

Total No. of Questions : 5]

SEAT No. :

P2136

[Total No. of Pages : 3

[5803]-402

S.Y. B.B.A.(Computer Application)

**CA - 402 : OBJECT ORIENTED CONCEPTS THROUGH CPP
(2019 Pattern) (Semester - IV)**

Time : 2½ Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) *All questions are compulsory.*
- 2) *Figures to the right indicate full marks.*

Q1) Attempt any EIGHT of the following. (Out of Ten) [8 × 2 = 16]

- a) What is extraction and insertion operator?
- b) Explain any two manipulators.
- c) Define constructor.
- d) What is inline function.
- e) What is reference variable? What is its major use.
- f) What is Abstraction and Encapsulation.
- g) What is compile - Time polymorphism.
- h) What is default argument.
- i) What is the use of scope resolution operator.
- j) What are the access specifiers used in C++.

Q2) Attempt any four of the following. (Out of Five) [4 × 4 = 16]

- a) Explain memory management operators with the help of suitable example.
- b) Explain memory allocation for objects with non-static data member and static data member.
- c) When do we make a class virtual base class? Explain it with suitable example.
- d) Explain array of object in C++ with example.
- e) Explain any four formatted input/output functions.

P.T.O.

Q3) Attempt any Four of the following. (Out of Five) **[4 × 4 = 16]**

- a) Write a C++ program to create a class which contains two data members. Write member functions to accept, display and swap two entered numbers using call by reference.
- b) Write a C++ program to create a class Book which contains data members as B-Id, B-Name, B-Author, B- publication. Write member functions to accept and display Book information also display count of books. (Use static data member to maintain count of books)
- c) Write a C++ program to calculate square and cube of integer number by using inline function.
- d) Design C++ class which contains function display(). Write a program to count number of times display() is called. (use static data member).
- e) Write a C++ program to read contents of a text file and count number of characters. Words and lines in a file.

Q4) Attempt any four of the following : (out of Five) **[4 × 4 = 16]**

- a) Can we pass class object as function arguments? Explain with the help of an example.
- b) Explain various stream classes used to perform console input/output (I/o) operations.
- c) What is class Template? Explain syntax of class template with suitable example.
- d) Write a program to perform addition of two matrices using operator overloading.
- e) Trace the output of the following program and explain it. Assume there is no syntax error.

```
#include <iostream.h>
Class abc
{
    int i;
    public :
    abc (int v = 0)
```

```
{
    Cout <<"In the constructor\n";
    i = v;
}
Void print (Void)
{
    Cout <<"The value of i is " <<<endl;
}
};
Void main ()
{
    abc a (10);
    abc b ;
    a. print ();
    b. print ();
}
```

Q5) Write a short note on any two of the following : (Out of three) [2 × 3 = 6]

- a) Exception Handling
- b) Operator overloading
- c) Pointer to object with example.

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