PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b)
Each answer should not exceed 600 words.

16. (a) Describe in details collision resolution.

Or

(b) Write about hashed list search with examples.

17. (a) Explain the circularly linked list.

Or

(b) Define double linked list. Discuss it.

18. (a) Define STACK. Discuss basic STACK operations.

Or

(b) Write an algorithm of ADD, DELETE from a linked STACK.

19. (a) Describe about the binary tree traversals.

Or

(b) Define binary search tree. Write binary search tree algorithm.

20. (a) Describe the operations on graph.

Or

(b) What are the external sorts? Discuss any one sort.

———————

Reg. No. : .....

Code No.: 10483 E **Sub. Code: CACA 31**

B.C.A. (CBCS) DEGREE EXAMINATION, APRIL 2023.

Third Semester

Computer Application – Allied

DATA STRUCTURES

(For those who joined in July 2021 onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Binary search requires an ————————
   (a) Sequential (b) Ordered list
   (c) Hashed (d) None

2. The address produced by the ———————— is known as Home address.
   (a) Collision
   (b) Synonyms
   (c) Hashing algorithm
   (d) None

3. The most powerful variation of linked list is ————————

(a) multilinked list (b) circularly linked list
(c) double linked list (d) single linked list

4. Push operation can be used to ———————— an item.

(a) delete (b) add
(c) empty (d) None of these

5. A _____ is a FIFO structure.

(a) STACK (b) Queue
(c) Linked list (d) HEAP

6. A linear list is in which each element has

(a) a general (b) a unique successor
(c) a restricted (d) all of these

7. A leaf is a node with an ————————

(a) out degree of zero (b) in degree of one
(c) out degree branch (d) in degree branch

8. The maximum degree of any vertex in a simple graph with n vertices is ————————

(a) n (b) $n-1$
(c) $n+1$ (d) $2n-1$

9. Sorting is useful for ————————

(a) report generation
(b) responding queries
(c) making searches easily
(d) all of these

10. Each iteration of the quick sort selects an element known as ————————

(a) median (b) pivot
(c) key (d) value

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).
Each answer should not exceed 250 words.

11. (a) What do you mean by Pseudo Code?

Or

(b) Write about ADT. Give an example.

12. (a) Discuss the linear list operations.

Or

(b) How to add element in linked list?

13. (a) Write about queue operations.

Or

(b) Discuss about stack applications.

14. (a) Write about insertion into general trees.

Or

(b) Define Heap. Discuss about Heap structure.

15. (a) How quick sort algorithm implemented?

Or

(b) Explain the graph Storage Structure.