

Dr. Kapil Sharma

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT  
TEST -3 EXAMINATION- December-2021  
VII Semester

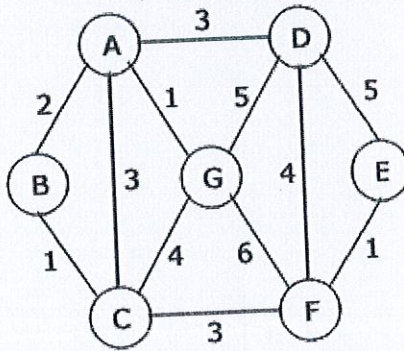
COURSE CODE: 18B1WCI743  
COURSE NAME: Advance Algorithm  
COURSE CREDITS: 02

MAX. MARKS:35

MAX. TIME: Two Hours

*Note: All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means.*

1. Write down the advantages and disadvantages of skip list. Construct a skip list with elements (17, 10, 12, 5, 20, 15 and 25). Also write the steps for searching the element 17 in skip list. [5]
2. Prove the statements with help of an example of coin changing problem that some time greedy algorithm does not give optimal solution. As well as also prove that some time solution of coin changing problem does not exist through greedy approach? [5]
3. Find the minimum edit distance using tabular method between two strings "EXPONENTIAL" and "POLYNOMIAL"? [5]
4. Explain the dynamic programming with example of Fibonacci number? Also explain that why finding a Fibonacci number with dynamic programming is beneficial compare to recursive solution? [5]
5. Find the step wise minimum spanning tree of given graph using Kruskal algorithm? [5]



6. Compare between adjacency list and adjacency matrix of graph representation? Also describe the situation when you prefer adjacency matrix over adjacency list? [5]
7. Justify the given statements with your arguments (True or False) [5]
  - a) Quick sort is only recursive approach.
  - b) Searching in Binary search tree is only divide and conquer approach