

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -3EXAMINATIONS- 2026

BCA-II Semester

COURSE CODE (CREDITS):25BC1CI211

MAX MARKS: 35

COURSE NAME: DATA STRUCTURES

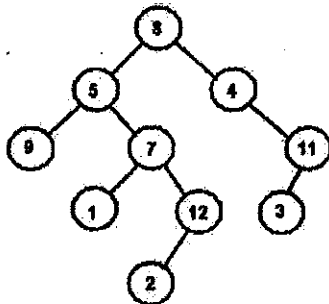
COURSE INSTRUCTOR:SRT

MAX. TIME: 2 Hours

Note:(a) All questions are compulsory.

(b) The candidate is allowed to make Suitable numeric assumptions wherever required for solving problems

(c) Use of calculator is not allowed

Q.No	Question	CO	Marks
Q1	Differentiate between B and B+ Trees based on the following- • Formal definition • Root level • Leaves levels • Internal and leaf nodes	CO-3	5
Q2	Explain the following with respect to graphs- • Degree of a vertex (directed and undirected graph) • Adjacent vertex • Complete graph • Connected graph • Weighted graph	CO-3	5
Q3	 • Mention the in-order, pre-order and post order for the above tree. • Mention the height, depth and level of the above tree.	CO-3	5
Q4	Explain the difference between static and dynamic memory allocation? Also mention the different memory allocation functions associated with	CO-3	5

	dynamic allocation?		
Q5	Perform binary search on the following list- [1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16] Target element = 16	CO-3	5
Q6	Explain the following in detail- • Stacks • Linked lists • Queues	CO-3	5
Q7	Explain the following- • Data Structures • Overflow (queues) • Underflow (stacks) • Asymptotic Notation • Algorithmic Complexity	CO-2 CO-3	5