

(6 pages)

Reg. No. : .....

**Code No.: 20415 E**      **Sub. Code: EMCA 21/  
FCCA 21**

B.C.A. (CBCS) DEGREE EXAMINATION,  
NOVEMBER 2025.

Second Semester

Computer Application – Core

OBJECT ORIENTED PROGRAMMING CONCEPTS  
USING C++

(For those who joined in July 2023 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Which principle of OOP refers to bundling data and methods together within a single unit?
- (a) Inheritance              (b) Encapsulation  
(c) Polymorphism          (d) Abstraction

2. The insertion operator is \_\_\_\_\_.
- (a) <<                      (b) >>  
(c) <<<                    (d) >?
3. A class is a collection of \_\_\_\_\_.
- (a) data values .  
(b) structures and objects  
(c) array and member functions  
(d) data members and member functions
4. \_\_\_\_\_ are automatically created when constructors is used?
- (a) Objects                      (b) Destructors  
(c) Arrays                        (d) Reference
5. Which of the following operators is unary operator?
- (a) +                              (b) -  
(c) \*                                (d) ++
6. Which keyword in C++ is used to Implement inheritance?
- (a) derive                        (b) base  
(c) public                         (d) inherit

7. \_\_\_\_\_ is the variables that contain the address of other variables.  
(a) Function (b) String  
(c) Identifier (d) Pointer
8. A virtual function that has no definition within the base class is called \_\_\_\_\_.  
(a) Pure virtual function  
(b) Pure static function  
(c) Pure Const function  
(d) Friend function
9. An exception is caught based on its \_\_\_\_\_.  
(a) keyword (b) address  
(c) type (d) pointer
10. eof() is the function used for \_\_\_\_\_.  
(a) asserting no errors in a file  
(b) appending data to a file  
(c) counting the amount of data in a file  
(d) checking for end of file

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).  
Each answer should not exceed 250 words.

11. (a) Analyse the basic concepts of Object Oriented Programming.  
Or  
(b) Write down the key features and advantages of C++.
12. (a) What is Friend Function? Write the syntax and its special characteristics.  
Or  
(b) Illustrate the use of Destructor in C++.
13. (a) Demonstrate the Overloading Unary Operators with example.  
Or  
(b) Distinguish between overloading and overriding.
14. (a) Define the term 'Pointers'. What is the use of this keyword in C++?  
Or  
(b) Write down the Characteristics of Arrays.

15. (a) Explain the role of seekg( ), seekp( ), tellg(), tellp() function in the process of random access in a file.

Or

- (b) How to declare and initialize string objects in C++?

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b)  
Each answer should not exceed 600 words.

16. (a) State the following control structure with example.
- (i) For ... Statement
  - (ii) Switch Statement

Or

- (b) Write a C++ program to demonstrate function overloading.

17. (a) State the use of static data member of class with example.

Or

- (b) Describe the importance of constructor with static members.

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18. (a) Distinguish between operator overloading and operator overriding.

Or

- (b) Discuss the following
- (i) Virtual base classes
  - (ii) Abstract classes.

19. (a) Explain array of pointers to objects and accessing member functions using pointers.

Or

- (b) Compare and contrast late binding and early binding.

20. (a) Explain the four essential file stream classes.

Or

- (b) Draw a neat and clean diagram to show Exception Handling Model in C++.

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