



AJEENKYA

D Y PATIL UNIVERSITY

End Term Examination (December 2019)

School: School of Engineering

Program: MCA-CT

Course: Algorithms Design and Analysis .

Course Code: CSC504

Semester: I

Max Marks: 50

Duration (mins) : 90 Min

Section A

Q1 Answer the following. (Any Five)

10 Marks

- Define the following terms: Adjacency lists and adjacency matrix with example.
- Define Directed Graph and Undirected graph.
- Define Algorithm and write five criteria's for writing an algorithm.
- Define minimum spanning Tree.
- State Cook's theorem.
- What is Brute force approach?
- What is approximation of algorithm?

Section B

Q2. Answer the following (Any Four)

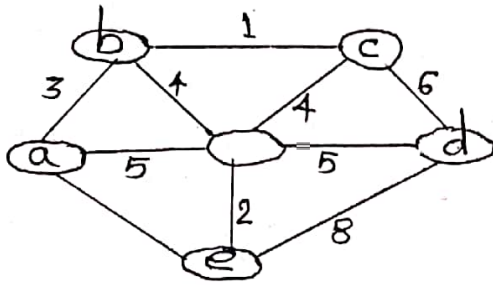
20 Marks

- Sort the given array with the help of radix sort and write its complexity.

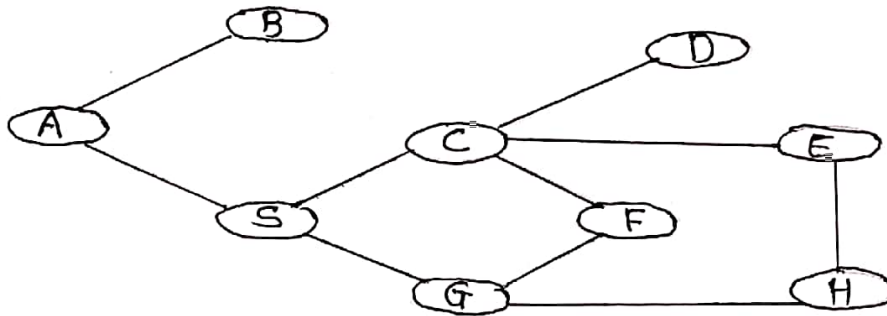
{25, 26, 68, 90, 21, 34, 35}

- Write a algorithm for Quick Sort Method.
- Write a note on asymptotic Notation.

d) Calculate Minimum spanning tree cost using Prim's algorithm.



e) Solve the following graph through Depth First Search.

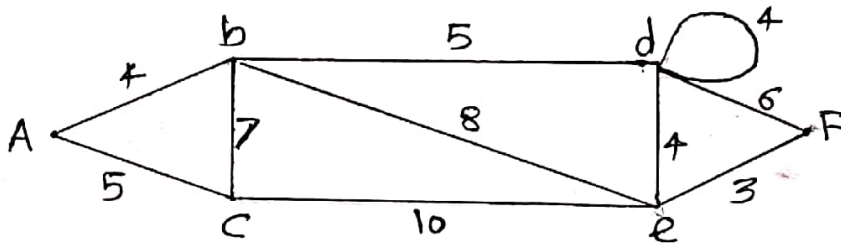


Section C

Q3. Answer the following (Any Two)

20 Marks

- a. Explain Quick sort Method with example.
- b. Calculate shortest path between Node A to Node F using dijkstra algorithm.



- c. Write a note on Compatibility Classes of Algorithm.
- d. Write a note on Topological Sorting.

*****ALL THE BEST*****