

Total No. of Questions : 8]

SEAT No. :

PE4270

[Total No. of Pages : 2

[6582]-42

S.E. (Computer Engg.) (Computer Science & Design Engg.)/(AI & DS)

OBJECT ORIENTED PROGRAMMING (OOP)

(2019 Pattern) (Semester - III) (210243)

Time : 2½ Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) Answer Q1 or Q2, Q3 or Q4, Q5 or Q6, Q7 or Q8.
- 2) Figures to the right indicate full marks.
- 3) Draw Neat and Clean Diagram.
- 4) Assume Suitable data if necessary.

- Q1)** a) How do you declare and define a pure virtual function in C++? Explain with help of a program. [5]
- b) Explain need of operator overloading. What are the rules to be followed when overloading an operator in C++? [6]
- c) Write a program to overload insertion (<<) and extraction (>>) operator in C++. [6]

OR

- Q2)** a) How do we achieve run time polymorphism? [5]
- b) What is abstract base class in C++ polymorphism? Explain with program. [6]
- c) Write C++ program to demonstrate use of binary operator overloading using member function. [6]

- Q3)** a) Explain the command line argument in C++. Write a program to explain the same. [5]
- b) Explain the following file handling functions [6]
- seekg ()
- c) What do you mean by File Handling? Explain following functions with syntax and an example. [7]
- i) open()
 - ii) read()
 - iii) write()

OR

P.T.O.

- Q4)** a) Explain what is fstream, ifstream and ofstream with help of example? Provide the hierarchy of stream classes in C++. [5]
- b) List and explain different Mode bits used in open() function, while opening a file. [6]
- c) Define a class Student that has three attributes viz name, roll_no and mark. Write a C++ Program that writes an object to a file and reads an object from a file. [7]

- Q5)** a) What is generic programming? How its is implemented in C++? [5]
- b) Discuss class template with suitable example in C++. [6]
- c) What do you mean by rethrowing exceptions. Write a program for the same. [6]

OR

- Q6)** a) What is template function? Explain with suitable example. [5]
- b) Write a program to demonstrate user defined exception in C++. [6]
- c) Write a program in C++ to demonstrate Divide by Zero exception. [6]

- Q7)** a) What is STL? Enlist and explain various components of STL. [5]
- b) What are the various algorithms available in STL? Explain any one with C++ program. [6]
- c) What is a vector? Write a C++ program to explain various functions. [7]

OR

- Q8)** a) What is an iterator? What are types of iterators? [5]
- b) What is container? List the container classes in C++. Explain any one of them using program. [6]
- c) What is Map? Enlist and explain various functions of map. [7]

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