



K16U 1199

Reg. No. : .....

Name : .....

**II Semester B.C.A. Degree (CCSS – Reg./Supple./Improv.)**  
**Examination, May 2016**  
**Core Course**  
**2B03BCA : OBJECT ORIENTED PROGRAMMING USING C++**  
**(2014 Adm. Onwards)**

Time : 3 Hours

Max. Marks : 40

SECTION – A

1. **One** word answer :

- a) Objected Oriented Programming allows decomposition of a problem into a number of entities called \_\_\_\_\_.
- b) In C++, \_\_\_\_\_ permit us to pass parameters to the functions by reference.
- c) In C++, the concept of \_\_\_\_\_ provides a facility to assign values to function parameters when the function is declared.
- d) A function which is not in the scope of the class, but it has full access to the private data members of the class is known as \_\_\_\_\_.
- e) In C++, the class variables are known as \_\_\_\_\_.
- f) In C++, endl and setw are known as \_\_\_\_\_ and are used to format the data display.
- g) A constructor that accepts no parameters is called the \_\_\_\_\_ constructor.
- h) \_\_\_\_\_ header file provides specification of manipulator functions to manipulate output formats.

**(8×½ = 4 Marks)**

P.T.O.



## SECTION – B

Write short notes on **any seven** of the following questions.

2. What do you mean by Data Abstraction and Encapsulation ?
3. Explain about the insertion and extraction operators available in C++.
4. How dynamic initialization of objects is achieved in C++ ?
5. Distinguish between constructors and destructors.
6. What is a virtual function ?
7. List out any two applications of this pointer.
8. Distinguish between input stream and output stream.
9. Differentiate between public and protected visibility of data members.
10. Explain the significance of various flags supported by ios class.
11. What is a stream ? Name the streams generally used for file I/O. (7×2 =14)

## SECTION – C

Answer **any four** of the following questions.

12. Write a program in C++, using friend functions, to add two complex numbers.
13. Explain about the type conversion from one derived type to another derived type.
14. Differentiate between compile time polymorphism and run time polymorphism. Explain the role of virtual functions in implementing run time polymorphism.
15. Differentiate between constant pointer and pointer to a constant.
16. Write a C++ program to add to matrices using operator overloading.
17. Write a C++ program to count the words 'this' and 'these' present in a text file "THESIS.TXT". (4×3 =12)



## SECTION – D

Write an essay on **any two** of the following questions.

18. Create a virtual base class **Student** that stores rollno with member function getnumber() and putnumber(). From this derive a class **Test** with data members mark 1 and mark 2 and member functions getmarks() and putmarks(). Create a class **Sports** that stores Sports marks. From **Test** and **Sports** classes derive the class **Result** that stores total mark. Write a program to test the class.
19. Explain the use of copy constructor and dynamic constructors with the help of examples.
20. Write a C++ program to find  $n^p$ . Use an overloaded function power() having two versions. The first version takes **double n** and **int p** and returns a **double** value. Another version takes **int n** and **int p** returning **int** value. Use a default value of **2** for **p** in case **p** is omitted in the function call.
21. Write short notes on :
  - a) Type conversion from basic to class type.
  - b) Static member functions.

(2×5 =10)

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