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End Semester Examination

May-June 2023

CET2001B - Advanced Data Structures

Schedule ID: 18125

Faculty/School	Faculty of Engineering & Technology	Term	IV
Program	Second Year B. Tech	Duration	1 Hours 30 Minutes
Specialization		Max. Marks	40

Read the instructions provided for every question properly before attempting the answer.

Section - 1 : contain(s) **10** question(s) and each question carries **5** mark(s). You can answer any **8** questions out of **10**.

Click **Finish** only after completion of the Exam.

Section - 1 (8 X 5 Marks) Answer any 8 questions

1	What is hashing? Explain the different methods of collision resolution with examples.	5 marks 5	CO4	Understanding
2	Write a pseudocode for deletion of node having 2 children in binary search tree.	5 marks 4	CO1	Understanding
3	Explain with suitable example, DFS and BFS traversal of a graph. Show Data Structure used in each traversal step by step.	5 marks 5	CO1	Understanding
4	Write pseudo code for recursive DFS traversal of a graph.	5 marks	CO1	Understanding

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5	Find the shortest path from source vertex 0 using Dijkstra's Algorithm. Show each step.	5 marks	CO1, CO3	Applying
X 6	What are the characteristics of red-black trees?	5 marks	CO2	Understanding
7	Construct Max heap by inserting the below numbers in the given order. 17, 19, 3, 9, 11, 22, 25, 23 and delete the element 23. Show each step.	5 marks 3.5 or 4	CO1	Applying
8	Construct the AVL tree for the following data by inserting each of the following data item one at a time. Show each step. 30, 31, 32, 23, 22, 28, 24, 29, 26.	5 marks 4	CO2	Applying
9	Describe Indexed sequential file organization in detail. Also state its advantages and disadvantages.	5 marks 3.5	CO4	Understanding
10	Create a B Tree of order 4 from below keys. Apply left bias method. A, Z, S, E, T, Y, Q, S, P, O, E, W	5 marks 1	CO2	Applying

END OF QUESTION PAPER

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