

June-2008

Roll No.

Subject Code—9688-X

M.C.A. (Third Year) EXAMINATION

(5 Years Integrated Course)

MCA-302

**OBJECT ORIENTED PROGRAMMING
USING C++**

Time : 3 Hours

Maximum Marks : 100

Note . Attempt any *Five* questions. All questions carry equal marks.

1. Describe the following : **5×4=20**

- (a) Abstraction
- (b) Polymorphism
- (c) Dynamic binding and message passing
- (d) Encapsulation and Information Hiding.

2. Explain the use of the following keywords with examples : 20

- (a) extern
- (b) break
- (c) default
- (d) inline
- (e) static
- (f) signed
- (g) typedef

3. (a) What are the user defined data type available in C++ ? 10

(b) In C language parameters are passed to functions by value only but C++ passes parameter by reference. Explain the above statement with the help of an example.

10

4. Describe function and operator's overloading. Give any example of function overloading and overload and operator to concatenate two strings. 20

5. (a) What are Constructors ? Write all the possible constructors for a 'string' class. Write a destructor for the above 'string' class. 10

(b) How is dynamic initialization of objects achieved ? 5

(c) Distinguish between the following :
time T2(T1)

time T2 = T1

T1 and T2 are objects of time class having hours and minutes as its data members. 5

6. Write short notes on the following : 20

- (a) Virtual functions
- (b) Abstract class
- (c) This pointer
- (d) Protected access modifier.

7. Write a program in C++ to create a binary search tree. Also write a member function to search for a given item in the binary search tree. 20

8. (a) Write a program to implement multiple inheritance. 10
- (b) Write any *four* functions which are available for handling files in C++. 10