



Shaheed Zulfikar Ali Bhutto Institute of Science &
Technology

COMPUTER SCIENCE DEPARTMENT

Total Marks: 04

Obtained Marks: _____

Graph Theory

Assignment # 04

Last date of Submission: 7 May 2025, 6:30 pm to 9:30 pm

Submitted To: Bilal Ahmad

Student Name:

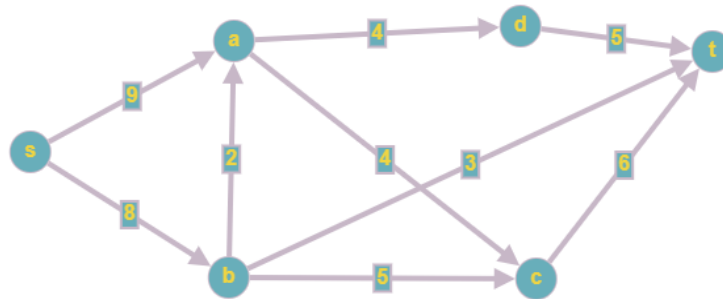
Reg. Number:

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Instructions: Copied or shown assignments will be marked zero. Late submissions are not entertained in any case.

Question No.1: Below is a graph with a matching M shown as dotted lines. (1.0)

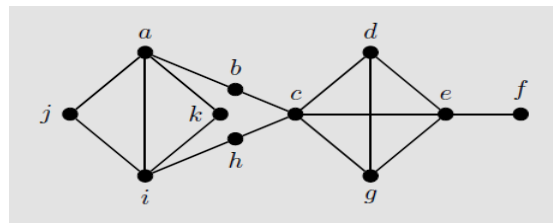
- Find an alternating path starting at a is this path augmenting
- Find an augmenting path
- Is M a maximum matching?



Question No.2: Tree in searching techniques

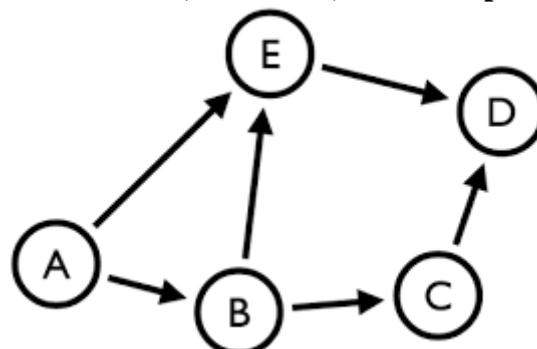
(1.0)

Graph:



- Depth First Search Tree
- Breath First Search Tree
- Decision Tree

Question No.3: Find distance matrix, Closeness, Time complexity (1.0)



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Question No.4: Write working rules of **Kruskal's Algorithm** and **Prim's Algorithm**. (1.0)
Apply them one by one to find minimum spanning tree ***T*** of given graph ***G***.

