



<b>Subject</b>	<b>Data Structures with C</b>												<b>18CS32</b>		
<b>COURSE OUTCOMES</b>															
<b>CO No.</b>	<b>On completion of this course, students will be able to:</b>												<b>Cognitive Level</b>		
18CS32.1	Understand fundamentals of data structures and their applications essential for programming/problem solving.												<b>L2</b>		
18CS32.2	Apply Linear Data Structures: Stack, Queues and Recursion.												<b>L3</b>		
18CS32.3	Apply Linear Data Structures: Linked Lists.												<b>L3</b>		
18CS32.4	Apply Non-Linear Data Structures: Trees and Graphs.												<b>L3</b>		
18CS32.5	Understand the concepts of Hashing, Files and their Organization and Sorting Algorithms.												<b>L2</b>		
<b>CO-PO-PSO MAPPING</b>															
<b>CO No.</b>	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>	<b>PO 5</b>	<b>PO 6</b>	<b>PO 7</b>	<b>PO 8</b>	<b>PO 9</b>	<b>PO 10</b>	<b>PO 11</b>	<b>PO 12</b>	<b>PS O 1</b>	<b>PS O 2</b>	<b>PS O 3</b>
18CS32.1	3		-	-	-	-	-	-	-	-	-	2	1	-	-
18CS32.2	3	2	1	1	-	-	-	-	-	-	-	2	1	-	-
18CS32.3	3	2	1	1	-	-	-	-	-	-	-	2	1	-	-
18CS32.4	3	2	1	1	-	-	-	-	-	-	-	2	1	-	-
18CS32.5	3		-	-	-	-	-	-	-	-	-	2	1	-	-
<b>18CS32</b>	<b>3.0</b>	<b>2.0</b>	<b>1.0</b>	<b>1.0</b>	-	-	-	-	-	-	-	<b>2.0</b>	<b>1.0</b>	-	-

## **CO-PO-PS JUSTIFICATION**

<b>CO No.</b>	<b>PO/PSO</b>	<b>CL</b>	<b>Justification</b>
18CS32.1	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.
18CS32.2	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.
18CS32.3	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 the knowledge of linear data structures like linked lists which can be applied to design solutions to complex engineering problems.
18CS32.4	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.
18CS32.5	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:**

**(Dr. M Ramakrishna / Mamatha C R )**

**(H.o.D)**