What are the basic four steps of dynamic programming?
List the advantages of dynamic programming
Define state space tree?
Define NP-Complete?
Define maxclique problem?
Define a dead node
State the principle of Backtracking
What is a graph coloring problem?
Define NP-Hard?
What is job sequencing with deadlines problem
List the features of dynamic programming
Given 10 activities along with their start and finish time as s={a1,a2,a3,a4,a5,a6a,a7,a8,a9,a10} s_i={1,2,3,4,7,8,9,9,11,12} f_i={3,5,4,7,10,9,11,13,12,14} compute a schedule where the largest number of activities takes place?
Explain optimal binary search tree with an example.
Let n=4 and (a1,a2,a3,a4) Construct optimal binary search for (a1, a2, a3, a4) = (do, if, int, while), p(1 : 4) = (3,3,1,1) q(0 : 4)= (2,3,1,1,1)
How to solve fractional knapsack problem in Θ(n) time?
How 8-Queen's problem can be solved using back tracking and explain with an example
Explain General method of Greedy method. Find the greedy solution for following job sequencing with deadlines problem n = 7, (p1, p2, p3, p4, p5, p6, p7) = (3,5,20,18,1,6,30), (d1, d2, d3, d4, …, d7) = (1,3,4,3,2,1,2)
Write and explain the Cooks theorem
Discuss Draw the portion of state space tree generated by FIFOBB for the following instance of 0/1 knapsack n= 5, M=12, (p1, ……p5) = (10,15,6,8,4) (w1,. ...w5)=(4,6,3,4,2)
Give the solution to the m-coloring of a graph using backtracking
Solve the following instance of travelling sales person problem using Least Cost Branch Bound ∞ 12 5 7 11 ∞ 13 6 4 9 ∞ 18 10 3 2 ∞
Draw the portion of state space tree generated by FIFO knapsack for the instance N=4 , (P1, P2, P3, P4)= (10, 10, 12, 18) , (w1, w2,w3,w4) = (2, 4, 6, 9) , m=15
Explain the method of reduction to solve travelling sales person problem using branch and bound
Discuss principle of LIFO branch and bound

What is non deterministic algorithm explain.
Discuss in detail about the class P, NP, NP-hard and NP-complete problems. Give examples for each class
Explain Satisfiability problem
How to solve fractional knapsack problem in $\Theta(n)$ time?
How 8-Queen's problem can be solved using back tracking and explain with an example
Explain General method of Greedy method. Find the greedy solution for following job sequencing with deadlines problem n = 7, (p1, p2, p3, p4, p5, p6, p7) = (3,5,20,18,1,6,30), (d1, d2, d3, d4, …, d7) = (1,3,4,3,2,1,2)
Explain 0/1 knapsack problem with example
Sketch the state space tree degenerated by 4 queens problem