Roll No……..….. **Total No. of Printed Pages: 1**
Total No. of Questions: [11]

M. Tech CSE (Semester – 2nd)
ADVANCED ALGORITHMS
Subject Code: MCSES1201
Paper ID: 23190210

Time: 03 Hours **Maximum Marks: 60**

Instruction for candidates:

1. Section A is compulsory. It carries 16 marks. It consists of 4 questions of 4 marks each.
2. Section B consist of 4 questions of 8 marks each. The student has to attempt any 3 questions out of it.
3. Section C consist of 3 questions of 10 marks each. The student has to attempt any 2 questions.

Section – A **(4 marks each)**

Q1. Compare between different types of sorting algorithm along with their time complexity.

Q2. Explain divide and conquer paradigm with an example.

Q3. Explain the chinese remainder theorem in detail.

Q4. Explain in detail randomized algorithm with an example.

Section – B **(8 marks each)**

Q5. Explain DFS and BFS algorithm in detail with an example.

Q6. Explain ford-fulkerson method to compute maximum flow with a diagram.

Q7. Explain in detail floyd-warshall algorithm used in dynamic programming paradigm.

Q8. What are the recent trends used in problem solving paradigms using searching and sorting techniques. Explain these trends in detail.

Section – C **(10 marks each)**

Q9. Explain in detail graph matching algorithm and to compute maximum matching. What are the characterization of maximum matching by augmenting paths, describe it.

Q10. Explain any one of flow-networks algorithm in detail with an example and a diagram.

Q11. Explain strassen's algorithm in detail with an example and a diagram.