[6179]-224

S.E. (Electronics / Electronics & Computer/E&TC)
OBJECT ORIENTED PROGRAMMING
(2019 Pattern) (Semester - IV) (204194)

Time : 2½ Hours]   *[Max. Marks : 70*

Instructions to the candidates :

1) *Answer Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8.*
2) *Neat diagrams must be drawn wherever necessary.*
3) *Figures to the right indicate full marks.*
4) *Use of calculator is allowed.*
5) *Assume suitable data if necessary.*

Q1) a) What is a friend function? What are the merits and demerits of using the friend function?   **[6]**

b) What are the rules for overloading operators?   **[6]**

c) Which is operator overloading? Write steps to overload << & >> operators.   **[6]**

OR

Q2) a) What is operator overloading? Why it is necessary to overload an Operator?   **[6]**

b) Write a program to demonstrate friend function in C++.   **[6]**

c) Give a programming example that overloads = = operator with its use.**[6]**

Q3) a) What is inheritance? How to inherit a base class as protected? Explain it in Multiple base classes.   **[6]**

b) What is containment? Explain with the help of String. Date and Employee class. Objects of Date and String classes are data members of Employee Class.   **[6]**

c) What does inheritance mean in C++? What are different forms of inheritance? Give an example of each.   **[5]**

OR

P.T.O.

Q4) a) Write a C++ program demonstrating use of the pure virtual function with the use of base and derived classes. **[6]**

b) Discuss the role of access specifiers in inheritance and show their visibility when they are inherited as public, private and protected. **[6]**

c) What is the ambiguity that arises in multiple inheritance? How it can be overcome. Explain with example. **[5]**

Q5) a) Explain exception handling mechanism in C++? Write a program in C++ to handle divide by zero exception? **[6]**

b) Explain class template using multiple parameters? Write a program in C++. **[6]**

c) What is stream? Explain types of streams available in C++? **[6]**

OR

Q6) a) Explain Namespace in C++ with example? **[6]**

b) Write a C++ program using function template to find the product of two integer or floating-point type of data. **[6]**

c) What is a user defined exception? Write down the scenario where we require user defined exceptions. **[6]**

Q7) a) Write a program using the open(), eof() and getline() member function to open and read a file content line by line. **[6]**

b) Explain the role of seekg(), seekp(), tellg(),tellp(), function in the process of random access in a file. **[5]**

c) What is file mode? Explain any four file modes supported by C++. **[6]**

OR

Q8) a) Write a program using put() to write characters to a file until user enters a dollar sign. **[6]**

b) What is the difference between opening a file with constructor function and opening a file with open () function. **[5]**

c) Explain error handling during file operation. **[6]**

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