## B.Sc. DEGREE (C.B.C.S.S.) EXAMINATION, OCTOBER 2014

### Third Semester

Vocational Course—Computer Science

### OBJECT ORIENTED PROGRAMMING WITH C⁺⁺

(For B.Sc. Mathematics Model II)

[2013 Admissions]

Time : Three Hours                                          Maximum : 80 Marks

### Part A

*Answer* **all** *questions.*
*Each question carries 1 mark.*

1. Object oriented approach cannot be used to create databases. Write True *or* False.

2. What is data abstraction ?

3. How is a member function of a class defined ?

4. What is a conversion function ?

5. What does inheritance mean in C++ ?

6. A pointer to a base class cannot be made to point to objects of derived class. Write True *or* False.

7. What is a virtual function ?

8. What does the "current position" mean when applied to files ?

9. What is a template function ?

10. Find the error in the statement in file.open (argc) ;

$(10 \times 1 = 10)$

### Part B

*Answer* **eight** *questions from this part.*
*Each question carries 2 marks.*

11. What is object oriented programming. How is it different from procedure oriented programming ?

12. Define dynamic binding.

13. Distinguish between objects and classes.

14. Find errors if any in the following C++ statement. Cout << "X = " X ;

15. How does a main ( ) function in C++ differ from main ( ) in C.

**Turn over**

16. What are objects ? How are they created ?

17. When do we make a class virtual ?

18. In what order are the class constructors called when a derived class object is created ?

19. What does polymorphism mean in C++ language C ?

20. What are input and output streams ?

21. Write the general formal of a function template.

22. What is the difference between ios :: ate and ios :: app.

$(8 \times 2 = 16)$

## Part C

*Answer any* **six** *questions.*
*Each question carries 4 marks.*

23. What are the unique advantages of an object oriented paradigm ?

24. How are data and functions organized in an object oriented programming ?

25. Write a program to read two numbers from the keyboard and display the largest value on the screen.

26. What are the advantages of function prototypes in C++ ?

27. What is a friend function ? What are the merits and demerits of using friend functions ?

28. Describe the syntax of the single inheritance in C++.

29. When do we make a virtual function pure ? What are the implications of making a function pure virtual function ?

30. What are the steps involved in using a file in a C++ programe ?

31. What is exception handling and show how is it implemented in C++ ?

$(6 \times 4 = 24)$

## Part D

*Answer any* **two** *questions.*
*Each question carries 15 marks.*

32. (a) Write a macro that obtains the largest of three numbers using inline function.

    (b) Describe the mechanism of accessing data members and member functions in the following cases :—

        (i) Inside the main program.

        (ii) Inside a member function of the same class.

33. Create a class MAT of size m × n. Define all possible matrix operations for MAT type objects.

34. (a) Describe the syntax of multiple inheritance. When do we use such an inheritance ?

    (b) Describe how an object of a class that contains objects of other classes are created.

35. (a) Describe how would you determine number of objects in a file. When do you need such information.

    (b) Write a program that reads a text file and creates another file that is identical except that every sequence of consecutive blank spaces is replaced by a single space.

                                                              $(2 \times 15 = 30)$