

End Semester Examination

May-June 2023

CET1043B - Fundamentals of Data Structures

Schedule ID: 19590

Faculty/School	Faculty of Engineering & Technology	Term	III
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 do mean by data type and describe two categories of data types with example.	5 marks	CO1	Remembering
2	Write the pseudo C code for fast transpose.	5 marks	CO1, CO2	Understanding
3	Sort the following numbers using quick sort : 25, 82, 17, 23, 38, 7, 64, 86, 21. Show all passes and values for low, high, and pivot in each pass. State its time complexity.	5 marks	CO4	Applying
4	Explain the stability of the sorting algorithm with the help of an example.	5 marks	CO4	Remembering
5	Write a pseudo C code for sentinel search. Compare it with linear search.	5 marks	CO1, CO4	Applying
6	Write an ADT for Singly linked list.	5 marks	CO1, CO2, CO3	Understanding
7	Write a pseudo C code to delete an intermediate node from doubly linked list	5 marks	CO1, CO2, CO3	Understanding
8	Represent the following using GLL: (p, q(r, s (u, v), w) (x, y))	5 marks	CO2, CO3	Applying

9	Evaluate the following postfix expression and show the stack after each step in tabular form. Postfix expression: PQR + *ST / - Value = 3, Q= 6, R= 2, S= 1 and T = 3.	5 marks	CO2, CO3	Applying
10	Explain linear queues and circular queues with suitable examples. Give advantages of the circular queue over the linear queue.	5 marks	CO2, CO3	Remembering

END OF QUESTION PAPER