

MCA/M09**6243****Object Oriented Programming Using C++****Paper : MCA-205**

Time : Three Hours]

[Maximum Marks : 80

Note :- Attempt **FIVE** questions in all, selecting exactly **ONE** from each of the units I, II, III and IV. Question 1 is compulsory.

1. (a) What is function prototype ? How are they defined ?
- (b) What are the advantages of reference variables in parameter passing ?
- (c) What is the purpose of the scope resolution operator ?
- (d) What is the lifetime and scope of a variable ?
- (e) Distinguish between a class and an object.
- (f) What are the characteristics of a constructor ?
- (g) What are the implications of public, protected and private visibility modes ?
- (h) What is a stream ? What is the purpose of a buffer ? 8×3

UNIT-I

2. (a) Distinguish between 'c' and 'c++'. 5
- (b) What are inline functions ? What are their advantages ? Give an appropriate example of inline function. 5
- (c) What is static storage class ? What are its characteristics ?

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3. (a) What are dynamic constructors ? Give example. 7
- (b) What are the characteristics of destructors ? 4
- (c) Explain array of pointers to an object through an example. 3

UNIT-II

4. (a) How are the pre-incrementer and post-incrementer taken care while declaring the operator overloading ? 4
- (b) Can operator precedence be changed through operator overloading ? 3
- (c) Explain the mechanism of unary operator overloading. 7
5. (a) Explain the overloading of operator '+' to add two complex numbers using a friend function. 10
- (b) Explain function overloading with an example. 4

UNIT-III

6. (a) Distinguish between single and multiple inheritance. 4
- (b) What are abstract classes ? What is their role in inheritance ? 3
- (c) Explain multiple inheritance with an appropriate example. 7
7. (a) What are virtual functions ? What are the rules for virtual functions ? 7
- (b) What are the advantages of declaring a virtual function in a program ? What are pure virtual functions ? Explain. 7

UNIT-IV

8. (a) What is the difference between an exception and an error ? Discuss the exception handling features of c++. 8
- (b) What are the advantages of templates ? Explain the function templates by using example. 6
9. (a) Define a stream. What are the three streams used for inputting, outputting and both for inputting and outputting ? 5
- (b) Distinguish between binary and text files. 3
- (c) Write a program in c++ to read a file and to (i) display the contents of the file on to the screen (ii) display the number of characters and (iii) number of lines in the file. 6