   Marks
Examination: 3 Hours   TOTAL MARKS : 100 Marks

Objective:
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.

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
	TOTAL	**60**

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, Date 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. PROBLEM SOLVING METHODOLOGY
Algorithm, Pseudo code and Flowchart Generation of Programming Languages
Structured Programming Language
Examples of Problem solving through Flowchart

6. 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.

7. 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)

Syllabus coverage upto I.A
Chapter- 1,2 3,4

Books Recommended
1.   Computer Fundamentals and Programming in C by Reema Thareja, Oxford Unversity Press
2.   Programming in ANSI C by A.N Kamthane, Pearson Education
3.   Computer Application by Kalyani Publisher
4.   Let us C by Y. Kanetkar, BPB
5.   Computer Fundamentals, by E. Balaguruswamy, TMH