

**B.Sc. DEGREE (C.B.C.S.S.) EXAMINATION, OCTOBER 2016****Third Semester****Vocational Course- C++ PROGRAMMING**

(For the Vocational Subject : Computer Application of Model II Physics)

[2013 Admission onwards]

Time : Three Hours

Maximum : 60 Marks

**Part A (Short Answer Questions)***Answer all questions briefly.**Each question carries 1 mark.*

1. The operator ——— is used to send output data to the screen.
2. A class that can be derived from more than one base class is ——— type inheritance.
3. If a function does not return a result, its return type becomes as ———.
4. A ——— can be used to create objects of its own type.
5. The ——— loop is very compact loop that combines all the three aspects of a control structure in a single statement.
6. The static member functions are the functions that can access only the ——— members.
7. The header file ——— should be included at the beginning of all programs that use input/output statements.
8. The newline operator in C++ is ———.

(8 × 1 = 8)

**Part B (Brief Answer Questions)***Answer any six questions.**Each question carries 2 marks.*

9. What is the difference between single inheritance and multiple inheritance ?
10. Explain the syntax of binary operator overloading.
11. How do we invoke a constructor function ?
12. What is function overloading ?
13. What does "this" pointer point to ?
14. Why it is necessary to overload an operator ?
15. What is an array ? What are the needs for array ?

**Turn over**

16. What is the role of `#include <graphics.h>` preprocessor ?
17. Explain the use of pure virtual functions.
18. Why constructors are needed in a class definition ?

(6 × 2 = 12)

### Part C (Short Essays)

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

19. Explain constructors and default arguments.
20. With an example, explain how will you use multiple inheritance.
21. Explain the different types of visibility modes used in C++.
22. Write a circle drawing algorithm.
23. Implement an overloaded multiplication operator to return the factorial of a number.
24. Show the use of a friend class alongwith declaration.

(4 × 4 = 16)

### Part D (Long Essays)

*Answer any two questions.  
Each question carries 12 marks.*

25. What are friend functions and friend classes ? Write a normal function to add objects of the complex number class. Declare this normal function as a friend of "complex" class.
26. Write an example program in C++ to illustrate the use of an array of objects.
27. Simulate a sample 3-level inheritance program using an abstract class for data control. Use any environment of your choice and C++ language.
28. Create a class "FLOAT" that contains one float data member. Overload all the four arithmetic operators so that they operate on the objects of "FLOAT"

(2 × 12 = 24)