

B. Sc. DEGREE END SEMESTER EXAMINATION MARCH 2017**SEMESTER – 2: COMPUTER APPLICATION (CORE COURSE)****COURSE: 15U2CRCAP4 –: DATA STRUCTURE USING 'C'***(Common for Regular 2016 admission and Supplementary 2015 admission)*

Time: Three Hours

Max. Marks: 75

PART AAnswer **all** questions. Each question carries **1** mark.

1. Define data structure?
2. What is TOP of a stack?
3. FIFO means
4. What is polish notation?
5. What is a sparse matrix?
6. What is the complexity of bubble sort technique?
7. What is a dynamic data structure?
8. How can you represent elements of a multidimensional array?
9. What is a node?
10. What is a file? (1 x 10 = 10)

PART BAnswer **any eight** questions. Each question carries **2** marks.

11. What is garbage collection?
12. What is meant by sorting?
13. Evaluate the postfix expression P : 2, 3, 10, 5, -, *, 5, /, +.
14. What is a circular list?
15. Explain preorder traversal with an example.
16. Differentiate stacks and queue.
17. What is a skewed binary tree?
18. What are the methods available in storing sequential files?
19. What is a doubly linked list?
20. Which is the data structure used to perform recursion?
21. What is a strictly binary tree?
22. What is a sequential file? (2 x 8 = 16)

PART C

Answer **any five** questions. Each question carries **5** marks.

23. Write an algorithm to perform bubble sort.
24. Write the procedure for binary search.
25. List out few of the applications of tree data structures.
26. Write short note on linear data structures.
27. Explain the linked organization of file.
28. Explain the operations in a circular queue.
29. Explain the creation of a binary search tree with an example.
30. Write a program to insert an element at the end of a linked list. (5 x 5 = 25)

PART D

Answer **any two** questions. Each question carries **12** marks.

31. Explain in detail the applications of stack.
32. Write the algorithm for selection sort technique. Perform a trace for the same algorithm on the list L: {30, 78, 28, 17, 60, 15, 34, 56, 80, 19,20}
33. Explain in detail the different tree traversals with example.
34. Write a program to implement doubly linked list. (12 x 2 = 24)
