

2111000103040002
BCA (Sem-III)
EXAMINATION JULY-2023
Oops And Data Structures

Seat No:

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[Time: Three Hours]

[Max. marks: 70]

Student's Signature

Q.1 Answer the following question in short. (Any Seven)

[14]

1. Differentiate between structure and class.
2. How scope resolution operator used in different ways in object oriented programming?
3. When to make function as inline?
4. Explain the significance of 'this' pointer.
5. How the constructor is called in multilevel inheritance? Explain it with example.
6. List out the operators where friend cannot be used.
7. What is stack? Explain significance of TOP pointer in stack.
8. Explain difference between simple queue and circular queue.
9. What is recursion? Give example of it.
10. Convert Infix to Postfix: $A * (B - C * D) + E / F$.

Q.2 Answer the following question. (Any Two)

[14]

1. What are constructor and destructor? Explain copy and parameterized constructor with an example.
2. Write a note on different access modifiers in C++.
3. What is Object Oriented Programming? Write the difference between OOP and POP.

Q.3 Answer the following question. (Any Two)

[14]

1. Explain Run time polymorphism with an example.
2. Differentiate between overloading and overriding.

3. Explain Tower of Hanoi as application of stack.

Q.4 Answer the following question. (Any Two)

[14]

1. Explain Inheritance and its types in detail.
2. Write algorithm to insert elements in and delete elements from stack using proper illustration.
3. What is Queue? Explain different types of queue in detailed.

Q.5 Answer the following question. (Any Two)

[14]

1. Write an algorithm to covert infix expression into prefix expression.
2. Design two classes that support following type conversions: Rupee R; Dollar D; D= R; Converts Rupee to dollar. Write a program to carry out this conversion.
3. Write a program to add two time objects using operator overloading.