E 3876 (Pages : 2) Reg. No.....

Name.....

B.Sc. DEGREE (C.B.C.S.S.) EXAMINATION, OCTOBER 2016

Third Semester

Vocational Course—Computer Science

OBJECT ORIENTED PROGRAMMING WITH C++

(For B.Sc. Mathematics—Model–II)

[2013 Admission onwards]

Time : Three Hours Maximum : 80 Marks

Part A

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

1. Every C++ statement ends with a ———.
2. The wrapping up of data and functions into a single unit is called ———.
3. What you mean by the extraction operator ?
4. What are the contents of the header file <math.h> ?
5. How is a member fucntion of a class defined ?
6. The keyword ——— is used to overload an operator.
7. What is a template function ?
8. Give an example of an operator, which cannot be overloaded.
9. Template class is also called as ———.
10. A pointer to ——— can hold pointers to any data type.

(10 × 1 = 10)

Part B

Answer any **eight** *questions.*
Each question carries 2 *marks.*

11. What are the unique advantages of an OOP paradigm ?
12. Define dynamic binding.
13. Find errors, if any, in the following C++ statement, cin >> x; >>y ;
14. Why do we need the preprocessor directive #include < iostream> ?
15. When will you make a function inline ? Why ?
16. What do you meant by overloading of a function ? When do we use this concept ?
17. What is a friend function ?
18. Write the general form of a function template.

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19. What is the use of seekg() function ?
20. What is a container ?
21. What are the advantages of saving data in binary form ?
22. Explain under what circumstances the throw statement would be used.

(8 × 2 = 16)

Part C

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

23. Distinguish between objects and classes.
24. How are data and functions organized in an object-oriented program ?
25. Describe the major part of a C++ program.
26. Write a program to read the values a, b and c and display the value of x, where $x = a/b - c$.
    Also test your program for $a = 250$, $b = 85$ and $c = 25$.
27. Write a function to read a matrix of size $m \times n$ from the keyboard.
28. What are the advantages of saving data in binary form ?
29. Describe the various approaches by which we can detect the end-of-file condition successfully.
30. Explain command line argument with an example.
31. What are the steps involved in using a file in C++ program ?

(6 × 4 = 24)

Part D

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

32. Describe the mechanism of accessing data members and member functions in the following cases with suitable example programs :
    (a) Inside the main program.
    (b) Inside a member function of the same class.
    (c) Inside a member function of another class.
33. (a) The effect of a default argument can be alternatively achieved by overloading. Discuss with example.
    (b) Write a macro that obtains the largest of three numbers.
34. (a) 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.
    (b) Describe how an object of a class that contains objects of other classes are created.
35. Explain in detail about different types of inheritance.

(2 × 15 = 30)