2019

BCA

2nd Semester Examination

Data Structure Lab

(Set – I)

Paper – 1296

(Practical)

Full Marks – 100

Time : 3 Hours

Answaer any *two* questions (on lottery basis) :

25×2

1. Consider two single dimensional arrays size 10 and 15 respectively with some values. Write a program to find out the elements which are common in both the arrays.

2. Consider a majic square of size 3×3 which contains all different elements. A magic square is a matrix where the sum of each individual column

elements, sum of each individual row elements and sum of diagonal elements are equal. Write a program to create and varify if a matrix of such dimension is magic square or not.

(For example the following is a magic square of size 3×3) :

2	7	6
9	5	1
4	3	8

3. Some numbers are entered from the keyboard into an array. The number to be searched is entered through the keyboard by the user. Write a program to find if the number to be searched is present in the array and if it is present, display the number of times it appears in the array.

4. Write a program to transform the following infix expression to postfix expression :

$(A+B \wedge C)/(E-F)$

5. Write a program that reads the name, age and salary of five persons and maintains them in a linked list sorted by age.

6. Write a program to copy the content of one stack to another stack.

7. Write a menu driven program to implement queue using array. The menu should have the following options : A. Insert B. Delete C. View D. Exit

8. Write a program to sort n integers using bubble sort technique.

9. Write a menu driven program to implement stack using array. The menu should have the following options : A. Push B. Pop C. View D. Exit

10. Write a program using stack to determine GCD of two integers.

11. Write a program to demonstratie the basic operations of Stack (PUSH, PEEP)

12. Write a program to implement single link-list and insert data at end of link-list.

13. Write a program to reverse the string by using stack.

14. Write a program to implement a circular queue and insert element of queue.

15. Write a program to sort a list of elements by using merge sort technique.

16. Write a program to implements Binary tree and traverse the tree POST ORDER.

17. Write a program to search a elements form list by using binary search technique.

18. Write a program to find out the infix notation of the postfix string using stack ab + cd* + e/

19. Write a program to implement queue using link-list and traverse the queue.

20. Write a program to sort a set of elements using selection sort technique.

Viva-voce : 15 Marks

PNB : 05 Marks

Internal Assessment – 30 Marks

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