

**18P136**

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Name: .....

Reg. No.....

**FIRST SEMESTER M.Sc. DEGREE EXAMINATION, NOVEMBER 2018**

(Regular/Supplementary/Improvement)

(CUCSS-PG)

**CC17P CSS1 C02 - ADVANCED DATA STRUCTURES**

(Computer Science)

(2015 Admission onwards)

Time: Three Hours

Maximum: 36 Weightage

**PART A**

Answer *all* questions. Each question carries 1weightage.

1. What is recursive list?
2. Define ADT?
3. What is amortized analysis?
4. What is B trees?
5. List application of queues?
6. What is skip lists?
7. What is hetrogenous lists?
8. What are the objectives of algorithm?
9. List the complexity of any four sorting methods?
10. What is Digital Search tree?
11. What is Min-Max heaps?
12. What is Hash table?

**(12 x 1 = 12 Weightage)**

**PART B**

Answer any *six* questions. Each question carries 2 weightage.

13. Explain binary search with algorithm and example?
14. Convert the below infix expression to postfix expression  
 $((P+ ((Q^R)-S))/(T-(U^V)))$
15. Describe the evaluation of postfix with algorithm and example?
16. Write a note on insertion sort with algorithm and example?
17. Briefly explain quick sort with algorithm and example?
18. Explain dqueue with algorithm and example?
19. Make a note on tree traversals with example?
20. Describe array insertion and deletion with algorithm and example?
21. Explain doubly linked list with algorithm and example?

**(6 x 2 = 12 Weightage)**

### PART C

Answer any *three* questions. Each question carries 4 weightage.

22. Explain hashing and collision resolution techniques with example?
23. a) Explain Huffman algorithm with example?  
b) P, Q, R, S, T, U, V, W are 8 external nodes whose weights are given below.  
Construct a Huffman tree.

P	Q	R	S	T	U	V	W
12	6	7	9	3	7	15	6

24. Explain threaded binary tree with operations and examples?
25. Enumerate graph traversals with example?
26. Explain heap structures with example?
27. Describe sparse matrix manipulation using linked list with example?

**(3 x 4 = 12 Weightage)**

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