Course Outcomes & CO-PO-PSO Mapping and Justification

Subject	Data Structures and Applications	17CS33
COURSE OUTCOMES:		
CO No.	**On completion of this course, students will be able to:**	**RBT Level / Cognitive Level**
17CS33.1	Understand fundamentals of data structures and their applications essential for programming/problem solving.	L2
17CS33.2	Apply Linear Data Structures: Stack, Queues and Recursion.	L3
17CS33.3	Apply Linear Data Structures: Linked Lists.	L3
17CS33.4	Apply Non-Linear Data Structures: Trees and Graphs.	L3
17CS33.5	Understand the concepts of Hashing, Files and their Organization and Sorting Algorithms.	L2

CO-PO-PSO MAPPING

CO No.	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
17CS33.1	3		-	-	-	-	-	-	-	-	-	2	1	-	-
17CS33.2	3	2	1	1	-	-	-	-	-	-	-	2	1	-	-
17CS33.3	3	2	1	1	-	-	-	-	-	-	-	2	1	-	-
17CS33.4	3	2	1	1	-	-	-	-	-	-	-	2	1	-	-
17CS33.5	3		-	-	-	-	-	-	-	-	-	2	1	-	-
17CS33	**3.0**	**2.0**	**1.0**	**1.0**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**2.0**	**1.0**	-	-

CO-PO-PSO JUSTIFICATION

CO No.	PO/PSO	CL	Justification
17CS33.1	PO1	3	Strongly mapped as the knowledge in fundamental programming methodologies help students in designing solutions for complex engineering problems.
	PO12	2	Moderately mapped as Information acquired from the fundamentals of Data Structures provides lifelong learning in the context of technological change.
	PSO1	1	Slightly mapped as students will have the knowledge in programming methodologies help in designing solutions and analyzing its complexity.
17CS33.2	PO1	3	Strongly mapped as students will have the knowledge of stacks and queues can be applied to solve complex engineering problems.
	PO2	2	Moderately mapped as students will apply various programming methodologies like stacks and queues them in problem analysis.
	PO3	1	Slightly mapped as students understand the programming methodologies which help in designing solutions for complex engineering problems.
	PO4	1	Slightly mapped as students will have the knowledge of Stacks and Queues which help in analysis of solutions to complex problems.
	PO12	2	Moderately mapped as Information acquired from the stacks and queues provides lifelong learning in the context of technological change.
	PSO1	1	Slightly mapped as students will have the knowledge of stacks and queues which can be applied to design solutions to complex engineering problems in multidisciplinary areas.
17CS33.3	PO1	3	Strongly mapped as students gain knowledge of different Linked list operations.
	PO2	2	Moderately mapped as students are able to analyse complex problems using the concepts of linked lists.
	PO3	1	Slightly mapped as students understand the Polynomials, Sparse matrix representation which help in designing solutions for complex engineering problems.
	PO4	1	Slightly mapped as students will have the knowledge of Linked Lists which help in analysis of solutions that provide valid conclusions.
	PO12	2	Moderately mapped as Information acquired from the linked lists can be applied to solve various problems which provides lifelong learning in the context of technological change.

	PSO1	1	Slightly mapped as students will gain he knowledge of linear data structures like linked lists which can be applied to design solutions to complex engineering problems.
17CS33.4	PO1	3	Strongly mapped as students could apply the knowledge of various non-linear data structures like trees and graphs
	PO2	2	Moderately mapped as students use the knowledge of trees and graphs in problem analysis.
	PO3	1	Slightly mapped as students understand the programming methodologies which help in designing solutions for complex engineering problems.
	PO4	1	Slightly mapped as the knowledge of trees and graphs helps in representation, analysis and interpretation of data to provide valid conclusions.
	PO12	2	Moderately mapped as Information acquired from the non-linear data structures like trees and graphs can be applied to solve various problems which provides lifelong learning in the context of technological change.
	PSO1	1	The knowledge of non-linear data structures like trees and graphs can be applied to design solutions to complex engineering problems.
17CS33.5	PO1	3	The knowledge of various hashing techniques can be applied in designing solutions to complex engineering problems.
	PO12	2	Moderately mapped as knowledge of sorting and searching techniques can be applied to solve various problems which provides lifelong learning in the context of technological change.
	PSO1	1	Slightly mapped as students gain the knowledge of various sorting and hashing techniques can be applied in designing solutions to complex multidisciplinary engineering problems.

Prepared by: **Approved by:**

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