

(6 pages)

Reg. No. :

Code No. : 41364 E Sub. Code : SACA 31

B.C.A. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2018.

Third Semester

Computer Applications – 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. _____ Searches requires an ordered list.
(a) Sequential (b) binary
(c) hashed list (d) None
2. The efficiency of binary search is _____.
(a) 0 (b) $O(\log 2n)$
(c) $O(n^2)$ (d) $O(c^n)$

3. _____ list is a linked list with two or more logical lists.
(a) multilinked list
(b) circularly linked list
(c) doubly linked list
(d) singly linked list
4. A linear list is in which each element has _____.
(a) a general
(b) a unique successor
(c) a restricted
(d) a linked list
5. A queue is a _____ structure.
(a) Enqueue
(b) Dequeue
(c) LIFO
(d) FIFO
6. A stack is a list in _____.
(a) meta data
(b) descending chronological sequence
(c) LIFO
(d) back tracking



7. A tree consists of finite set of elements ———.

- (a) Root
- (b) Leaf
- (c) Node
- (d) Branches

8. A leaf is a node with an ———.

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

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

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

10. ——— is a graph whose are weighted.

- (a) spanning tree
- (b) network
- (c) Minimum spanning tree
- (d) Undirected graph

Page 3 Code No. : 41364 E

PART B — ($5 \times 5 = 25$ 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) Explain the concept of linear list.

Or

(b) Explain the linked representation of binary tree.

13. (a) Write about queue operation.

Or

(b) Explain the array representation of stack.

14. (a) Explain the linked representation of binary tree.

Or

(b) Write about expression trees with an example.

Page 4 Code No. : 41364 E

[P.T.O.]



15. (a) Explain the basic concepts of sorting.

Or

- (b) Explain the graph Storage Structure.

PART C — (5 × 8 = 40 marks)

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

Each answer should not exceed 600 words.

16. (a) Write about binary search with algorithm.

Or

- (b) Describe about hashed list search with examples.

17. (a) Write the algorithms of linked list operations. Discuss it.

Or

- (b) Write about Complex linked list structures.

18. (a) Discuss about basic stack operations.

Or

- (b) Describe about queue linked list implementation.

Page 5 Code No. : 41364 E

19. (a) Explain binary search tree algorithm with examples.

Or

- (b) What is heap? Explain about basic heap algorithm.

20. (a) Write an algorithm and explain about quick sort.

Or

- (b) Explain in details about graph storage structure.
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Page 6 Code No. : 41364 E

