B-2042

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SUBJECT CODE NO:- B-2042
FACULTY OF SCIENCE AND TECHNOLOGY
B.Sc. S.Y. (Sem-III) Examination Oct/Nov 2019
Computer Science Code -CS08
Data Structures

[Time: 1:30 Hours]   [Max.Marks:50]

Please check whether you have got the right question paper.

N.B
1) All questions are compulsory.
2) Illustrate answer with suitable example.

Q.1   a) Explain linear search with it's algorithm and example.   10
      b) Describe recursion using factorial function.   10
                                            OR
      c) What is stack? Explain PUSH and POP operations on stack.   10
      d) What is infix, polish and reverse polish notation to represent arithmetic expression?   10
         Explain in detail.

Q.2   a) What is linked list? Explain inserting element in linked list.   10
      b) What is queue? Give memory representation of queues.   10
                                            OR
      Write short notes (any four)   20
      a) Quick sort
      b) Entity and attributes
      c) Record structure
      d) Bubble sort
      e) Dequeue
      f) Recursion

Q.3   Multiple choice questions.   10

      1. _____refers to single unit of values.
         a. Data item   b. Database   c. Array   d. Node

      2. An entity always has come_____.
         a. Records   b. Attributes   c. Data items   d. All of the above

      3. In stack, elements are added from_____.
         a. Top   b. Bottom   c. Any position   d. None of these

      4. Examples of reverse polish notation is_____.
         a. A+B   b. +AB   c. AB+   d. None of above

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5. Accessing and processing each data item exactly once is called_____.
    a. Traversing   b. Sorting   c. Both (a) & (b)   d. None of these

6. _____search algorithm is extremely efficient in searching item in sorted array.
    a. Bubble   b. quicksort   c. Linear   d. Binary

7. In linked list, node is made up of_____.
    a. Info part   b. Link field   c. Index   d. Both (a) & (b)

8. A data structure is_____ model of a particular organization of data.
    a. Logical   b. Mathematical   c. Random   d. Both (a) & (b)

9. _____data structure is suitable for recursion.
    a. Queues   b. Linked list   c. Stack   d. Array

10. In two way linked list, each node is, divided into _____parts.
    a. One   b. Two   c. Three   d. four