

Tribhuvan University
Institute of Science and Technology
2065

Bachelor Level / third-semester / Science Full marks: 60 **Computer Science and Information Technology(CSC206)** Pass marks: 24 (Data Structures and Algorithms) Time: 3 hours Candidates are required to give their answers in their own words as far as practicable. The figures in the margin indicate full marks.

Section A

Attempt any TWO questions: (10x2=20)

1. What do you mean by binary tree? Explain the binary search tree with an example.
2. What do you mean by recursion? Explain the implementation of factorial and Fibonacci sequences with examples.
3. Explain the implementation of stack and queue with examples.

Section B

Attempt any EIGHT questions: (8x5=40)

4. What is the difference between a two dimensional array and multidimensional array?
5. What are the major characteristics of algorithms?
6. How can you convert from infix to postfix notation?
7. How can you use Queue as ADT?
8. What is Post-order traversal?
9. What is sorting? Describe the Insertion sort.
10. Explain the binary searching.
11. Differentiate between Preorder and Inorder traversal.
12. Explain the tower of Hanoi algorithm.
13. Explain the Kruskal's algorithm.