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SMSE 21

B.Sc. (CBCS) DEGREE EXAMINATION,  
NOVEMBER 2019.

Second Semester

Computer Science/Software Engineering – Main  
OBJECT ORIENTED PROGRAMMING IN C++

(For those who joined in July 2017 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer.

1. \_\_\_\_\_ is the process by which objects of one class acquire the properties of objects of another class.
- (a) Encapsulation
  - (b) Inheritance
  - (c) Abstraction
  - (d) Late Binding

2. The dereferencing operator is \_\_\_\_\_.
- (a) `* >` (b) `* - >`  
(c) `- > *` (d) `*`
3. \_\_\_\_\_ is special because its name is the same as the class name.
- (a) function (b) constructor  
(c) object (d) inheritance
4. Which of the following operator cannot be overloaded?
- (a) `::` (b) `++`  
(c) `*` (d) `%`
5. A class can inherit properties from more than one class which is known as \_\_\_\_\_.
- (a) single inheritance  
(b) multiple inheritance  
(c) multilevel inheritance  
(d) hierarchical inheritance
6. An \_\_\_\_\_ class is designed only to act as a base class.
- (a) derived (b) member  
(c) virtual base (d) abstract

7. Virtual functions \_\_\_\_\_.
- (a) must be members of some class
  - (b) cannot be static members
  - (c) can be a friend of another class
  - (d) all the above
8. If we create a file by 'If stream' then the default mode of the file is \_\_\_\_\_.
- (a) ios :: out
  - (b) ios :: in
  - (c) ios :: app
  - (d) ios :: binary
9. Function templates can accept
- (a) any type of parameters
  - (b) only one parameter
  - (c) only parameters of the basic type
  - (d) only parameters of the derived class
10. The functions \_\_\_\_\_ writes a single character to the associated stream.
- (a) put ()
  - (b) write ()
  - (c) fout
  - (d) ios :: out

PART B — (5 × 5 = 25 marks)

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

Each answer should not exceed 250 words.

11. (a) Explain arrays of objects with an example.

Or

- (b) Discuss the characteristics of friend function with examples.

12. (a) Define constructors. Describe its special characteristics.

Or

- (b) What do you understand about Destructors? Discuss with suitable program.

13. (a) Write a program to implement overloading unary operators.

Or

- (b) Write a program to multiply two given numbers USE single inheritance.

14. (a) Explain "this" pointer with suitable example.

Or

- (b) Describe virtual functions.

15. (a) Explain File stream classes in detail.

Or

(b) Discuss briefly about class templates.

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 OOPs.

Or

(b) How will you create classes and objects in C++? Explain.

17. (a) Describe Copy constructors with an example programs.

Or

(b) Illustrate Dynamic constructors.

18. (a) Illustrate overloading Binary operators using Friends.

Or

(b) Explain Multilevel and Multiple Inheritance.

19. (a) What is Pointers? Explain Pointers to Derived classes with an example.

Or

- (b) Explain :

- (i) C++ stream classes
- (ii) Unformatted I/O operations.

20. (a) Explain end-of-file detection and File modes.

Or

- (b) Describe function templates.
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