



HCV-003-1033002

Seat No. \_\_\_\_\_

**B. C. A. (Sem. III) (CBCS) Examination**

October / November – 2017

**CS-14 : C++ & Object Oriented Programming**  
(New Course)

**Faculty Code : 003**

**Subject Code : 1033002**

Time :  $2\frac{1}{2}$  Hours]

[Total Marks : 70

- 1 (a) Answer the following short questions : 4
- (1) C++ language was developed by \_\_\_\_\_.
  - (2) Define the term Data Encapsulation.
  - (3) ADT stands for \_\_\_\_\_
  - (4) Define the term Data Abstraction.
- (b) Answer any 1 of the following questions : 2
- (1) What is reference variable? Explain with example.
  - (2) What is inline function? Explain with example.
- (c) Answer any 1 of the following questions : 3
- (1) Explain scope resolution operator with suitable example.
  - (2) Differentiate: OOP vs POP.
- (d) Answer any 1 of the following questions : 5
- (1) List out operators available in C++. Explain memory management operators with syntax and example.
  - (2) Explain function overloading with suitable example.
- 2 (a) Answer the following short questions : 4
- (1) A friend function can declare in public section only. True or False?
  - (2) Write down the characteristics of static data member in C++.
  - (3) What is destructor? How many arguments destructor has?
  - (4) Write down the syntax of member function defined outside the class.
- (b) Answer any 1 of the following questions : 2
- (1) Explain constant member function with example.
  - (2) Write down the characteristics of constructor.

- (c) Answer any 1 of the following questions : 3
- (1) Explain dynamic initialization of object using constructor with example.
  - (2) Explain array of object with example.
- (d) Answer any 1 of the following questions : 5
- (1) What are the types of constructor? Write a program to demonstrate multiple constructor in class (Use default, parameterized and copy constructor).
  - (2) What is friend function? Explain with proper syntax and example.

- 3 (a) Answer the following short questions : 4
- (1) How protected keyword is useful?
  - (2) When one class is derived from two or more class is called \_\_\_\_\_ inheritance.
  - (3) Which method is used to convert class type to basic conversion?
  - (4) What will be the output of the following program?

```
#include<iostream.h>
class base
{
    public:
    void show()
    {
        cout<<" I am base class";
    }
};
class derived : public base
{
    public:
    void show()
    {
        cout<<" I am derived class";
    }
};
int main()
{
    base*bptr;
    bptr = new derived;
    bptr->show();
    return 0;
}
```

- (b) Answer any 1 of the following questions : 2
- (1) Compare different methods of type conversion.
  - (2) Explain single-level inheritance in brief.
- (c) Answer any 1 of the following questions : 3
- (1) List out the rules of operator overloading.
  - (2) Explain hybrid inheritance with suitable example.
- (d) Answer any 1 of the following questions : 5
- (1) Write a program to overload binary operator + to perform the following operation  
Object4 = Object1\*Object2 + Object3
  - (2) What is inheritance? Explain virtual base class with suitable figure and example.
- 4 (a) Answer the following short questions : 4
- (1) What is the difference between get() and getline() function?
  - (2) A pure virtual function can never have a body. True or False?
  - (3) RTTI stands for \_\_\_\_\_
  - (4) What are the C++ stream classes?
- (b) Answer any 1 of the following questions : 2
- (1) What is this pointer? Explain in brief.
  - (2) Write down the rules for virtual function.
- (c) Answer any 1 of the following questions : 3
- (1) Write a short note on Unformatted I/O operations.
  - (2) Explain pointer to derived class with suitable example.
- (d) Answer any 1 of the following questions : 5
- (1) Write a short note on Formatted I/O operations with example.
  - (2) What is virtual and pure virtual function? Explain with suitable example.

- 5 (a) Answer the following short questions : 4
- (1) Which classes are used to create input stream and output stream of file in C++?
  - (2) What is exception handling?
  - (3) A template function cannot be overloaded. True or False?
  - (4) To achieve Exception handling which keywords are used?
- (b) Answer any 1 of the following questions : 2
- (1) What are the file modes available in file program?
  - (2) What is STL? Explain in brief
- (c) Answer any 1 of the following questions : 3
- (1) Write a short note on file pointers in C++.
  - (2) Explain function templates with suitable example.
- (d) Answer any 1 of the following questions : 5
- (1) Write a short note on exception handling.
  - (2) Write a short note on class templates in C++.