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Name: .....

Reg. No: .....

**FIFTH Semester B.Sc (Computer Science) (HI) Degree Examination,  
December 2019**

**502 – OBJECT ORIENTED PROGRAMMING USING C++  
[2013 Scheme]**

Maximum Marks: 75

Time: 3 Hrs

**UNIT I**

**I. Choose the correct answer 10 x 1 = 10 marks**

1. The header file that is used for input/output operations in C++ is \_\_\_\_\_.  
a) iostream.h                      b) string.h                      c) conio.h                      d) iomanip.h
2. An integer data type takes \_\_\_\_\_ bytes.  
a) 2                                      b) 4                                      c) 1                                      d) 8
3. The keyword used to exit from a loop in C++ is  
a) Continue                      b) Jump                                      c) Exit                                      d) Break
4. Classes can have  
a) only functions                                      b) only variables  
c) only objects                                      d) both variables and functions
5. The total no. of elements in the array - float A[4][5] is  
a) 4                                      b) 9                                      c) 19                                      d) 20
6. The variables in a class that can be accessed from anywhere in the program are called \_\_\_\_\_ variables.  
a) Private                                      b) Protected                                      c) Public                                      d) Static
7. The members in class are \_\_\_\_\_ by default  
a) Private                                      b) Protected                                      c) Public                                      d) global
8. A constructor and destructor will have  
a) the name of the object                                      b) the name of the class  
c) the name of the inherited class                                      d) will have different names
9. Which of the following is a valid arithmetic operator in C++?  
(i) //                                      (ii) ?                                      (iii) <                                      (iv) %

**P.T.O**

10. Method overloading is an example of \_\_\_\_\_  
 a) Encapsulation      b) Inheritance      c) Polymorphism      d) Protection

**II. Fill up the blanks. 5 x 1 = 5 marks**

11. \_\_\_\_\_ is the built-in library function to compare two strings.  
 12. OOP stands for \_\_\_\_\_  
 13. \_\_\_\_\_ is a variable which holds the address of another variable.  
 14. A function that does not return anything has a return type \_\_\_\_\_  
 15. \_\_\_\_\_ is known as an instance of a class.

**III. State whether True or False. 5 x 1 = 5 marks**

16. A C++ class is a user defined variable type.  
 17. In C++, a variable can be declared anywhere in the program  
 18. Private members of base class can be inherited in derived class.  
 19. The major goal of Inheritance is reusability of code.  
 20. Unary operators can be overloaded.

## UNIT II

**IV. Answer all questions. 8 x 1 = 8 marks**

21. Name the access specifiers in C++.  
 22. Which are the logical operators in C++?  
 23. Write statements to declare  
         i) a string array of size 15      ii) a 4 x 2 matrix  
 24. Name the header files for the following library functions  
         i) strlen()      ii) setw()  
 25. Choose the valid C++ identifiers from the following:  
         (i) \$reg      (ii) c1      (iii) \_34Name      (iv) Emp-name  
         (v) class      (vi) else5.  
 26. If `int s[10] = {1, 2, 3, 5, 7, 9, 13, 16}` what will be the values of x and y?  
         `x=pow (s[4], s[1]);`  
         `y=sqrt (s[5] + s[7]);`

27. Differentiate between '<<' and '>>' operators in C++.
28. What is a void function?

**V. Give the syntax for the following with example. 4 x 2= 8 marks**

29. Do-while
30. for loop
31. If-else
32. Class definition

**VI. Give the difference between the following terms. 5 x 2 = 10 marks**

33. Object and classes
34. Data abstraction and data encapsulation
35. Inheritance and Friend class
36. Variable array and Object array
37. Arithmetic Operators and Relational operators

### UNIT III

**VII. Answer any 5 questions. 5 x 2 = 10 marks**

38. What is a constructor? Write the difference between default constructor and parametrized constructor.
39. What is a data type? Which are the data types used in C++?
40. What is function overloading? Write a program to find area of square and rectangle using function overloading.
41. Give the differences between C and C++.
42. Write a C++ program to swap two numbers using pointers
43. Give the output for the following code

```
class employee
{
    public:
    employee()
    {
        cout<<"Welcome\n";
    }
};
void main()
{
    employee E1,E2,E3;
}
```

44. Write the output for following code

```
#include <iostream.h>
void main()
{
    int a[4], i;
    for (i = 0; i < 4; i++)
        a[i] = 5 * i;
    for (i = 0; i < 4; i++)
        cout << a[i];
}
```

### VIII.

45. What is OOPs? Explain about the important features of OOPs. **4 marks**

### UNIT IV

- IX. Answer any ONE full question from the following. 15 marks**

46. Create a class named Product with ProductId and ProductName as its member data. Use member functions – accept() and print(). Use object array for 5 products. [7 marks]
47. Write a C++ program to define class "Circle" and do the following  
 (i) a constructor to initialize radius  
 (ii) a member function to find area of circle  
 (iii) a member function to find perimeter of circle  
 iv) a destructor [8 marks]

### OR

48. Write a C++ program to find the sum of two matrices. [7 marks]
49. Write a C++ program to create a class 'Boys', with member arrays to accept the name and age of 10 boys. Define a method – display() to output the name and age of the youngest boy. [8 marks]