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(FOR THE CANDIDATES ADMITTED DURING THE ACADEMIC YEAR 2023 ONLY) **23UCS204**

REG.NO. :

N.G.M.COLLEGE (AUTONOMOUS): POLLACHI

END-OF-SEMESTER EXAMINATIONS: MAY 2024

B.Sc COMPUTER SCIENCE (AIDED & SF) **MAXIMUM MARKS: 75**

SEMESTER : II **TIME : 3 HOURS**

PART - III

23UCS204 – DATA STRUCTURES USING C++

SECTION – A (10 X 1 = 10 MARKS)

ANSWER THE FOLLOWING QUESTIONS. (K1)

1. ___ is not the operation that can be performed on queue.

a) Insertion b) Deletion c) Traversal d) Retrieval

2. B – tree of order n is a order –n multiway tree in which each non root node contains ___

a) At most (n-1)/2keys b) Exact (n-1)/2keys c) At least 2n keys d) At least (n-1)/2 keys

3. Who invented C++?

a) Dennis Ritchie b) Ken Thompson c) Brian Kernighan d) Bjarne Stroustrup

4. Which category of data type a class belongs to?

a) Fundamental b) Derived c) User defined derived d) Atomic

5. Which is the correct example of a binary operator?

a) ++ b) -- c) (*) d) +

ANSWER THE FOLLOWING IN ONE (OR) TWO SENTENCES (K2)

6. What is an array?

7. Define the term terminology.

8. What is OOP.

9. What is class?

10. How does constructor work?

SECTION – B (5 X 5 = 25 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS. (K3)

11. a) Explain the representation of an array.

(OR)

b) Summarize single linked list.

12. a) Expalin Binary tree representation.

(OR)

b) Explain heap sort.

(CONT….2)

13. a) Illustrate Benefits of OOP's.

(OR)

b) Write a C++ program to find sum of the digit of number.

14. a) Explain call by reference.

(OR)

b) Explain defining a member function.

15. a) Explain Dynamic constructor with an example.

(OR)

b) Defining operator overloading and Illustrate.

SECTION – C (5 X 8 = 40 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.(K4 (Or) K5)

16. a) Briefly explain an evaluation of expression

(OR)

b) Summarize: sparse matrices.

17. a) Explain binary tree traversal.

(OR)

b)Illustrate the uses of Hash tables.

18. a) Explain an application of OOP's.

(OR)

b) Briefly explain different types of operators.

19. a) Summarize: Inline function.

(OR)

b) Write a program to use friend function.

20. a) Describe constructor.

(OR)

b) Elucidate type conversions.

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