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Reg. No. : .....

Code No. : 20410 E      Sub. Code : CMCS 21/  
CMSE 21

B.Sc. (CBCS) DEGREE EXAMINATION,  
NOVEMBER 2022.

Second Semester

Computer Science/Software Engineering — Core

OBJECT ORIENTED PROGRAMMING WITH C++

(For those who joined in July 2021 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. What does a class in C++ holds?
  - (a) Data
  - (b) Functions
  - (c) Both data and functions
  - (d) Arrays

2. How many specifiers are present in access specifier in class?
  - (a) 1
  - (b) 2
  - (c) 3
  - (d) 4
3. Constructors are used to \_\_\_\_\_
  - (a) Initialize the objects
  - (b) Construct data members
  - (c) Both (a) and (b)
  - (d) Delete objects
4. How many parameters does a default constructor requires
  - (a) 1
  - (b) 2
  - (c) 0
  - (d) 3
5. Which is the correct example for unary operator?
  - (a) &
  - (b) ==
  - (c) -
  - (d) /
6. What are the things that are inherited from base class?
  - (a) Constructors and destructors
  - (b) Operator functions
  - (c) Friend functions
  - (d) All of the above

7. A pointer can be initialized with \_\_\_\_\_

- (a) Null
- (b) Zero
- (c) Address of an object of same type
- (d) All of the above

8. A pointer contains \_\_\_\_\_

- (a) Address of a variable
- (b) Name of the variable
- (c) Value of the variable
- (d) All of the above

9. Which of the following method is used to open file?

- (a) Using open()
- (b) Using constructor
- (c) Both (a) and (b)
- (d) None

10. Can we have overloading of the function template?

- (a) Yes
- (b) No
- (c) May be
- (d) Can't say

PART B — (5 × 5 = 25 marks)

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

Each answer should not exceed 250 words.

11. (a) Illustrate the use of static data members in a static member function with an example.

Or

- (b) Write a C++ program to ADD two COMPLEX NUMBERS using objects as function arguments.

12. (a) What is a constructor? List out its characteristics with example.

Or

- (b) Write a C++ program to concatenate two strings using dynamic constructors.

13. (a) Define operator overloading. Explain the rules for overloading operators.

Or

- (b) Illustrate the use of single inheritance with an example.

14. (a) Explain the use of this pointer with an example.

Or

- (b) Discuss the application of manipulators in detail.

15. (a) Explain file mode parameters with examples.

Or

(b) Write a C++ program to perform scalar product of two vectors using class template.

PART C — (5 × 8 = 40 marks)

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

Each answer should not exceed 600 words.

16. (a) Explain the basic concepts of object oriented programming in detail.

Or

(b) Define class. How will you specify a class and its member function? Discuss.

17. (a) Define constructor. Explain its types with examples.

Or

(b) Discuss the use of destructors in detail.

18. (a) Illustrate the application of friend function in operator overloading with + operator.

Or

(b) Describe multiple inheritance with an example.

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19. (a) Why do you use virtual functions? Discuss.

Or

(b) Explain unformatted I/O operations with examples.

20. (a) What are the methods available for opening files? Explain.

Or

(b) Write a C++ program to SORT integral and float numbers using function template.

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