

Roll No.

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Total No. of Pages : 02

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**B.Tech. (AI&ML/AI&DS/CSE/DS/CSD/Block Chain/Cyber Security/
Internet of Things and Cyber Security including Block Chain
Technology) (Sem.-3)**

OBJECT ORIENTED PROGRAMMING

Subject Code : BTCS302-18

M.Code : 76437

Date of Examination : 23-06-2025

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A** is **COMPULSORY** consisting of **TEN** questions carrying **TWO** marks each.
2. **SECTION-B** contains **FIVE** questions carrying **FIVE** marks each and students have to attempt any **FOUR** questions.
3. **SECTION-C** contains **THREE** questions carrying **TEN** marks each and students have to attempt any **TWO** questions.

SECTION - A

1. **Write briefly :**
 - a. What is the use of class in C++?
 - b. How does abstraction differ from encapsulation?
 - c. What is the purpose of access specifier in classes?
 - d. What happens when no constructor is defined in class?
 - e. Define Destructor.
 - f. Can private members be inherited in C++?
 - g. What is function overriding?
 - h. What is the purpose of pure virtual function in C++?
 - i. Name three blocks used in exception handling.
 - j. How can you open a file in both read and write mode?

SECTION - B

2. Write a C++ program demonstrating class, object creation and member function definition.
3. Explain the concept of passing object as arguments and returning objects using a suitable program.
4. Explain the concept of friend function using a suitable program.
5. Discuss exception handling in C++ in detail and demonstrate custom exception creation.
6. Explain file operations in C++ and demonstrate random file access using seekg() and seekp().

SECTION - C

7. Explain inheritance and demonstrate all types of inheritance using C++ code snippets.
8. What is operator overloading? Write a program to overload the binary '*' operator and unary '++' operator.
9. **Write a short note on :**
 - a. Copy constructor
 - b. Virtual Base Class

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.