(6 pages) **Reg. No. :** .....

Code No. : 30705E **Sub. Code : SA CA 31**

B.C.A (CBCS) DEGREE EXAMINATION,
NOVEMBER 2020.

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. A _____ statement iterates a block of code.
   (a) Loop (b) Selection
   (c) Sequence (d) None of these
2. In a _____ the number of times the inner loop executes is the same as the outer loop.
   (a) Quadratic loop
   (b) Inner loop
   (c) Dependent quadratic loop
   (d) Nested loops

3. In doubly linked list, traversal can be performed

   (a) Only in forward direction

   (b) Only in reverse direction

   (c) In both the direction

   (d) None of these

4. What does creating node mean?

   (a) Defining its structure

   (b) Allocating memory to it

   (c) Initialization

   (d) All of the above

5. Process of removing an element from stack is called _____.

   (a) Pop (b) Push

   (c) Rear (d) Front

6. Stack is referred as _____.

   (a) Last in first out (b) First in first out

   (c) Last in last out (d) None of the above

7. An expression tree is a kind of _____.

   (a) Binary search tree

   (b) Fibonacci tree

   (c) Heap

   (d) Binary tree

8. Heap can be used as _____.

(a) Priority Queue

(b) Stack

(c) Decreasing order array

(d) List

9. Which of the following is true?

(a) A graph may contain no edges and many vertices

(b) A graph may contain many edges and no vertices

(c) A graph may contain no edges and no vertices

(d) None of these

10. Graph are represented using _____.

(a) Adjacency tree

(b) Adjacency Linked list

(c) Adjacency graph

(d) Adjacency queue

PART B — (5 × 5 = 25 marks)

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

Each answer should not exceed 250 words.

11. (a) Write the rule for variable and statement, construct in Pseudo code.

Or

(b) How to analyzing the search algorithm.

12. (a) Discuss about insert node in linked list with an example.

Or

(b) Discuss about Multilinked lists.

13. (a) Write about Parsing in stack.

Or

(b) Discuss about Front and Rear of Queue.

14. (a) Demonstrate the expression of trees with an example.

Or

(b) Write short notes on Depth-First Traversal

15. (a) Determine the Graph Terminology.

Or

(b) How to Merging the Ordered Files.

PART C — (5 × 8 = 40 marks)

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

Each answer should not exceed 600 words.

16. (a) Explain Open Addressing in Collision Resolution.

Or

(b) Examine about Abstract Data Type.

17. (a) Summarize Doubly linked lists with an example.

Or

(b) Write detail about

(i) Create List

(ii) Unordered List search

(iii) Traverse List

(iv) Destroy list

18. (a) Explain various Stack application in detail.

Or

(b) Explain in detail about Queue Linked List Design.

19. (a) Examine about Binary search tree search algorithm.

Or

(b) Clarify about General Trees with an example.

20. (a) Write detail notes on External Sort.

Or

(b) Explain Shortest path Algorithm with an example.

———————