

COMP/CBGS/AOA/IV / 01/12/16

Analysis of Alog.<sup>m</sup> / 01/12/16

QP Code : 541400

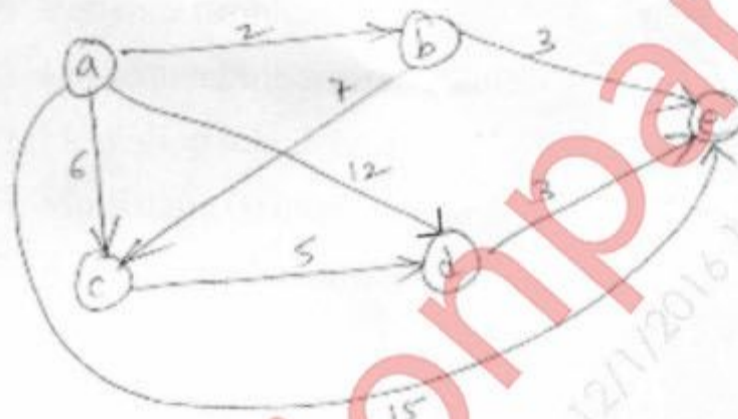
( 3 Hours )



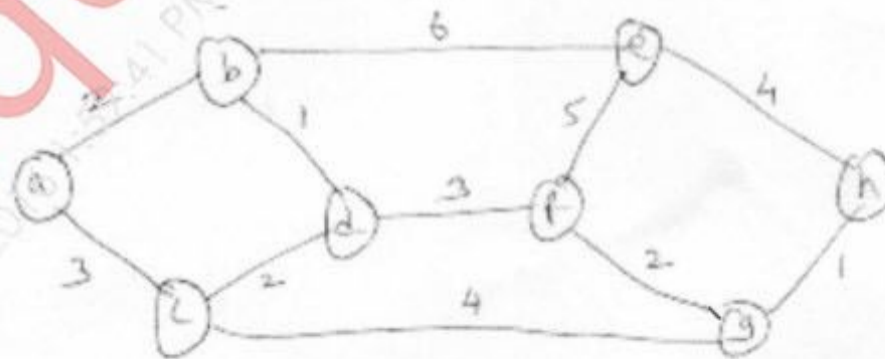
[ Total Marks: 80

- N.B.:** (1) Q.1 is Compulsory.  
(2) Attempt any three from remaining five questions.

- Which are the different methods of solving recurrences. Explain with examples. 10
  - Compare Greedy and dynamic programming approach for algorithm Design. Explain How both can be used to solve Knapsack problem? 10
- Explain the analysis of quick sort and apply the same to sort following data. [ 10 7 5 9 12 3 ] 10
  - Write single source shortest path algorithm & apply the same for following. 10



- Explain string matching with finite automata and apply the same technique to match following pattern.  
txt [] = UNIVERSITY OF MUMBAI  
pat [] = MBA 10
  - Compare Prims & Kruskal's method for finding Minimum spanning Tree find MST for following using prims method. 10



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4. (a) Explain with example how divide and conquer strategy is used in binary search? 10
- (b) Solve sum of subsets problem for following 10  
 $N = 6$   $W = \{ 3, 5, 7, 8, 9, 15 \}$  &  $M = 20$   
Also write the Algorithm for it.
5. (a) Explain longest common subsequence problem with example. 10
- (b) What is backtracking method? How it is used in graph coloring problem? 10
6. Write short notes on (Any Four) 20
- (1) 8 queens problem
  - (2) Job sequencing with deadlines
  - (3) Flow shop scheduling
  - (4) Multistage Graphs
  - (5) Asymptotic Notations
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