Problem Solving using C		
Test	**Content**	**Scheduled Date**
ST1	The Problem-Solving aspect, Problem definition phase, Getting started on a problem, The use of specific examples, Similarities among problems. Working backward from the solution, General problem-solving strategies, Introduction to programming in C, First program in C, Variables and Identifiers, Data types, Basic Input Output in C, Formatted IO, Arithmetic Operators, Relational and Logical Operators, Precedence and Associativity of operators, if statement, if-else statement, if statement mistakes, nested if statements, Conditional operators, Switch statement.	27th Jan, 2023
ST2	Looping - While loop, for loop, Control with break and continue, Variants of for loop, Nested loops, Printing patterns with loops, do-while loop. Functions in C, Definition and declaration of a function, Scope of a function, auto storage class, extern storage class, static storage class, register storage class. Introduction to Pointers in C, Parameter passing techniques, Pointer arithmetic in C. Arrays, Searching an element, Arrays and memory in C, Pointers with arrays, Functions and arrays, 2 Dimensional Arrays, Pointers and 2D arrays, Array of pointers. Strings in C, Strings and pointers, Strings and functions, Library of string functions.	20th Feb, 2023
ST3	Recursion - An introduction, Recursion examples, Introduction to structures, typedef, Structure pointers and nested structures, Structures and functions, Structure assignments and arrays, Union & Enumeration, File handling	15th Mar, 2023
ETE	Practice of Coding Exercises	3rd Apr, 2023

Linux System Administration		
Test	**Content**	**Scheduled Date**
ST1	Introduction: History, Linux Foundation, Linux requirements, Linux Components, Distributions, Features. Linux architecture, Kernel, Difference between Windows and Linux. Configuration & customizations of Linux, Linux structure, and Installation. Installation: Different ways to install Linux, Linux installation (CentOS7 - Recommended), CentOS vs. CentOS stream, Take a snapshot of VM. Boot Process: The boot process, Partitioning, dual boot, Virtual memory and swap space disk partition (df, fdisk), Adding swap space. File System: File system structure, Navigation commands (cd, ls and pwd) Absolute and relative Paths, Creating files and directories (touch, cp, mkdir) Working with Files & Directories: Linux file types, find, locate, Changing Password, cp, rm, mv, mkdir, rmdir) File Display Commands: cat, less, more, head, tail) redirection, Files and directory permissions (chmod), File ownership commands (chown, chgrp) Editors: Linux file editor (vi), Difference between vi and vim editors, nano,pico and other linux editors,"sed" command. Filters / Text Processing Commands: cut, awk, grep/egrep, sort/uniq, wc, compare files (diff and cmp), Compress and uncompress (tar, gzip, gunzip). User Account Management: useradd, groupadd, usermod, userdel, groupdel, Switch users and sudo access (su, sudo), Monitor users (who, last, w, id).	17th Feb, 2022
ST2	System Utility Commands: date, uptime, hostname, uname, which, cal, bc. Process Management & System Monitoring: ps, bg, fg, nice commands. Troubleshooting: ifconfig, ping, traceroute, DNS troubleshooting tools etc. Shell Scripting: Shell scripting basics, Types of shells, starting a shell, Create your first script - Hello world, Conditions/If else statements Scripts, Case statements script	16th Mar, 2023
ETE	Conditions/If else statements, Scripts, Case statements script, for loop script, do-while scripts, Exit status, Script, For loop script, do-while scripts, Exit status Introduction to GCC compiler: Basics of GCC, Compilation of program, Execution of program, Time stamping.	31st Mar, 2023