24164

B.Tech. 4th Semester (CSE) Examination, May–2016

OBJECT-ORIENTED PROGRAMMING USING C++

Paper–(IT-202-F)

Time allowed : 3 hours]   *[Maximum marks : 100*

Note : Attempt any *five* questions, **one** from each section. Question No. 1 is compulsory.

1. (a) What do you mean by dynamic binding ? How is it useful in OOPs ?

    (b) What is the need of declaring a member of class static ?

    (c) Explain controlling access function and utility function with example.

    (d) What is the use of scope resolution operator ?

                                       $4 \times 5 = 20$

Section–A

2. (a) What are pre-processor directives, why are they used ? Explain any two preprocessor directives.   12

    (b) Explain the concept of reusability with example.   8

3. (a) Differentiate between procedural and object-oriented languages.   10

    (b) What do you mean by library files ? Explain with suitable examples.   10

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Section–B

4. (a) What are inline functions ? What is the need of making function inline ? Also write the situations where inline expansion may not work ?   10

    (b) What is Constructor ? Explain various types of Constructor with example.   10

5. (a) What are the advantages of using new and delete operators as compared to the malloc ( ) and calloc ( ) ?   10

    (b) What are proxy classes ? How proxy classes are helpful in separating the interface from the implementation ? Explain with suitable examples.   10

Section–C

6. (a) What is operating overloading ? Explain the conditions where operator overloading is necessary ? Also write a program to overload << and >> operators using both member functions and friend functions.   12

    (b) What are virtual base classes ? Explain with example.   8

7. (a) Define Inheritance. Explain various types of inheritance with example.   10

    (b) What is polymorphism ? How run-time polymorphism is achieved ?   10

Section–D

8. (a) What do you mean by exception handling ? How exceptions are handled in C++ ? Illustrate with example.   10

    (b) Define stream manipulators. How they are different from I/O streams ? Explain any three stream manipulators.   10

9. (a) How templates are helpful in generic programming ? Differentiate between overloaded functions and function templates.   10

    (b) What is file ? Write a program to update the contents using random access.   10