

Unit-IV

8. (a) What is Queue Data Structure ? How is it represented ? What are its applications ? Explain.
- (b) What is Circular Linked List ? How do insertion and deletion of nodes take place in circular linked list ? Explain.
9. Explain the following :
- (a) Stack data structure and its implementation
- (b) Linked list and its use to represent polynomial

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Roll No. :

Total No. of Questions : 9] [Total No. of Pages : 4

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MCA (Bridge Course) 1st Semester (Regular)

Examination, March-2022

(MCA 2 Year Programme)

(w.e.f. 2020-21)

Paper-20BCCH1C2

C++ AND DATA STRUCTURES

Time : Three Hours] [Maximum Marks : 80

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note :- Attempt five questions in all, selecting one question from each Unit. Q. No. 1 is compulsory. All questions carry equal marks.

1. (a) What do you mean by re-throwing an exception ?
- (b) What are friend functions in C++ ?
- (c) What are Destructors ?

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- (d) What is Binary Search ?
- (e) What is Radix sort ?
- (f) What is function overriding ?
- (g) Differentiate between publicly derived and privacy derived inheritance.
- (h) What is top-down approach ?

Unit-I

- 2. (a) What are private member functions ? How are these different public and protected member functions ? Illustrate.
- (b) What is object-oriented programming ? What are its main characteristics ? Illustrate.
- (c) What are Constructors ? Explain why do we need to use constructors ?

3. Explain the following :

- (a) Dynamic Binding
- (b) Constructors

Unit-II

- 4. (a) What are Virtual Functions ? Why do we need virtual functions ? Illustrate through suitable examples.

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- (b) What are Exceptions ? How are exceptions handled in C++ ? Illustrate through example.
- (c) What is Operator Overloading ? Illustrate operator overloading concept to concatenate strings.

5. Explain the following :

- (a) Inheritance types in C++
- (b) Method overloading

Unit-III

- 6. (a) What is Data Structure ? How do you classify structure ? Discuss the importance of these data structure in computer science.

- (b) What is complexity of algorithms ? How do you compare complexity of algorithms ? Illustrate.

7. Explain the following :

- (a) Insertion sort algorithm
- (b) Hashing techniques

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