Reg. No ..... Name **23U221**

B C A DEGREE END SEMESTER EXAMINATION : MARCH 2023

SEMESTER 2 : MOBILE APPLICATIONS AND CLOUD TECHNOLOGY

COURSE : **19U2CRBCA5: OOPS WITH C++**

(For Regular - 2022 Admission and Improvement / Supplementary – 2021/2020/2019 Admissions)

Time : Three Hours Max. Marks: 75

PART A

Answer All (1 mark each)

1. What do you mean by dynamic constructor?
2. Define class template?
3. Distinguish between local and global class?
4. What is the difference between character constants and string literals in terms of size? What is the significance of a null character('\0') in a string?
5. List any four operator that cannot be overloaded?
6. What do you mean by NULL pointer?
7. What is the most important advantage of inheritance?
8. What is a pointers? What is its significance?
9. Differentiate between Class and Object?
10. Name the two member functions of ofstream class?

(1 x 10 = 10)

PART B

Answer any 8 (2 marks each)

11. Define the following functions: a) seekp() b)seekg() c) tellp() d) tellg()
12. Define this pointer?
13. Class Y has been derived from Class X. The class Y does not contain any data members of its own. Does the class Y require constructors? If Yes, Why?
14. In what way, aside from being functions, are class function members different from class data members?
15. Discuss the two methods of opening a file withing a C++ program. When is one method preferred over the other?
16. Define operator? Give examples of different arithmetic operators in C++?
17. What are the rules of operator overloading?
18. What are keywords? Can keywords be used as identifiers?
19. How does C++ organizes memory when a program is run?
20. How are public members of a class different from private members of a class?

(2 x 8 = 16)

PART C

Answer any 5 (5 marks each)

21. Illustrate how a pointer can be returned from a function?
22. Explain the manipulation of string using overloaded operators with an example program?

23. Explain the concept of dynamic initialization of objects?
24. Explain the looping constructs in C++ with examples?
25. Write a C++ program to implement Array of Pointers?
26. Explain about the exception handling mechanism in c++?
27. Explain the importance of abstract classes? Give examples?

(5 x 5 = 25)

PART D

Answer any 2 (12 marks each)

28. Describe briefly with a figure, the class hierarchy provided by C++ for stream handling?
29. Explain the basic concepts of OOP with example?
30. Define a class to represent a book in a library. Include the following members:
    Data Members: Book Number, Author, Publisher,Price,No: of copies, No: of copies issued
    Member function: to assign initial values, to issue a book after checking its availability, to return a book, to display book information.
31. Define friend function? What are the characteristics of friend function? Explain with an example program?

(12 x 2 = 24)