

(For the candidates admitted from 2008 onwards)

B.Sc./B.CA. DEGREE EXAMINATION, JUNE/ JULY 2021

Part : III

Branch : Computer Science/

Computer Application/

Information Technology/

Software System/

Multimedia and Web Technology/

Hardware Systems and Networking/

Computer Science and Application

Computer Technology

Second/ Third Semester

C ++ PROGRAMMING

Time: 3 Hours

Maximum: 75 marks

Section A (10 x 1 = 10 marks)

Answer all questions

Choose the correct answer

1. The switch statement is also called as \_\_\_\_\_.
  - a) choosing structure
  - b) selective structure
  - c) certain structure
  - d) bitwise structure
2. The if...else statement can be replaced by \_\_\_\_\_ operator.
  - a) Bitwise operator
  - b) Conditional operator
  - c) Multiplicative operator
  - d) Addition operator
3. When a copy constructor is called?
  - a) When an object of the class is returned by value
  - b) When an object of the class is passed by value to a function
  - c) When an object is constructed based on another object of the same class
  - d) All of the mentioned
4. What happens when objects s1 and s2 are added?

```
string s1 = "Hello";  
string s2 = "World";  
string s3 = (s1+s2).substr(5);
```

  - a) Error because s1+s2 will result into string and no string has substr() function
  - b) Segmentation fault as two string cannot be added in C++
  - c) The statements runs perfectly
  - d) Run-time error
5. What is the order of destructors call when the object of derived class B is declared, provided class B is derived from class A?
  - a) Destructor of A followed by B
  - b) Destructor of B followed by A
  - c) Destructor of A only
  - d) Destructor of B only
6. Virtual functions in C++ tell the compiler to perform \_\_\_\_\_ on such functions.
  - a) static binding
  - b) late binding
  - c) compile time binding
  - d) no binding

7. Which other keywords are also used to declare the class other than class?
  - a) struct
  - b) union
  - c) object
  - d) both struct & union
8. What is the correct definition of an array?
  - a) An array is a series of elements of the same type in contiguous memory locations
  - b) An array is a series of element
  - c) An array is a series of elements of the same type placed in non-contiguous memory locations
  - d) An array is an element of the different type
9. Which of the following is used for generic programming?
  - a) Virtual functions
  - b) Modules
  - c) Templates
  - d) Abstract Classes
10. What are the Associative Containers?
  - a) Containers that implements data structures which can be accessed sequentially
  - b) Containers that implements sorted data structures for fast search in  $O(\log n)$
  - c) Containers that implements unsorted(hashd) data structures for quick search in  $O(1)$
  - d) Containers that implements data structures which can be accessed non-sequentially

**Section B - (5 X 5 = 25 Marks)**

Answer ALL Questions

11. a) Discuss how data and function organized in an object oriented paradigm.  
 Or  
 b) With appropriate syntax, explain 'for' looping structure.
12. a) What is a class? How is it created? Give examples.  
 Or  
 b) Discuss the benefits of returning objects from functions.
13. a) Write a note on Abstract class.  
 Or  
 b) What is the role of Inheritance? List out various types of Inheritance.

14. a) Access how to reverse array list in C++.  
Or  
b) Write a C++ program demonstrating the use of pure virtual function.
15. a) Write a C++ program involving reading and writing of class objects in a file.  
Or  
b) Discuss about miscellaneous functions.

**Section C - (5 X 8 = 40 Marks)**

**Answer ALL Questions**

16. a) Write a C++ program to generate the Fibonacci series using while loop.  
Or  
b) Write a C++ program using Switch case to add, subtract, multiply and divide two numbers.
17. a) What are static data members? Explain with an example.  
Or  
b) What is garbage collection? Write a C++ program to demonstrate the usage of a destructor in garbage collection.
18. a) Explain in detail about the concept of multiple inheritance.  
Or  
b) Discuss the role of access specifier in inheritance and show their visibility. Give an example.
19. a) Discuss in detail about memory models in C++.  
Or  
b) What is dynamic initialization of an object? Explain.
20. a) Write a C++ program to print the ASCII value for any given character.  
Or  
b) Explain in detail about random access operation in files.

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