PA-1235

[5925]-257

S.E. (Computer/Artificial Intelligence & Data Science/ Computer Science & Design Engineering)
OBJECT ORIENTED PROGRAMMING
(2019 Pattern) (Semester - III) (210243)

Time : 2½ Hours] *[Max. Marks : 70*

Instructions to the candidates:

    1)   *Attempt Q1 or Q2, Q3 or Q4, Q5 or Q6, Q7or Q8.*

    2)   *Figures to the right indicate full marks.*

    3)   *Neat diagrams must be drawn wherever necessary.*

    4)   *Assume suitable data, if necessary.*

Q1) a) Explain the polymorphism feature of OOP. What are the different ways to achieve polymorphism in C++ Language? Explain them along with examples. **[5]**

    b) What is operator overloading? Write a program to overload '+' operator for adding two complex numbers which are object of below complex class. **[6]**

    Class Complex

    {

        Private: int real, imag;

    };

    c) What is Pure virtual function? Illustrate the use of Pure virtual function. **[6]**

OR

Q2) a) What is runtime polymorphism? How it is achieved in C++. Explain it along with example. **[5]**

    b) What is function overloading? Write defination of three overloaded functions (add) which will add two integer, float and double numbers respectively. **[6]**

    c) Explain abstract class concept along with example. **[6]**

P.T.O.

Q3) a) What are various functions used to manipulate file pointers? Explain using example. **[7]**

b) What are command line arguments in C++? Write a program to explain the same. **[7]**

c) What are fstream, ifstream and ofstream? Illustrate with help of example. **[4]**

OR

Q4) a) Write a program to create file, read and write record into it. Every record contains employee name, id and salary. Store and retrieve atleast 3 data. **[7]**

b) What do you mean by file handling? Explain the following functions. **[7]**

    i) open()

    ii) get()

    iii) getline()

c) Write a program to create files using constructor function. **[4]**

Q5) a) Distinguish between overloaded function and function template with suitable example. **[4]**

b) What is an exception specification? Explain using suitable example. **[6]**

c) What is generic programming? How it is implemented in C++. **[7]**

OR

Q6) a) Write short note on type name and export key-word. **[4]**

b) Explain class template using multiple parameters with help of program. **[6]**

c) Explain exception handling mechanism in C++? Explain by program to handle "divide by zero". **[7]**

Q7) a) What is purpose of iterator and algorithm. **[4]**

b) What is STL? List and explain different types of STL containers. **[6]**

c) Write a program to implement map in STL. **[8]**

OR

Q8) a) What are major components of STL. **[4]**

b) State functions of vector STL. Write a program to explain the same.

[6]

c) What is container? List the container classes in C++. Explain any one of them using program. **[8]**

□□□