(6 pages)

Reg. No. : ....

Code No. : 40670 E   Sub. Code : SACA 31

B.C.A. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2019.

Third Semester

Computer Application – Allied

DATA STRUCTURE

(For those who joined in July 2017 onwards)

Time : Three hours   Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Loops that contain loops are known as

   (a) Linear Loops

   (b) Logarithmic Loops

   (c) Divide Loops

   (d) Nested Loops

2. One of the move useful variations of the sequential search is known as the

   (a) Sequential search

   (b) Sentinel search

   (c) Probability search

   (d) Ordered lists search

3. A node contains data about a list, the data are known as

   (a) Metadata   (b) Key

   (c) List   (d) Field

4. Random lists are sometimes called

   (a) Key Lists   (b) Ordered Lists

   (c) Chronological Lists   (d) Circular Lists

5. ———— adds an item at the top of the stack.

   (a) Push   (b) Pop

   (c) Overflow   (d) Underflow

6. A queue is a

   (a) Single List   (b) Linked List

   (c) Circular List   (d) Linear List

7. A tree consists of a finite set of elements called

(a) Degree   (b) Branches

(c) Nodes   (d) Outdegree

8. The ——————— traversal, the root node is processed first, followed by the left subtree and then the right subtree.

(a) Breadth-first

(b) Pre order

(c) Post order

(d) In order

9. All of the data are held in primary memory during the sorting process.

(a) Internal sort

(b) External sort

(c) Exchange sort

(d) Quick sort

10. A graph is a collection of nodes called

(a) lines

(b) path

(c) edges

(d) vertices.

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Explain about Abstract data type model.

Or

(b) Write a note on open addressing collision resolution.

12. (a) Discuss about Linear list.

Or

(b) Explain about the Data Structure for Linked List.

13. (a) Discuss about stack.

Or

(b) Write a note on Queue Data Structure.

14. (a) List down the properties of binary trees.

Or

(b) Discuss about expression trees.

15. (a) Explain in detail about Quick sort.

Or

(b) Explain about Graph Storage Structures.

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PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Briefly explain about Pseudocode.

Or

(b) Discuss about Sequential search.

17. (a) Explain about inserting a node in a Linked Lists.

Or

(b) Give an overview about Doubly Linked Lists.

18. (a) Briefly explain about infix to postfix transformation.

Or

(b) Discuss about the basic queue operations.

19. (a) Explain in detail about Binary Tree Traversals.

Or

(b) Discuss about Heap Algorithms.

20. (a) Explain about External sorts.

Or

(b) Discuss about minimum spanning tree.

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