CLASS: IMSC   SEMESTER: III
BRANCH: MATHS   SESSION: MO/2022

SUBJECT: CS201 DATA STRUCTURES

TIME: 2 HOURS   FULL MARKS: 25

INSTRUCTIONS:
1. The total marks of the questions are 25.
2. Candidates attempt for all 25 marks.
3. Before attempting the question paper, be sure that you have got the correct question paper.
4. The missing data, if any, may be assumed suitably.
5. Tables/Data handbook/Graph paper etc. to be supplied to the candidates in the examination hall.

			CO	BL
Q1 (a)	List the limitations of array.	[2]	1	2
Q1 (b)	Write an algorithm/procedure/program/pseudocode to find the length of the entered string.	[3]	1	2
Q2 (a)	Calculate the address of X[4,3] in a two dimensional array X[1….5, 1…4] stored in row major order in the main memory. Assume the base address to be 1000 and that each element requires 4 words of storage.	[2]	2	2
Q2 (b)	Write an algorithm/program/procedure/pseudocode to insert a number in an array which is already sorted in ascending order.	[3]	2	2
Q3 (a)	Convert the infix to prefix and postfix expressions. $A-B/C+D*E*F/G*H$	[2]	3	1
Q3 (b)	Write an algorithm/procedure/program/pseudocode for the evaluation of Postfix expressions and explain with an example.	[3]	3	1
Q4 (a)	List the demerits of Liner Queue. Explain through examples the Queue operations based on which rule.	[2]	4	2
Q4 (b)	Write a program/algorithm/procedure/pseudocode to show the insert and delete operations in a Circular Queue.	[3]	4	1
Q5 (a)	Explain the merits and demerits of Linked list over Array Implementations.	[2]	5	3
Q5 (b)	Write a program/procedure/pseudocode/algorithm for reversing a link list.	[3]	5	2

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