**2CS503 Design and Analysis of Algorithms**

**Tutorial 1: Basics of Algorithms**

1. What do you mean by an algorithm? Explain the importance of an algorithm by suitable example.
2. What is the smallest value of n such that an algorithm whose running time is 100n2 runs faster than an algorithm whose running time is 2n on the same machine?
3. Describe the method for analysing an algorithm. What do you mean by best case, average case and worst case time complexity of an algorithm?
4. What is the difference between Apriori approach and Posteriori approach for solving any problem? Discuss with proper example.
5. Among Merge-sort, Insertion-sort and Bubble-sort which sorting technique is the best in the worst case. Support your argument with an example and analysis.