

Total No. of Questions – [2]

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G.R. No.	
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PAPER CODE	V124-334
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March 2024 (INSEM) EXAM
F.Y.B. TECH. (SEMESTER - II)
COURSE NAME: Fundamentals of Data Structure
COURSE CODE: CS12234
(PATTERN 2023)

Time: [40 min]

[Max. Marks: 20]

(*) Instructions to candidates:

- 1) **Figures to the right indicate full marks.**
- 2) **Use of scientific calculator is allowed**
- 3) **Use suitable data wherever required**
- 4) **Solve any two sub questions from Question 1 and 2**

Question No.	Question Description	Marks	CO mapped	Blooms Taxonomy Level
Q.1	a) Imagine you are developing a feature for a music streaming application that allows users to search for songs by their titles. The application stores a large collection of songs in a sorted array, where each element represents a song title in alphabetical order. Identify the appropriate searching method which is applicable for searching the song and write a pseudocode/ java function for the same.	[5]	CO1	APPLY
	b) A report card generation system for a school has to be developed. The system needs to sort student grades in ascending order before generating the report cards. The grades are stored in an array, where each element represents the grade of a student. Choose an appropriate sorting algorithm and write the algorithm/pseudo code for sorting the student grades.	[5]	CO1	APPLY
	c) Develop an algorithm/pseudo code for String operations using java. Write any 5 string functions.	[5]	CO1	APPLY
Q2	a) Compare SLL and DLL node structure and write pseudocode /java function to insert element at first and last position in SLL and DLL.	[5]	CO2	APPLY

	<p>b) Identify which type of link list is suitable for developing music playlist to facilitate easy navigation in both forward and backward direction. Justify .Write a pseudo code for reversing and displaying a doubly link list.</p>	<p>[5]</p>	<p>CO2</p>	<p>APPLY</p>
		<p>[5]</p>	<p>CO2</p>	<p>APPLY</p>
	<p>c) Compare SLL and CLL and write pseudocode /java function to insert element at first and last position in CLL and to display it.</p>			