Roll No. ....

Subject Code—2014

M.C.A. (Third Year) EXAMINATION

(Five Year Integrated Course)

OBJECT ORIENTED PROGRAMMING

USING C++

MCA-302

Time : 3 Hours   Maximum Marks : 100

Note : Attempt any *Five* questions:

1. (a) What does polymorphism in C++ ? How
         is polymorphism achieved at :   **10**
         (i)   Compile time
         (ii) Run time

    (b) What is data abstraction ? How is it
         implemented in C++ ?   **10**

2. (a) What does inheritance means in C++ ?
         What are the different forms of
         inheritance ? Give an example for each.
                                                15

(b) Compare inheritance and containership. How does it enable code reusability ? **5**

3. (a) Define a class of teacher. What will you define as private and public in that class ? **4**

(b) Differentiate between :
   (i) Class and Object
   (ii) Function overloading and function overriding
   (iii) Internal and external linkage of member function
   (iv) Static data member and static member function. **4×4=16**

4. (a) What is the 'this' pointer ? What is its advantages ? **5**

(b) How a static member differ from normal member of a class ? Give an example of the requirements of a static member in the following classes : **15**
   (i) Teacher
   (ii) Examiner

5. (a) What is friend function ? What are the merits and demerits of using friend function ? **10**

(b) What are constructors and deconstructors ? When are they called ? **5**

(c) Explain the term composition with suitable example. **5**

6. (a) What is converstion function ? How is it created ? Explain its syntax. **8**

(b) What is the need for template function in C++ ? What are their advantages ? What is difference between template function and template class ? **12**

7. (a) Differentiate between overload functions and function template. **5**

(b) Explain the process of open, close, read and write for files supported by C++ with example. **15**

8. (a) What will be the result of the following program argument ?

```
for (i = 0.25; i <> 1.0; i = i-0.25)
{
        cout.precision(5);
        cout.width(7):
        cout<<i;
        cout.width(10);
        cout<<i*i<<*\n*;
}
```
8

(b) Explain the process of exception handling mechanism in a C++. 12