Code : 051301

B.Tech 3rd Semester Exam., 2018

OBJECT-ORIENTED PROGRAMMING

Time : 3 hours *Full Marks* : 70

Instructions :

(i) All questions carry equal marks.

*(ii) There are **NINE** questions in this paper.*

*(iii) Attempt **FIVE** questions in all.*

*(iv) Question No. **1** is compulsory.*

1. Choose the correct option of the following (any *seven*) :

(a) Which of the following types of class allows only one object of it to be created?

(i) Virtual Class

(ii) Abstract Class

(iii) Singleton Class

(iv) Friend Class

(b) Which of the following statements is correct?

(i) Base class pointer, cannot point to derived class.

(ii) Derived class pointer cannot point to base class.

(iii) Pointer to derived class cannot be created.

(iv) Pointer to base class cannot be created.

(c) Which of the following statements is correct?

(i) A constructor is called at the time of declaration of an object.

(ii) A constructor is called at the time of use of an object.

(iii) A constructor is called at the time of declaration of a class.

(iv) A constructor is called at the time of use of a class.

(d) Which of the following approaches is adapted by C++?

(i) Top-down

(ii) Bottom-up

(iii) Right-left

(iv) Left-right

(e) Which of the following is not type of class?

(i) Abstract Class

(ii) Final Class

(iii) Start Class

(iv) String Class

(f) What is default access specifier for data members or member functions declared within a class without any specifier in C++?

(i) Private

(ii) Protected

(iii) Public

(iv) Depends on compiler

(g) Which is known as generic class?

(i) Abstract Class

(ii) Final Class

(iii) Template Class

(iv) Efficient Code

(h) What is scope of a class nested inside another class?

(i) Protected scope

(ii) Private scope

(iii) Global scope

(iv) Depends on access specifier and inheritance used

(i) Which syntax for class definition is wrong?

(i) Class student{};

(ii) Student class{};

(iii) Class student {public : student(int a){}};

(iv) Class student {student(int a){}};

(j) Which among the following best describes the inheritance?

(i) Copying the code already written

(ii) Using the code already written once

(iii) Using already defined functions in programming language

(iv) Using the data and functions into derived segment

2. What do you understand by object-oriented programming? What are the advantages of programming using object-oriented approach?

3. What are the different data types in C++? Explain that C++ is an object-oriented language.

4. What is a class? Also write an example (syntax) to define a class in C++. Differentiate between a class and an object.

5. What is inheritance? What are the different types of inheritance in C++? Explain with suitable diagram.

6. Write short notes with examples on each of the following with respect to C++ :

(a) Data abstraction

(b) Overriding

(c) Encapsulation

(d) Virtual function

(e) Constructor and destructor

7. What do you mean by polymorphism? What are the static and dynamic polymorphism techniques?

8. Define Exception Handling. What are the uses of keywords **try**, **throw** and **catch**? Explain with an example by writing a C++ program.

9. What is Access Modifier in C++? Define each type and also differentiate between these.

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