

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -3 EXAMINATION- May 2018

B.Tech/ 2nd Semester

COURSE CODE: 14B21CI211

MAX. MARKS:35

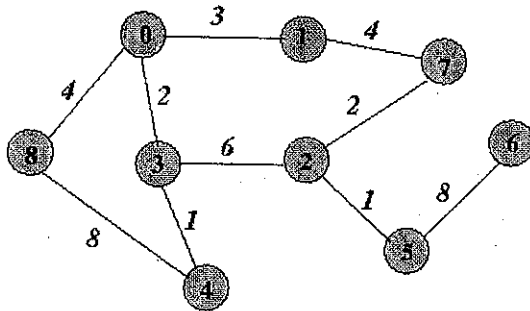
COURSE NAME: Basic Data Structures

COURSE CREDITS: 4

MAX. TIME:2.0 Hrs

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

1. Write a function to find the area and perimeter of triangle, which receives the values of 3 sides of triangle as pass by value, and area and perimeter as pass by reference from main(). Calculate the area and perimeter which is printed through main(). (3.0)
2. Write a menu driven program to implement the various operations on a linear queue. (5.0)
3. How does an AVL tree differ from a binary search tree? What do you understand by balance factor? (3.0)
4. What are the properties of a proper binary search tree .Explain with example. (3.0)
5. Write the code for various ways of traversing a binary search tree. (5.0)
6. Show the adjacency matrix and adjacency list for the following graph. (5.0)



7. Write the code for Breadth First Search and Depth First Search in a graph. (5.0)
8. Explain in detail and write the code for the following: (6.0)
 - (i)Bubble Sort
 - (ii) Insertion Sort
 - (iii) Selection Sort