MBF-003-003205   Seat No. _____

B. C. A. (Sem. II) (CBCS) Examination

March / April - 2018

CS - 07 : Data Structure using C Language

(Old Course)

Faculty Code : 003

Subject Code : 003205

Time : $2\frac{1}{2}$ Hours]   [Total Marks : **70**

1 Attempt the following Objectives :   **20**

(1) Can we pass pointer as arguments?

(2) All the element having value less than root of tree goes to _____ of root

(3) Can we pass structure as function argument?

(4) A _____ type of linked list whose nodes have two parts.

(5) In _____ memory allocation is contiguous.

(6) Stack is _____ type of data structure.

(7) We use _____ data type when function not returns any value.

(8) In Binary Tree _____ node has no children.

(9) In stack deletion operation is referred as _____

(10) Queue is _____ type of data structure.

(11) Data structure is divided into _____ parts.

(12) In _____ Data Structure data can be processed one by one sequentially

(13) Graph is type of _____ data structure.

(14) When we insert an element in Queue, which pointer is increased by one?

(15) _____ are nodes that share the same parent.

(16) The default value of static storage class variable is _____

(17) _____ Storage class define local variable into register instead of RAM.

(18) _____ function release specified memory block.

(19) _____ sort technique merge two sorted array table.

(20) The following is valid or invalid?

int *p=NULL;   or   int *p=0;

2   (A)   Attempt the following : (Any **Three**)   6

    (1)   What is Algorithm Analysis?

    (2)   Definition: Asymptotic notation.

    (3)   What is Big-Oh Notation?

    (4)   What Expected Running Time?

    (5)   What is Structure?

    (6)   What is External variable?

   (B)   Attempt the following : (Any **Three**)   9

    (1)   Explain Union in detail.

    (2)   Write a note on Pointer Arithmetic.

    (3)   Explain Deques.

    (4)   Explain Shortest Path Problem.

    (5)   Write a note on Height Balanced Tree.

    (6)   Explain Postfix and Prefix expression using Stack.

   (C)   Attempt the following : (Any **Two**)   10

    (1)   What is Bubble Sort? Explain with example.

    (2)   Explain Stack with example.

    (3)   Explain Circular Linked List in detail.

    (4)   Explain Single Linked List in detail.

    (5)   List and explain the types of Storage in C.

3   (A)   Attempt the following : (Any **Three**)   6

            (1)   Definition : Time Complexity.

            (2)   What is Big-Omega Notation?

            (3)   What is Worst-Case Time?

            (4)   What are the methods of data storage?

            (5)   What is Array?

            (6)   What is Enumerated constant?

       (B)   Attempt the following : (Any **Three**)   9

            (1)   Explain pointer problems in detail.

            (2)   Explain Dynamic memory allocation functions in detail.

            (3)   Explain Priority Queues.

            (4)   Explain Minimal Spanning tree.

            (5)   Explain Properties of a Tree in detail.

            (6)   Explain C Data types in detail.

       (C)   Attempt the following : (Any **Two**)   10

            (1)   Explain Basic Searching Techniques in detail.

            (2)   Write a note on Queue.

            (3)   Explain Double Linked List in detail.

            (4)   Write a note on Graph Traversal.

            (5)   Write a note on Insertion Sort in detail.

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