Roll No. ..... **Total Pages : 03**

BT-4/M-20 **34123**

OBJECT ORIENTED PROGRAMMING USING C++

IT-206N

Time : Three Hours] [Maximum Marks : 75

Note: Attempt *Five* questions in all, selecting at least one question from each Unit.

Unit I

1. (a) What are preprocessor directives in C++ ? How can you create macros and conditional compilation ? Explain with suitable examples. **5**

(b) What is Polymorphism ? Distinguish between compile-time and run-time polymorphism.

(c) Differentiate among abstraction, encapsulation and information hiding. **5**

2. (a) How can you create cosntant object in C++ ? Explain with a suitable example. **5**

(b) What are static data members ? Explain their use. **5**

(c) What are Container Classes ? Explain. **5**

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Unit II

3. (a) Why do you overload operators ? Overload ">" operator using friend function to compare two objects of Date class. **8**

(b) Can you overload insertion and extraction operators ? If yes, overload them. **7**

4. (a) How can you convert object type into basic type ? Explain with an example. **9**

(b) What is inheritance ? Explain rules for private, public and protected inheritance. **6**

Unit III

5. (a) What is method overriding ? How is it different from method overloading ? Explain with examples. **5**

(b) What is virtual function ? Explain the rules to write a virtual function. **5**

(c) What is abstract class ? How is it implemented in C++ ? Explain with example. **5**

6. Explain the following in respect to handling files in C++ :

(a) Stream manipulators **5**

(b) File pointers **5**

(c) Creating sequential file. **5**

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Unit IV

7. (a) What is template class ? How can you inherit from a template class ? Explain with an example.

(b) What is template function? Write a template function to add two vectors. **7**

8. (a) How can you handle exceptions in constructors and destructor ? Explain with an example. **7**

(b) How can you restrict a function to handle exceptions ? Explain with an example. **8**

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