Course name:  **Advanced Algorithms** Course code: **CS 601**

Instructor: **Dr. Vidhyacharan Bhaskar**

Instructions: a) Exercise problems could be hand-written or printed.

b) Computer projects must be printed (need both source code and the output).

c) Show the entire working for all handwritten homeworks.

Total: 50 points **Homework assignment 2** (Due date: **Feb. 23, 2021 – before 1 pm**)

Points: Q1 carries 20 points (7 + 7 + 6), and Q2 through Q7 carry 5 points each.

Total is 50 points

1. Look at slide 3 (left picture) of Chapter 4 – Greedy algorithms. For the graph shown here, elucidate all the steps required to construct the minimum spanning tree using
   1. Kruskal’s algorithm
   2. Prim’s algorithm
   3. Reverse delete algorithm

You need to show the state of the graphs on each step of your algorithm.

1. Exercise 4.2 (Page 189)
2. Exercise 4.8 (Page 192)
3. Exercise 4.9 (Page 192)
4. Problem 9.10 (Haykins book)
5. Problem 9.14 (Haykins book)
6. Problem 9.16 (Haykins book)