

Total No. of Questions : 8]

SEAT No. :

**P9116**

[Total No. of Pages : 2

[6179]-242

**S.E. (Computer / Computer Science & Design Engg./A.I&D.S.)**

**OBJECT ORIENTED PROGRAMMING**

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

*Time : 2½ Hours]*

*[Max. Marks : 70*

*Instructions to the candidates:*

- 1) Answer Q.No.1 or Q.No.2, Q.No.3 or Q.No.4, Q.No.5 or Q.No.6, Q.No.7 or Q.No.8.
- 2) Neat diagrams must be drawn wherever necessary.
- 3) Assume suitable data if necessary.
- 4) Use of Calculator is allowed.

**Q1) a)** Differentiate between compile time polymorphism and run time polymorphism. [5]

**b)** How do you declare and define a pure virtual function in C++? Explain with help of a program. [6]

**c)** Write a C++ program for unary increment (++) and decrement (--) operator overloading. [6]

OR

**Q2) a)** What is operator overloading and why it is useful? Which Operators cannot be overloaded. [5]

**b)** How virtual functions are implemented in C++? Explain with help of a program. [6]

**c)** Write a program to binary (+) and binary (-) operator in C++. [6]

**Q3) a)** Explain the use of command line arguments. If we want to pass command line arguments what will be prototype of main function and explain its arguments along with example. [5]

**b)** Explain the following file handling functions (solve any three). [6]

i) seekg ( )

ii) tellg ( )

iii) seekp ( )

iv) tellp ( )

**c)** Write a program Using the C++ file input and output class with open(), get(), put(),close() methods for opening, reading from and writing to a file. Use append mode while opening the file for writing. [7]

OR

*P.T.O.*

Q4) a) List and Explain different Mode bits used in open () function, while opening a file. (Any five). [5]

b) Define a class Person that has three attributes viz name, gender and age. Write a C++ Program that writes an object to a file and reads an object from a file. [6]

c) Explain what is fstream, ifstream and ofstream with help of example? Provide the hierarchy of stream classes in C++. [7]

Q5) a) Discuss exception handling mechanism in C++ with syntax. [5]

b) Write a program to handle exception using class type exception. [6]

c) Demonstrate function template with suitable code in C++. [6]

OR

Q6) a) Explain exception handling in constructor, destructor. [5]

b) Write a program to demonstrate class template with example. [6]

c) Demonstrate overloading function template with suitable code in C++. [6]

Q7) a) What is an iterator? Explain how to use an iterator in C++ program with example. [5]

b) What is an algorithm in STL? Enlist algorithms and explain any algorithm in detail. [6]

c) What is a Map ? Write a program to implement map in C++. [7]

OR

Q8) a) What is STL? Enlist and explain in short major components of STL. [5]

b) What is iterator and algorithm? Explain each of them with example. [6]

c) What is a vector? Enlist and explain any 5 functions of vector by using a C++ program. [7]

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