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Reg. No.

II Semester B.C.A. 2 Degree Examination, May - 2019

DATA STRUCTURE USING C

PAPER - II

(RCU Repeaters)

Time : 3 Hours Max. Marks : 80

Instructions : *(1) Answer all sections.*
(2) Draw neat diagram wherever necessary.
(3) Write question numbers correctly.

SECTION - A

I. Answer **any ten** of the following : **10x2=20**

1. What is pointer ? Give an example.
2. Define binary search. Mention its complexity.
3. State the functions of error handling file.
4. Define calloc( ) function with example.
5. What is queue ? Give an example.
6. State the types of non-primitive Data Structure.
7. List the application of queue.
8. Define Depth and Circular linked list.
9. What is sorting ? State the types of sorting.
10. What is strictly binary tree ? Give example.
11. Define infix, prefix and postfix expression.
12. What do you mean by Heap ? Give an example.

SECTION - B

II. Answer **any six** of the following : **6x5=30**

13. Write a program to implement tower of Hanoi.
14. Define Stack. Explain Stack operations.
15. Write a program to sort an elements using merge sort.
16. What is Linked List ? Give the advantages and disadvantages of Linked List.

P.T.O.

17. Convert the following to postfix.

(a) $(P+Q)*(R/Z)\$(E-D)$

(b) $(A+B\$C\$D)*(P-Q/D)$

18. Compare Merge sort and Quick sort.

19. Explain Pre-order, Post-order and Inorder for binary tree.

20. Differentiate between Textfix and Binary file.

SECTION - C

III. Answer **any three** of the following : **3x10=30**

21. Write a program to search an element using Binary search. **10**

22. What is queue ? Explain the operations of priority queue. **10**

23. Explain in detail types of inserting nodes in Linked List. **10**

24. Briefly explain :

(a) Complete binary tree **5**

(b) Binary search tree **5**

25. Write a short note on **any five** : **2x5=10**

(a) Application of stack

(b) Circular linked list

(c) Insertion sort

(d) Path

(e) Parent

(f) free( )functions

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