

Roll No. 11501070001Total Printed Pages : **2****05BCS106.3****B.TECH. (COMPUTER SCIENCE & ENGG.)****V-SEM Examination, Dec.-2017****SUB : ADVANCED DATA STRUCTURE**

Time : 3 Hours]

[Total Marks 60

Use of following supporting material is permitted during examination.

1. Nil 2. Nil

Note: 1. Attempt any five question.

2. Each question carry equal marks.

1. Explain Huffman trees in detail. Suppose we given the following table of latter frequencies.

a	b	c	d	e	f
1	2	3	4	5	6

Create a Huffman coding tree for this table.

2. describe 2-3 trees with the help of an appropriate example. Explain various operations performed on the 2-3 tree.

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3. What are binomial heaps and also explain its various operations.
4. Explain the following terms incorporated with graphs with the help of examples
 - a. Circuits
 - b. Cut-sets
 - c. Cut-vertices planer
 - d. Dual graph.
5. Write and explain ford-ful kerson maxo-flow algorithms.
6. What is SORTING NETWORK? Explain zero-que principle and bitonic sorting and merging network sorter in details.
7. Explain the use of number theoretic notations in data structures.
8. Describe division theorem with the help of an appropriate example.
9. What is modular arithmetic? Also explain method to solve modular linear equations.
10. Explain Chinese remainder theorem with help of example.