

Please check whether you have got the right question paper.

N.B: Subject AOA CSC 402 CBSGS R-12 SE comp SEM IV CBSGS

1. Q.1 is compulsory.
2. Solve any three from Remaining

Q. 1 Answer **any four** **20**

- a) Write an algorithm for finding maximum and minimum number from given set.
- b) Write the algorithm and derived the complexity of Binary Search algorithm.
- c) Explain masters method with example
- d) Write a note on flow shop scheduling
- e) Compare divide and conquer, dynamic programming and Backtracking approach used for algorithm design.

Q. 2

- a) Write and explain string matching with finite automata with an example **10**
- b) Explain how branch and bound strategy can be used in 15 puzzle problem. **10**

Q. 3

- a) What is 0/1 knapsack and fractional knapsack problem. **10**

Solve following using 0/1 knapsack method

Item (i)	Value (vi)	Weight(wi)
1	18	3
2	25	5
3	27	4
4	10	3
5	15	6

Knapsack capacity=12.

b) Explain insertion sort and derive its complexity **10**

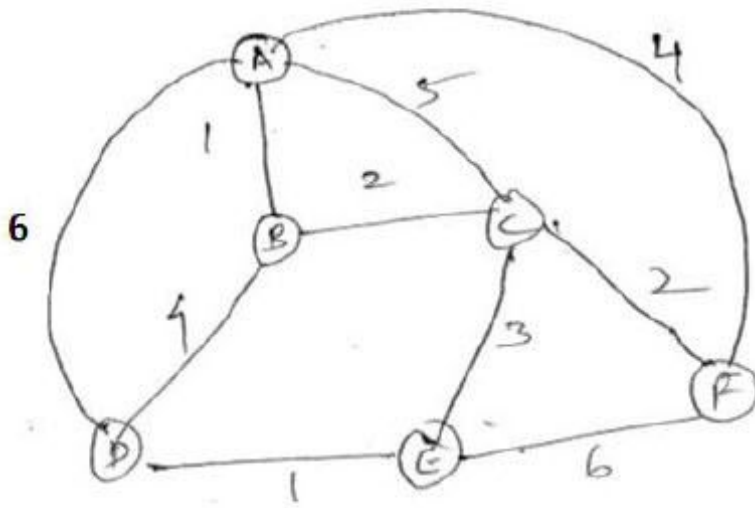
Q. 4

- a) What is a binary search tree? How to generate optimal binary search tree **10**
- b) What is a longest common subsequence problem? Find LCS for following string X = ACB AED **10**
Y = ABC ABE

Q. 5

- a) Explain Job Sequencing with deadlines. **10**
Let n=4, (P₁ P₂ P₃ P₄) =(100,10,15,27) and (d₁ d₂ d₃ d₄) (2,1,2,1) find feasible solution.
- b) Explain prims algorithm and find minimum spanning tree for the following graph. **10**

(P.T.O)



Q.6

Write short notes (any three):-

- a) Problem of multiplying Long Integers
- b) Strassen's matrix multiplication
- c) Knuth Morris Pratt's Pattern matching
- d) Multi stage Graphs

20
