

B. Tech. 4th Semester (CSE)  
Examination – May, 2023

OBJECT ORIENTED PROGRAMMING

Paper : FCC-CSE-204-G

Time : Three hours ]

[ Maximum Marks : 75

*Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.*

**Note :** Attempt any five questions in all, selecting one question from each Unit. Question No. 1 is compulsory. All questions carry equal marks.

1. Write short notes on :

- (a) What is an interface ? How it is different from class ? 2.5 × 6 = 15
- (b) How we can define a class ? How we can access class members ?
- (c) What is encapsulation ? Explain with example.
- (d) What are nested class ? Explain.
- (e) What is virtual base class ? Explain.
- (f) Explain exception handling mechanism.



2. Explain the following :

- (a) Data hiding
- (b) Container classes
- (c) Polymorphism

3. What is class ? How we create a class ? Explain with example. Also explain empty classes and how it is different from nested classes ? 15

### UNIT – II

4. What is inheritance ? What are different forms of inheritance ? Also explain the concept of overriding member functions.

5. (a) What are pointers ? How we declare and initialize pointers ? Also explain the concept of accessing data through pointers. 7.5

(b) Explain dynamic memory management using new and delete operators. 7.5

### UNIT – III

6. Explain the following : 15

- (a) Copy constructor
- (b) Dynamic constructor
- (c) Initializer lists

7. What is operator overloading ? Write a program in C++ to overload '+' operator using friend function. 15

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(a) Exception handling mechanism

(b) Rethrowing an exception

9. What are class templates ? Explain function templates with the help of program. 15

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