

This question paper contains 4+1 printed pages]

BCA-301

B.C.A. III Year EXAMINATION, 2018

Paper I

(Object Oriented Programming Using C++)

Time allowed : Three Hours

Maximum Marks : 100

Part A [Marks : 20]

Answer all questions (50 words each).

All questions carry equal marks.

Part B [Marks : 50]

Answer five questions in all (250 words each),

*selecting **one** question from each Unit.*

All questions carry equal marks.

Part C [Marks : 30]

Answer any two questions (300 words each).

All questions carry equal marks.

Part A

Unit I

1. (a) What is data encapsulation ?
- (b) What is the difference between class and structure ?

P.T.O.

Unit II

- (c) What is the use of default construction ?
- (d) Write importance of this pointer.

Unit III

- (e) What are pure virtual functions ?
- (f) Differentiate between static and dynamic binding.

Unit IV

- (g) What are templates ?
- (h) Define exception objects.

Unit V

- (i) Differentiate between sequential and random file processing.
- (j) What do you mean by iterator ?

Part B

Unit I

2. Describe various principles of Object-Oriented Programming.
3. Write a C++ program to sort the given number in ascending order.

Unit II

4. Explain the copy constructor with illustrative example.
5. What is operator overloading ? Explain various rules for overloading operators.

Unit III

6. Define the following terms related to OO paradigm :
 - (a) Polymorphism
 - (b) Virtual function.
7. What is the difference between multiple and multilevel inheritance ? How derived class access the members of the base class ?

Unit IV

8. Illustrate exception handling with suitable example.
9. Write a C++ program to illustrate various stack operations using templates.

Unit V

10. Discuss various components of STL with their pros and cons.

11. Create a new file to store and retrieve the students marks details using file I/O classes.

Part C

Unit I

12. (a) Compare structure and OO programming paradigm.
- (b) What are the various elements of object-oriented programming ?

Unit II

13. (a) What do you mean by access specifier ? How are they used in the content of class ?
- (b) What is function overloading ? Write a C++ program using function overloading to perform :
- (i) Addition of 2 int nos.
- (ii) Addition of 2 real nos.
- (iii) Addition of 2 strings.

Unit III

14. (a) What are the various types of access specifier of base class ? Explain their usage with an example for each.

- (b) When are base class and derived class constructors called ? Explain.

Unit IV

15. (a) What are the benefits of exception handling ?
(b) Write a specification of exceptions that are thrown implicitly.

Unit V

16. What are the containers ? Explain applications of container classes.

