

Roll No.

Total Pages : 3

43141

BT-3/D-24

OBJECT ORIENTED PROGRAMMING

Paper-PC-CS-203A

Time : Three Hours]

[Maximum Marks : 75

Note : Students are required to attempt *five* questions in all, selecting at least *one* question each from Unit-I to Unit-IV. All questions carry equal marks.

UNIT-I

1. (a) Compare and contrast the structured programming and object oriented programming. Write about the libraries in C++ and how to add standard library in C++?
- (b) Explain the structure of C++ Program with an example and define abstraction, encapsulation with syntax. (8+7=15)
2. (a) Discuss the use of public, private and protected access specifiers and their visibility in the class.
- (b) How do you control access functions? Differentiate between Structures and class? Give an example. (8+7=15)

UNIT-II

3. What is dynamic memory allocation and deallocation? Write a C++ program ensuring that your program contains special member functions like constructors, copy constructors and Destructors to create and destroy objects? (15)
- 8.
4. (a) What is inheritance? How does it enable code reusability, explain with an example?
(b) Discuss the effect of constructors and destructors of base class in deriving classes. (8+7=15)

UNIT-III

5. (a) Write a program to define virtual, non-virtual functions and determine size of the object.
(b) Differentiate between static and dynamic binding. (8+7=15)
6. What is Operator overloading? Write a C++ program illustrating overloading NEW and DELETE operators? Give the operator in C++ which cannot be overloaded. Write any *four* rules for operator overloading. (15)

UNIT-IV

7. (a) Explain the role of seekg(), seekp(), tellg(), tellp(), function in the process of random access in a file.

- (b) Write a C++ program involving input/output using overloaded operators `<<` and `>>` and member functions of I/O stream classes. (8+7=15)

8. (a) Compare and contrast error and exception. Explain the following terms : Rethrowing Exception, Catching Exception, Exception Specification.
- (b) What are non-type template arguments? Explain the Standard Template Library and discuss its working.

(8+7=15)