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Reg. No. : .....

Code No. : 10878 E      Sub. Code : FCCI 21

B.Sc. (CBCS) DEGREE EXAMINATION,  
APRIL 2026

Second Semester

Computer Science with Artificial Intelligence – Core

OBJECT ORIENTED PROGRAMMING IN C++

(For those who joined in July 2025 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. In C++, endl is a:

- (a) Variable                      (b) Manipulator  
(c) Keyword                      (d) Operator

2. Comments in C++ can be represented by:

- (a) //                              (b) /\*...\*/  
(c) Both (a) and (b)              (d) #

3. What is an 'object' in the context of C++ classes?

- (a) An instance of a class  
(b) Reserved keyword  
(c) A member function  
(d) A blueprint of a class

4. The 'this' pointer in C++ refers to

- (a) The main function  
(b) The first data member  
(c) The current object  
(d) The base class

5. The << and >> operators are overloaded for I/O. These functions must return a reference to:

- (a) int  
(b) void  
(c) The class object  
(d) ostream or istream objects

6. Operator overloading is a type of:

- (a) Run-time polymorphism  
(b) Compile-time polymorphism  
(c) Encapsulation  
(d) Inheritance

7. What is the size of a pointer variable in C++?
- (a) It depends on the system architecture
  - (b) Always 2 bytes
  - (c) Always 4 bytes
  - (d) It depends on the data type it points to
8. Which of the following correctly declares a pointer to a pointer?
- (a) `int *p;`                      (b) `int &p;`
  - (c) `intp**;`                      (d) `int**p;`
9. Which of these is the correct way to open a file named `data.txt` for both reading and writing?
- (a) `file.open("data.txt", "rw")`
  - (b) `ofstream file ("data.txt", ios::in);`
  - (c) `fstream file ("data.txt", ios::in | ios::out);`
  - (d) `ifstream file ("data.txt", ios::out)`
10. What does the `tellp()` function return?
- (a) The total size of the file
  - (b) A boolean indicating if the pointer has moved
  - (c) The name of the file currently open
  - (d) The current position of the `put` pointer in bytes

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Compare and contrast OOP languages with procedure oriented languages.

Or

- (b) Give a syntax and working of decision making statements.

12. (a) Explain the concept 'Parameterized Constructors'.

Or

- (b) How to declare objects in C++? Explain.

13. (a) Illustrate the conversion from basic type to class type.

Or

- (b) Elaborate the Visibility of inherited members.

14. (a) Narrate the steps to create an array of classes.

Or

(b) What is meant by polymorphism?

15. (a) List out the Guidelines for templates.

Or

(b) Explain the functions put(), get(), read() and write().

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Illustrate features of Input and Output in C++.

Or

(b) Elucidate the detailed note on Jump statements.

17. (a) Describe the execution order of constructors and destructors in a program.

Or

(b) Write a program to exchange values between two classes. Use friend functions.

18. (a) Explain the types of inheritance in detail.

Or

(b) Narrate the step by step procedure to overload an operator using friend function.

19. (a) Discuss the memory models supported by C++.

Or

(b) Write note on new and delete operators.

20. (a) Elaborate the important functions supported by the string class.

Or

(b) Explain the keywords try, throw and catch with an example.