

Class Test (3) Examination: Summer-2026

Course Code: CIS 132

Course Title: Algorithms

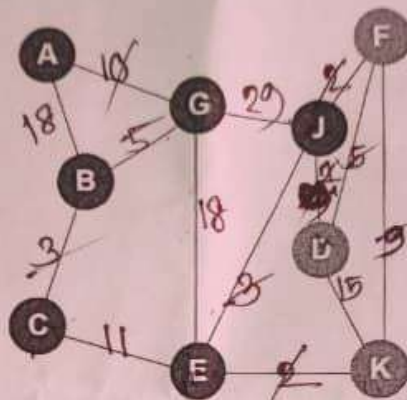
Date: 10/08/2026

Section: 23_B

Time: 30 Minutes

Total Marks: 15

1.



- Perform Depth-First Search (DFS) starting from node A and write the traversal order.
- Apply Kruskal's Algorithm to construct the MST. Show edge sorting and selection process.

[10]

- An e-commerce warehouse needs to deliver customer orders using delivery vans. Each van has a maximum carrying capacity of 100 kg. The warehouse receives the following packages:

Weights (kg): 60, 45, 40, 30, 25

- Calculate the **Lower Bound (LB)** on the minimum number of delivery vans required.
- Apply the **First Fit (FF)** algorithm to allocate the packages into delivery vans. Show each allocation step.
- Apply the **First Fit Decreasing (FFD)** algorithm to allocate the packages into delivery vans. Show the sorting process and each allocation step.
- Compare the results obtained from **Lower Bound**, **First Fit**, and **First Fit Decreasing**. Which algorithm provides the better solution for this scenario?

[5]