B.M.S COLLEGE FOR WOMEN
BENGALURU – 560004

I SEMESTER END EXAMINATION – JAN/FEB-2024
B.C.A.: DATA STRUCTURE
(NEP Scheme 2021-22 onwards F+R)

Course Code :BCA1DSC03   **QP Code: 1032**
Duration: 2 ½ Hours   **Max. Marks: 60**

Instructions: Answer all the sections

SECTION - A

I. Answer any TEN questions. Each question carries TWO marks.   **(10x2=20)**

1. What are the applications of Data Structures?
2. Mention the types of asymptotic notation?
3. Define ADT.
4. What is circular linked list?
5. Mention any two advantages of double ended linked list.
6. What is recursion?
7. What is queue? Mention any one application.
8. List operations on queue.
9. What is degree in tree?
10. Define Hashing?
11. What is directed graph?
12. What is merge sort?

SECTION- B

II. Answer any SIX questions. Each question carries FIVE marks.   **(6x5=30)**

13. Explain the operations perform on primitive data structures.
14. Describe insertion sort with an example.
15. Write an algorithm to delete an element from a linked list at end.
16. Mention difference between array and linked list.
17. Write C program to find GCD of two numbers.
18. Illustrate an algorithm for PUSH and POP operation.
19. Explain classification of Queue.
20. Explain types of Binary Tree with an example.
21. Describe Breadth First Search traversal method.

SECTION - C

III. Answer any ONE questions. Each question carries TEN marks. **(1x10=10)**

22. Explain classification of Data Structures in detail.
23. Write a c program to find the location of 7 in given {4,7,3,2,1,7,9,0} using liner search and Binary search technique.
24. Describe c function of heap sort technique with an example.

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