

**Credit Based Second Semester B.C.A. Degree
Examination, April/May 2018
(Common to All Batches)
OBJECT ORIENTED PROGRAMMING USING C++**

Time : 3 Hours

Max. Marks : 80

Note : Answer any ten questions from Part – A and one full question from each Unit of Part – B.

PART – A

1. a) Define the terms i) Data Abstraction ii) Data Hiding. (2×10=20)
- b) What is inline function ? How is it defined ?
- c) Give syntax and usage of setw and endl manipulators.
- d) What is function prototype ? Give example.
- e) How do you define member function outside the class ? Give example.
- f) List the operators that cannot be overloaded by friend function.
- g) What is pointer to the constant ? How it is defined ?
- h) Differentiate function overriding and function overloading.
- i) What is pure virtual function ? How it is defined ?
- j) What is container class ? Give example.
- k) What is the use of new and delete operators ?
- l) Differentiate early and late bindings.

PART – B**Unit – I**

2. a) Explain the different types of if statements with syntax and example.
- b) Explain the structure of C++ program.
- c) How can the concept of reference variable be used in function call ?
Explain. (5+5+5)
3. a) Explain applications and advantages of OOP.
- b) Explain do.. while loop with syntax and example.
- c) Write a note on different types of expressions. (5+5+5)

**Unit – II**

4. a) Explain functions with default arguments with example.
b) What is class ? How it is defined ? Explain with example.
c) Explain how objects are passed as argument to the function with an example. (5+5+5)
5. a) What is friend function ? What are the advantages and disadvantages of using friend function ?
b) With proper example, explain how to pass and return an object to/from a function.
c) Explain static data members with examples. (5+5+5)

Unit – III

6. a) Explain how multiple constructors are defined in a class with example.
b) How do you overload a binary operator using member function ? Explain with example.
c) Define class string. Using overloaded operator== check whether two strings are equal or not. (5+5+5)
7. a) Explain copy constructor with code.
b) Explain various rules for overloading unary and binary operators using member functions and friend functions.
c) Write program to create a class time with data members-hours, minutes and seconds and function members to increment and decrement time by second. (5+5+5)

Unit – IV

8. a) Explain single inheritance with example.
b) Write a note on constructors in derived class.
c) Explain private and protected inheritance with example. (5+5+5)
9. a) Explain multiple inheritance with an example.
b) Explain how runtime polymorphism is achieved using virtual functions with an example.
c) What is **this** pointer ? Explain its use with example. (5+6+4)