Total No. of Questions : 8]

**P-9099** 



[Total No. of Pages : 2

[Max. Marks : 70

## [6179]-224

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

Time : 2<sup>1</sup>/<sub>2</sub> Hours] Instructions to the candidates

- 1) Answer 0.1 or 0.2, 0.3 or 0.4, 0.5 or 0.6, 0.7 or 0.8.
- 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]
- 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++.
  - 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]

*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]
  - Discuss the role of access specifiers in inheritance and show their visibility b) when they are inherited as public, private and protected. [6]
  - What is the ambiguity that arises in multiple inheritance? How it can be c) overcome. Explain with example. [5]
- Explain exception handling mechanism in C++? Write a program in C++ **Q**5) a) to handle divide by zero exception? **[6]** 
  - Explain class template using multiple parameters? Write a program in b) [6]
  - What is stream? Explain types of streams available in c) [6] OR
- **Q6**) Explain Namespace in C++ with example? [6] a) Write a C++ program using function template to find the product of two b) Vinteger or floating-point type of data. **[6]** 
  - What is a user defined exception? Write down the scenario where we c) require user defined exceptions. [6]
- Write a program using the open(), eof() and getline() member function **Q**7) a) to open and read a file content/line by line. [6]~
  - Explain the role of seekg(), seekp(), tellg(),tellp(), function in the process b) of random access in a file. [5]
  - What is file mode? Explain any four file modes supported by Q c) **[6]**

## OR

- **08**) Write a program using put() to write characters to a file until user enters a) a dollar sign. [6]
- What is the difference between opening a file with constructor function and opening a file with open () function.

[5]

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

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