Code No: RT21051 **R13** SET - 1

II B. Tech I Semester Regular Examinations, Jan - 2015
OBJECT ORIENTED PROGRAMMING THROUGH C + +
(Com. to CSE, IT)

Time: 3 hours Max. Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B)**
2. Answer **ALL** the question in **Part-A**
3. Answer any **THREE** Questions from **Part-B**

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PART-A

1. a) What is a pointer? Write its syntax.
b) What are input and output streams.
c) What is type conversion?
d) What are objects? How are they created?
e) What is reference variable? What is its major use?
f) What are the steps involved in using a file in C++ program.
(3M+4M+4M+4M+4M+3M)

PART-B

2. a) Discuss the important features of OOPS. Explain the organization of data and Functions in OOP.
b) List a few domain application of OOP technology. (8M+8M)

3. a) Explain the four different types of storage classes.
b) Differentiate between user defined data types and derived data types. (8M+8M)

4. a) What is a class? Hoe does it accomplish data biding?
b) What is a friend function? What are the merits and demerits of using a friend function?
(7M+9M)

5. a) What is a constructor? Write the syntax of declaring the constructor?
b) What are the special characteristics of constructor function? (9M+7M)

6. Explain different forms of inheritance. Illustrate with an example each type with an example.
(16M)

7. a) Write a program to create files using constructor function.
b) What is a file mode? Describe the various file mode options available. (8M+8M)
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Time: 3 hours Max. Marks: 70

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2. Answer **ALL** the question in **Part-A**
3. Answer any **THREE** Questions from **Part-B**

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PART-A

1. a) Why do we need the preprocessor directive #include <iostream>
   b) What is a stream? Discuss
   c) Why does C++ have type modifiers?
   d) What are the advantages of using new operator as compared to the function alloc().
   e) How do we invoke a constructor function?
   f) What does polymorphism mean in C++ language? (3M+4M+4M+3M+4M+4M)

PART-B

2. a) What are the major advantages of object oriented programming paradigm?
   b) Describe briefly the features of I/O system supported by C++. (7M+9M)

3. a) List at least four new operators added by C++ which aid OOP and explain the application of the scope resolution operator:: in C++.
   b) What is reference variable? What is its major use? Explain with a example. (8M+8M)

4. a) Explain the data hiding in classes.
   b) Differentiate between a member function and a normal function. (8M+8M)

5. a) Differentiate between the parameterized constructor and constructor function.
   b) Illustrate the dynamic initialization of objects for long term fixed deposit system program. (6M+10M)

6. a) Differentiate between multilevel inheritance and multiple inheritance with an example.
   b) Differentiate between hierarchical inheritance and hybrid inheritance with an example (8M+8M)

7. a) Why it is necessary to include the file i/o stream in all our program. Write its Characteristics.
   b) write a program for Bubble Sort using Template Functions (8M+8M)
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Code No: RT21051 **R13** SET - 3

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Time: 3 hours Max. Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B)**
2. Answer **ALL** the question in **Part-A**
3. Answer any **THREE** Questions from **Part-B**

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PART-A

1. a) Why it is necessary to include the file I/O stream in all our programs.
b) Why is an array called a derived data type.
c) How to achieve function overloading.
d) What are the merits and demerits of using friend function?
e) How is polymorphism achieved at runtime?
f) Compare early binding and late binding. (3M+4M+4M+3M+4M+4M)

PART-B

2. a) Discuss about formatted console I/O and unformatted console I/O.
b) Discuss the advantages and functions of OOPS. (8M+8M)

3. a) Explain how a inline function differ from a preprocessor macro? Explain significant advantage of inline function.
b) When do we need to use default arguments in a function. What is the main advantage of passing arguments by reference? (8M+8M)

4. a) Write a program to illustrate the nesting of a number function.
b) What is a operator member function. Write the syntax of private member function. (8M+8M)

5. a) What is a destructor? Illustrate memory allocation to an object using destructor?
b) How to overload the binary operators. Explain. (8M+8M)

6. a) Write the syntax for defining a derived constructor.
b) Differentiate between derived constructor and base constructor. (8M+8M)

7. a) Explain the components of Standard Template Library(STL).
b) Write a function template for finding the minimum value contained in an array. (10M+6M)
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Code No: RT21051 **R13** SET - 4

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OBJECT ORIENTED PROGRAMMING THROUGH C + +
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Time: 3 hours Max. Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B)**
2. Answer **ALL** the question in **Part-A**
3. Answer any **THREE** Questions from **Part-B**

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PART-A

1. a) Compare class template and template class.
b) How is exception handled in C++.
c) What are the advantages of using exception handling mechanism in a program?
d) When do we use multiple catch handlers?
e) What should be placed inside a catch block?
f) What should be placed inside a try block? Give the syntax. (4M+3M+4M+4M+3M+4M)

PART-B

2. a) What are the different unformatted I/O operations? Explain.
b) Differentiate between dynamic binding and message passing. (8M+8M)

3. a) What is meant by function overloading? Why it is known as function polymorphism in OOP.
b) What is meant by function prototyping? Explain the importance of call by value. (8M+8M)

4. a) What is static data member? What are the important characteristics of the static member variable?
b) Differentiate between static data member and static member functions. (8M+8M)

5. a) List of the rules for overloading operators.
b) Write a program for data conversion using C++. (6M+10M)

6. a) What is a virtual base class? Why it is important to make a class virtual.
b) What is abstract class? When do we use the protected visibility specifiers to a class member? (8M+8M)

7. Write a main program that calls a deeply nested function containing an exception handling. Explain in detail what exceptions mechanism can be used to handle exception. Justify why other mechanism are not used. (16M)
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