



Ref No: CUIET/CSE/ACAD/2023/305

Date: 06th October, 2023

NOTICE

Test Type: **ST** Test No: **2** Total Marks: **40** Duration: **90 Minutes**

Name of Course Coordinator: **Dr. Sunil Kumar Chawla**

Course Code: **CS179** Course Title: **Programming Abstractions**

Day: **Saturday** Date: **14th October 2023**

Time: **9:30 AM - 12:30 PM** Mode: **Online On Campus**

Programme & Semester: **B.E. (CSE) & 5th Sem.** Platform: **CBT Based**

Syllabus for Test:

Recursion, Need of recursion, with examples problems
Deep Dive into Recursion – More complex recursive applications using arrays and strings.

Backtracking and its applications

Time and Space Complexities – Concept and Calculations along with special emphasis on Algorithms and data structures studies thus far

Data Structures and OOPS – Types and Examples of Data structures with their programming abstractions in context with typical concepts of Object Oriented Paradigm

OOPS – Encapsulation, Inheritance, Virtual base class, Overriding member functions

Virtual Functions and Polymorphism: Concept of Binding - Early binding and late binding, Virtual functions, Pure virtual functions, Abstract classes

Exception Handling, Templates and Generic Programming

Linked List – types, implementation, examples and applications with in context Programming abstractions

Stack and its operations with Hands-on implementation of its applications.

Some typical problems using stack such as Histogram Area, Stock Span, and Balanced Parentheses etc.

Stacks implementation using Arrays and Linked Stacks

Format of Assessment:

No. of Questions: 10 MCQ – 1 marks, 5 MCQ – 2 marks, 2 Coding - 5 marks, 1

Coding - 10 marks

Remarks, if any:

Signature of Course Coordinator:.....