

B.Tech. DEGREE EXAMINATION, NOVEMBER 2016
Third Semester

15SE201J - OBJECT ORIENTED PROGRAMMING USING C++
(For the candidates admitted during the academic year 2015 - 2016 onwards)

Note:

- (i) **Part - A** should be answered in OMR sheet within first 45 minutes and OMR sheet should be handed over to hall invigilator at the end of 45th minute.
- (ii) **Part - B and Part - C** should be answered in answer booklet.

Time: Three Hours

Max. Marks: 100

PART - A (20 × 1 = 20 Marks)
Answer ALL Questions

1. Which of the following approach is adopted by C++?
 (A) Top-down (B) Bottom-up
 (C) Right-left (D) Left-right
2. Which of the following is an abstract data type?
 (A) Int (B) Double
 (C) String (D) Class
3. Cout is a/an _____
 (A) Operator (B) Function
 (C) Object (D) Macro
4. How many minimum number of functions are need to be presented in C++?
 (A) 0 (B) 1
 (C) 2 (D) 3
5. Function overloading is similar to which of the following?
 (A) Operator overloading (B) Constructor overloading
 (C) Destructor overloading (D) Overriding
6. What is meant by pure virtual function?
 (A) Function which does not have definition of its own
 (B) Function which does have definition of its own
 (C) Function which does not have any section type
 (D) Function which does have return type
7. Deriving a derived class from more than one base class is
 (A) Multilevel inheritance (B) Single inheritance
 (C) Hierarchical inheritance (D) Multiple inheritance
8. If class A is friend of class B and if class B is friend of class C, which of the following is true?
 (A) Class C is friend of class A (B) Class A is friend of class C
 (C) Class A and class C do not have any friend relationship
 (D) Both A and B

9. If a member needs to have unique value for all the objects of that same class, declare the member as
 - (A) Global variable outside class
 - (B) Local variable inside constructor
 - (C) Static variable inside class
 - (D) Dynamic variable inside class
10. Which of the following operators that can be overloaded is?
 - (A) ::
 - (B) Size of operator
 - (C) Member selector
 - (D) <<
11. The fields in the class in C++ program are by default
 - (A) Protect
 - (B) Private
 - (C) Public
 - (D) Static
12. How many types of output stream classes are there in C++?
 - (A) 1
 - (B) 2
 - (C) 3
 - (D) 4
13. What is meant by stream in C++?
 - (A) Writes to a file
 - (B) Reads from a file
 - (C) Both A and B
 - (D) Copy from a file
14. Which header file is used for reading and writing to a file?
 - (A) #include <ostream >
 - (B) #include <fstream >
 - (C) #include <file >
 - (D) #include <filestream >
15. What kind of exceptions are available in C++ ?
 - (A) Handled
 - (B) Unhandled
 - (C) Static
 - (D) Dynamic
16. How to define the user-defined exceptions?
 - (A) Inheriting and overriding exception class functionality
 - (B) Overriding class functionality
 - (C) Inheriting class functionality
 - (D) Overloading class functionality
17. Template is used
 - (A) To manipulate the class
 - (B) For creating the attributes
 - (C) For creating member functions
 - (D) For creating a generic class
18. What do vectors represent?
 - (A) Static arrays
 - (B) Dynamic arrays
 - (C) Stack
 - (D) Queue
19. An STL algorithm is
 - (A) A standalone function that operates on containers
 - (B) A link between member functions and containers
 - (C) A friend function of appropriate container classes
 - (D) A member function of appropriate container classes
20. In an associative container
 - (A) Sorting is always in alphabetical or numerical order
 - (B) Use the sort() algorithm to keep the contents sorted
 - (C) Values are stored in sorted order
 - (D) Keys are stored in sorted order

PART – B (5 × 4 = 20 Marks)
Answer ANY FIVE Questions

21. Write a C++ program to find the sum of natural numbers using for loop.
22. What is the use of inline function? Give an example.
23. Write the functions of constructor and destructor. Give an example.
24. Define: Polymorphism. Give an example.
25. Brief about manipulators in stream classes.
26. What are templates? Give an example for defining class template.
27. List all the iterators in standard template library.

PART – C (5 × 12 = 60 Marks)
Answer ALL Questions

28. a. Discuss in detail about functions and recursive function with example.

(OR)

- b. What are arrays? Write a C++ program for multiplying two matrices.

29. a. Discuss in detail about the object-oriented features.

(OR)

- b. A base class student contains the data members stud-no, stud-name, date of birth department, grade and another base class faculty is containing the data members staff-id, name, department, specification, age designation. Define a class report having all the members of student and faculty. Display all the information in report using a function display ().

30. a. Discuss in detail about stream classes with suitable examples.

(OR)

- b. Explain about file pointers with an example.

31. a. Discuss about exception handling in C++ with a suitable example.

(OR)

- b. Write a temperature function that returns the average of all the elements of an array. The arguments to the function should be the array name and the size of the array (type int). In main (), exercise the function with arrays of type int, long double and char.

32. a. Discuss in detail about containers in standard template library.

(OR)

- b. Write about algorithms in standard template library. Write a program that applies the sort() algorithm to an array of values and displays the result.