



AMBEDKAR COLLEGE OF ARTS & SCIENCE, WANDOOR
(Aided by Govt. of Kerala & Affiliated to University of Calicut)
Wandoor (PO), Pin 679328, Ph: 04931-249666
acaswandoor@gmail.com, Website: www.ambedkarcollegewdr.in

COURSE PLAN										
Course code and title	CSC4C04- DATA STRUCTURE USING C									
Class	BSC MATHEMATICS				Semester		FOUR			
Regulation	2019				Academic year		2023-24			
Course prerequisites	Background of the basic science at +2 level									
Course objectives	To introduce the concept of data structures									
	To make the students aware of various data structures									
	To equip the students implement fundamental datastructures									
COURSE OUTCOMES										
At the end of the course the student would be able to ...										
CO1	Understand and describe fundamental data structures.									
CO2	Apply C programming constructs to implement data structures.									
CO3	Analyze the efficiency of data structure operations.									
CO4	Evaluate arithmetic approaches for data structure manipulation.									
CO5	Create and develop advanced data structure applications using C.									
MAPPING OF PROGRAM OUTCOMES										
COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	✓							✓		
CO2	✓		✓	✓	✓		✓	✓		
CO3					✓			✓		
CO4			✓	✓	✓		✓	✓		
CO5			✓	✓	✓		✓	✓		



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PO1	Knowledge Acquisition	PO6	Ethics & Social Responsibility
PO2	Communication & Leadership	PO7	Research, Innovation & Entrepreneurship
PO3	Professional Skills	PO8	Lifelong Learning
PO4	Digital Intelligence	PO9	Global Perspective
PO5	Scientific awareness & Critical Thinking	PO10	Democratic Co-existence

PROGRAM SPECIFIC OUTCOMES

PSO1	Understand the theoretical and mathematical foundations of Computer Science
PSO2	Understand the concepts of system architecture, hardware, software and network configuration
PSO3	Acquire logical thinking and problem-solving skills to find solutions in the software domain
PSO4	Design, analyze and develop code-based solutions for the algorithms
PSO5	Address the industry demands and assimilate technical, logical and ethical skills needed for the industry
PSO6	Adapt to emerging trends and tackle the challenges in the software field.

MAPPING OF COURSE OUTCOMES TO PROGRAM EDUCATIONAL OUTCOMES

PROGRAM EDUCATIONAL OUTCOMES	COURSE OUTCOMES				
	CO1	CO2	CO3	CO4	CO5
PEO1: Development of Leadership Qualities. Graduates will demonstrate Leadership qualities by utilizing their full intellectual potential, engaging with their communities, and contributing to the social, cultural, and economic development of society.		✓		✓	✓
PEO2: Lifelong Learning and Societal Contribution. Graduates will be equipped with core values and intellectual capabilities enabling them to pursue lifelong learning and				✓	✓



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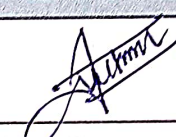
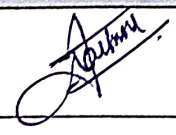
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meaningfully contribute to societal well-being through innovative thinking and service.					
PEO3: Entrepreneurial and Global Competence. Graduates will possess entrepreneurial skills and a global perspective, promoting sustainable national growth through ethical leadership, innovative ventures, and responsible citizenship.					
TEXT BOOKS: 1. Seymour Lipschutz, "Data Structures", Tata McGraw Hill Publishing Company Limited, Schaum's Outlines, New Delhi. 2. Yedidyan Langsam, Moshe J. Augenstein, and Aaron M. Tenenbaum, "Data Structures Using C", Pearson Education, New Delhi. 3. Horowitz and Sahani, "Fundamentals of Data Structures", Galgotia Publication Pvt. Ltd., New Delhi.					
REFERENCES: 1. Trembley, J.P. And Sorenson P.G., "An Introduction to Data Structures With Applications", McGraw-Hill International Student Edition, New York 2. Mark Allen Weiss, "Data Structures and Algorithm Analysis in C", Addison-Wesley, (An Imprint of Pearson Education), Mexico City. Yashvant Kanetkar, Let us C, BPB publications					
e-learning resources	https://www.geeksforgeeks.org/data-structure/				
Mode of Evaluation	Internal Examination (20%) End Semester Examination (80%)				
Faculty	Jasmine MT , Assistant Professor/ Department of Computer Science				
e-mail id	Jasminefasil123@gmail.com				



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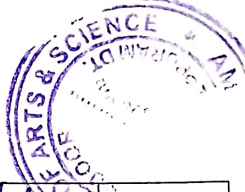
COURSE PLAN-CSC4C04- DATA STRUCTURE USING C

No of lecture hours	Planned Date	Topics to be covered	Reference/ Teaching aids and methods	Actual date	Week ly review
MODULE I - Primitive Data types and Abstract Data Types(ADT)					
1	05-01-2024	Primitive Data types	T/WB	2/2/24	
2	10-01-2024	Abstract Data Types(ADT)	T/WB	2/2/24	
3	11-01-2024	Introduction to data structures	T/WB	7/2/24	
4	12-01-2024	definition	T/WB	7/2/24	
5	17-01-2024	characteristics of data structures	T/WB	7/2/24	
6	18-01-2024	categories of data structures	T/WB	16/2/24	
7	19-01-2024	categories of data structures	T/WB	16/2/24	
8	25-01-2024	algorithm	T/WB	22/2/24	
9	26-01-2024	algorithm	T/WB	22/2/24	
10	31-01-2024	space complexity	T/WB	1/3/24	
11	01-02-2024	time complexity of an algorithm	T/WB	1/3/24	
Planned hours	Actual hours	Date	Sign of Faculty	Review by HoD	Review by Principal
11	10	1/3/24		SHASHAD AMEERU Asst. Professor & Head Department of Mathematics Ambedkar College of Arts & Science	AMBEDKAR COLLEGE ARTS & SCIENCE WANDOOR, MALAPPURAM
MODULE II - Arrays and Singly Linked Lists					
12	07-02-2024	Arrays	R/WB	7/3/24	
13	08-02-2024	One dimensional array	R/WB	7/3/24	
14	09-02-2024	Two dimensional array	R/WB	12/3/24	
15	14-02-2024	Multi dimensional array	R/WB	12/3/24	
16	15-02-2024	Operations on arrays	T/WB	12/3/24	
17	16-02-2024	Operations on arrays	T/WB	12/3/24	
18	21-02-2024	Sparse matrix Representation	T/WB	16/3/24	
Planned hours	Actual hours	Date	Sign of Faculty	Review by HoD	Review by Principal
7	5	14/3/24		SHASHAD AMEERU Asst. Professor & Head Department of Mathematics Ambedkar College of Arts & Science	AMBEDKAR COLLEGE ARTS & SCIENCE WANDOOR, MALAPPURAM
MODULE III - Lists					
19	22-02-2024	Linked List	T/WB	3/6/24	
20	23-02-2024	Definition	T/WB	3/6/24	
21	28-02-2024	Creation	T/WB	3/6/24	
22	29-02-2024	Operations	T/WB	4/6/24	
23	01-03-2024	Operations	T/WB	5/6/24	
24	06-03-2024	Operations	T/WB	5/6/24	
25	07-03-2024	Basics of Doubly Linked List	T/WB	6/6/24	



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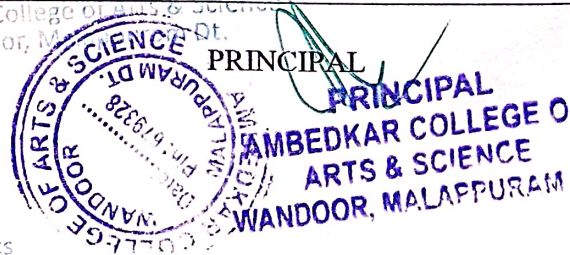
26	13-03-2024	Basics of Doubly Linked List				T/WB	6/6/24
27	14-03-2024	Circular Linked List				T/WB	7/6/24
Planned hours	Actual hours	Date	Sign of Faculty	Review by HoD	Review by Principal		
9	9	7/6/24			SHARSHAD AMEERA.U Asst. Professor & Head Department of Mathematics Ambedkar College of Arts & Science Wandoor, Malappuram Dt.		
MODULE IV - Stack and Queues							
28	15-03-2024	Definition and Operations on stack				T/WB/PPT	12/6/24
29	20-03-2024	Implementation of Stack using arrays				T/WB/PPT	12/6/24
30	21-03-2024	Implementation of Stack using linked lists				T/WB/PPT	13/6/24
31	22-03-2024	Applications of Stacks				T/WB	13/6/24
32	27-03-2024	Polynomial Addition				T/WB	14/6/24
33	05-06-2024	Definition of queue				T/WB	14/6/24
34	06-06-2024	Implementations of queue using arrays				T/WB/PPT	19/6/24
35	07-06-2024	Implementations of queue using linked lists				T/WB/PPT	19/6/24
36	12-06-2024	basics of Circular queue				T/WB	20/6/24
37	13-06-2024	Deque				T/WB	20/6/24
38	14-06-2024	Applications of queues				T/WB	21/6/24
Planned hours	Actual hours	Date	Sign of Faculty	Review by HoD	Review by Principal		
11	10	21/6/24			SHARSHAD AMEERA.U Asst. Professor & Head Department of Mathematics Ambedkar College of Arts & Science Wandoor, Malappuram Dt.		
MODULE V - Searching and Sorting							
39	19-06-2024	Searching				WB/PPT	21/3/24
40	20-06-2024	Linear search				T/PPT	21/3/24
41	21-06-2024	Binary search				T/PPT	21/3/24
42	26-06-2024	Sorting, Linear sort				T/PPT	22/3/24
43	27-06-2024	Bubble sort				T/PPT	22/3/24
44	28-06-2024	Selection sort				T/PPT	22/3/24
45	03-07-2024	Insertion sort				T/PPT	27/3/24
46	04-07-2024	Quick sort				T/PPT	27/3/24
47	05-07-2024	Merge sort				T/PPT	27/3/24
48	10-07-2024	Comparisons and implementations				T/PPT	27/3/24
Planned hours	Actual hours	Date	Sign of Faculty	Review by HoD	Review by Principal		
10	8	27/3/24			SHARSHAD AMEERA.U Asst. Professor & Head Department of Mathematics Ambedkar College of Arts & Science Wandoor, Malappuram Dt.		

FACULTY

HOD

PRINCIPAL

SHARSHAD AMEERA.U
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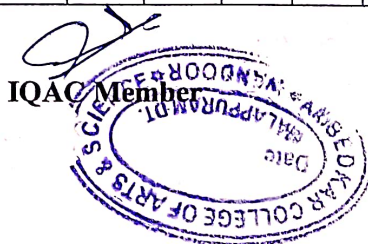
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Course outcome –Program outcome Mapping Table

CSC4C04- DATA STRUCTURE USING C		Cognitive level	Program outcomes									
			1- Low Correlation 2- Moderate Correlation 3- High Correlation									
			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
DIRECT METHOD												
CO1	Understand and describe fundamental data structures.	Rememb er	3							2		
CO2	Apply C programming constructs to implement data structures.	Apply	3		2	2	3		1	1		
CO3	Analyze the efficiency of data structure operations.	Apply & Analyze					3			1		
CO4	Evaluate arithmetic approaches for data structure manipulation.	Create			1	3	2		1	1		
CO5	Create and develop advanced data structure applications using C.	Innovate			3	3	3		2	1		
INDIRECT METHOD												
Class Room contests		Analyze & Create	1		3	3	2		1			

Course Faculty

IQAC Member



HoD

SHARSHAD AMEERA.U
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COURSE PRE-ANALYSIS

Dear Students,

Welcome back to class, I would like to thank all of you for sparing your time in filling up this Course Pre-Analysis survey for the effective conduct of Computer Aided Design and Manufacturing Course. As you know that this survey is meant for knowing the knowledge level of the students with respect to this course, please fill it very carefully. At this juncture, I am glad to welcome the suggestions from you all (if any).

Rate your prior knowledge about the topics mentioned below

Course Outcomes	Description	Rate your prior knowledge about the topics			
		Excellent (4)	Good (3)	Moderate (2)	Fair (1)
CO1	Understand and describe fundamental data structures.				✓
CO2	Apply C programming constructs to implement data structures.			✓	
CO3	Analyze the efficiency of data structure operations.				✓
CO4	Evaluate arithmetic approaches for data structure manipulation.				✓
CO5	Create and develop advanced data structure applications using C.				✓

Name of the student:

Muhammed Smao. SV

Signature of the student



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Syllabus

Unit I [11 T+6L]

Primitive Data types and Abstract Data Types(ADT) - Introduction to data structures – definition - characteristics of data structures - categories of data structures – algorithm - space complexity and time complexity of an algorithm (concept only).

Unit II [7 T+6L]

Arrays and Singly Linked Lists - 1D, 2D and Multi-dimensional arrays – operations on arrays - Sparse matrix Representation

Unit III [9 T+7L]

Lists- Linked List- Definition –Creation- Operations, Basics of Doubly Linked List, Circular Linked List.

Unit IV [11 T+7L]

Stack and Queues – Definition and Operations on stack - Implementation of Stack using arrays and linked lists - Applications of Stacks - Polynomial Addition Queues – Definition, Implementations of queue using arrays and linked lists – basics of Circular queue, Dequeue - Applications of queues.

Unit V [10 T+7L]

Searching and Sorting: Searching: Linear search & Binary search. Sorting – Linear sort - Bubble sort - Selection sort - Insertion sort - Quick sort - Merge sort – Comparisons and implementations.

Text books:

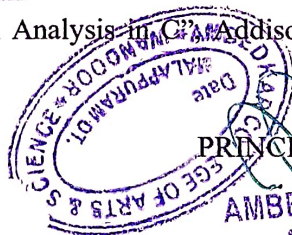
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Reference books:

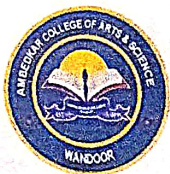
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Course outcome –Program Specific outcome Mapping Table

Course outcomes	Program Specific outcomes					
	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	✓		✓		✓	
CO2	✓		✓	✓	✓	
CO3			✓	✓		
CO4	✓		✓	✓	✓	✓
CO5	✓		✓	✓	✓	✓

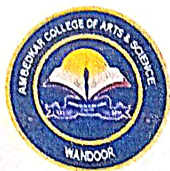
Course Faculty

IQAC Member



HoD

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DIRECT ASSESSMENT OF COURSE OUTCOMES

INTERNAL ASSESSMENT TEST - 30 MARKS				
Objective	To Identify What Students Have Learned and also to identify students strength and weakness			
To file	Answer scripts	Frequency	1 time in a semester on dates specified by University	
Format	.			
Evaluation	Based on answer given in the scripts			
ASSIGNMENT: 3MARKS				
Objective	To enhance students understanding of a complex structural problems			
Product	Hand written assignment sheets			
Frequency	Semester			
Format	-			
Evaluation	Based on rubrics			
Criteria	No. of assignments: 1 Submit on or before the date of submission			
END SEMESTER EXAMINATION 100 MARKS (Reduced to 75Marks)				
Objective	To assess the each student's knowledge of the course			
Product	Result analysis			
Frequency	Semester			
Format	Part –A 12x 3=24 marks, Part –B 5 x 7 = 25 marks 10 x 1=10, Total marks = 60, Duration : 2 hours			
Evaluation	Based on answer given in the scripts			
Marks out of 100	0-50 (22-37)	51-70 (38- 52)	71-100 (53-75)	0-50 (0-37)
Levels of attainment	1	2	3	Counseling / Coaching classes.



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COURSE EXIT SURVEY

Dear Students,

We are seeking valuable feedback from you, to improve upon the course contents, coverage, methods of instruction and teaching learning methods of the course you have learned for the semester; kindly rate the process of delivering the syllabus from 1 – 5 scale (5-Excellent, 4-Very good, 3-Good 2-Average, 1-Below average)

Name	Muhammed Sinto. SV		Reg No	VFANSMTO19		
Course Code	CSC4C04	Name of Course	DATA STRUCTURE USING C			
Dept	MATHEMATICS	Semester	IV	Date		
Sl No	Questioners	1	2	3	4	5
1.	Quality of the Course content			✓		
2.	Suitability of Contents beyond syllabus topics			✓		
3.	Relevance of the text& Reference books suggested				✓	
4.	Support of Library for the Course contents			✓		
5.	Course delivery methods by teacher				✓	
6.	Use of ICT tools in class				✓	
7.	Relevance of Syllabus topics for your placement				✓	
8.	Usefulness of the topics for life		✓			
9.	Content stimulates intellectually				✓	
10.	Fairness of the internal evaluation system				✓	
11.	Assignments, competitive evaluation methods				✓	
12.	Topics covered supported by online resources & LMS				✓	
I am able to achieve the following (Relating to Course outcomes)						
CO1	Understand and describe fundamental data structures.					✓
CO2	Apply C programming constructs to implement data structures.				✓	
CO3	Analyze the efficiency of data structure operations.				✓	
CO4	Evaluate arithmetic approaches for data structure manipulation.				✓	

CO5	Create and develop advanced data structure applications using C.					✓
		Suggestions for				
Inclusions		Deletion of topics				

Signature of the Student



Class Advisor



HoD



SHARSHAD AMEERA.U
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Attainment Levels of COs

Course Name: CSC4C04- DATA STRUCTURE USING C				
Assessment Methods	Target-Attainment Levels			Attainment
Internal Assessment	Level 1	50% of students scoring more than 35% marks in internal assessment tools		LEVEL 03
	Level 2	60% of students scoring more than 35% marks in internal assessment tools		
	Level 3	70% of students scoring more than 35% marks in internal assessment tools		
Assessment Methods	Target-Attainment Levels			Attainment
University Assessment	Level 1	50% of students scoring more than 35% marks in UE assessment tools		LEVEL 03
	Level 2	60% of students scoring more than 35% marks in UE assessment tools		
	Level 3	70% of students scoring more than 35% marks in UE assessment tools		



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DEPARTMENT OF MATHEMATICS
CO ATTAINMENT - IA TEST MARKS (EVEN SEM. 2023-2024)

Semester: IV

Course: CSC4C04- DATA STRUCTURE USING C

Name of the faculty member: JASMINE MT

Sl. No.	Name of the student	REG NO	IA TEST	COURSE OUTCOMES	
			Q1 TO Q14	IA TEST	
			CO1 TO CO5	CO1 TO CO5	
		Max. Marks	30	%age	Y/N
1	ADLA.P	UFAWSMT001	30	100	Y
2	DILSHA.AP	UFAWSMT003	23	77	Y
3	HIBA SHERIN.MK	UFAWSMT005	19	63	Y
4	HUSNA SHERIN.K	UFAWSMT006	30	100	Y
5	MUFEEDA	UFAWSMT007	25	83	Y
6	RINSHA.TP	UFAWSMT008	24	80	Y
7	RISVANA SHERIN.A	UFAWSMT009	28	93	Y
8	SAHANA MUMTHAZ	UFAWSMT010	22	73	Y
9	SANA.MT	UFAWSMT011	27	90	Y
10	SANA.VK	UFAWSMT012	23	77	Y
11	SANEEBA.K	UFAWSMT013	22	73	Y
12	SHAHMA.CH	UFAWSMT014	15	50	Y
13	SHIFNA SHARIN	UFAWSMT016	30	100	Y
14	FAYIZ.C	UFAWSMT017	22	73	Y
15	MOHAMMED SWALIH.C	UFAWSMT018	18	60	Y
16	MUHAMMED SINAN.SV	UFAWSMT019	29	97	Y
17	SHAHID IRFAN.TP	UFAWSMT020	19	63	Y
18	ARYA.VR	UFAWSMT021	24	80	Y
19	ASNA RUBA.K	UFAWSMT022	22	73	Y
20	FATHIMA RANNA.T	UFAWSMT024	30	100	Y
21	HANNA MOL	UFAWSMT025	17	57	Y
22	HARSHA MOHANDAS.CM	UFAWSMT026	10	33	N
23	IRFANA SHERIN KALLINGAL	UFAWSMT027	13	43	Y



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DEPARTMENT OF MATHEMATICS

24	MANYA.P	UFAWSMT028	24	80	Y
25	MINNA.P	UFAWSMT029	25	83	Y
26	RINSHA.V	UFAWSMT030	25	83	Y
27	RISHIKA.PK	UFAWSMT031	12	40	Y
28	SARANYA.KN	UFAWSMT032	24	80	Y
29	SHIFNA SHERI.K	UFAWSMT033	15	50	Y
30	ABHINAV.P	UFAWSMT034	14	47	Y
31	AKSHAY RAJ.K	UFAWSMT035	9	30	N
32	MAQBOOL RAASI.PM	UFAWSMT037	19	63	Y
33	SIBIL.V	UFAWSMT038	16	53	Y
34	VISHNU.C	UFAWSMT039	9	30	N
35	MASHBOOBA S V	UFAWSMT040	10	33	N
				31	
				88.57	
FOR LAL (CSC4C04)			CO1 to CO5		
TARGET: 50% OF STUDENTS			88.6		



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DEPARTMENT OF MATHEMATICS
CO ATTAINMENT - ASSIGNMENT(EVEN SEM. 2023-2024)

Semester: IV

Course: CSC4C04 DATA STRUCTURE USING C

Name of the faculty member: JASMINE MT

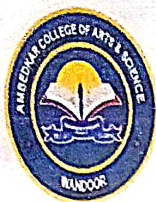
Name of the faculty member: JASMIN M

Sl. No.	Name of the student	REG NO	ASSIGNMENT	SEMINAR	ATTENDANCE	COURSE OUTCOMES				ATTENDANCE	
			CO1 to CO5	CO1 to CO5		CO1 - 5		CO1 - 5			
Max. Marks			3	3	3	%age	Y/N	%age	Y/N	%age	Y/N
1	ADLA.P	UFAWSMT001	3	3	3	100	Y	100	Y	100	Y
2	DILSHA.AP	UFAWSMT003	3	3	3	100	Y	100	Y	100	Y
3	HIBA SHERIN.MK	UFAWSMT005	3	3	2	100	Y	100	Y	66.6667	Y
4	HUSNA SHERIN.K	UFAWSMT006	3	3	3	100	Y	100	Y	100	Y
5	MUFEEDA	UFAWSMT007	3	3	3	100	Y	100	Y	100	Y
6	RINSHA.TP	UFAWSMT008	3	3	3	100	Y	100	Y	100	Y
7	RISVANA SHERIN.A	UFAWSMT009	3	3	2	100	Y	100	Y	66.6667	Y
8	SAHANA MUMTHAZ	UFAWSMT010	3	3	3	100	Y	100	Y	100	Y
9	SANA.MT	UFAWSMT011	3	3	3	100	Y	100	Y	100	Y
10	SANA.VK	UFAWSMT012	3	3	3	100	Y	100	Y	100	Y
11	SANEEBA.K	UFAWSMT013	3	3	3	100	Y	100	Y	100	Y
12	SHAHMA.CH	UFAWSMT014	3	3	3	100	Y	100	Y	100	Y
13	SHIFNA SHARIN	UFAWSMT016	3	3	3	100	Y	100	Y	100	Y
14	FAYIZ.C	UFAWSMT017	3	3	3	100	Y	100	Y	100	Y
15	MOHAMMED SWALIH.C	UFAWSMT018	3	3	3	100	Y	100	Y	100	Y
16	MUHAMMED SINAN.SV	UFAWSMT019	3	3	3	100	Y	100	Y	100	Y

17	SHAHID IRFAN.TP	UFAWSMT020	3	3	2	100	Y	100	Y	66.6667	Y
18	ARYA.VR	UFAWSMT021	3	3	3	100	Y	100	Y	100	Y
19	ASNA RUBA.K	UFAWSMT022	3	3	3	100	Y	100	Y	100	Y
20	FATHIMA RANNA.T	UFAWSMT024	3	3	3	100	Y	100	Y	100	Y
21	HANNA MOL	UFAWSMT025	3	3	3	100	Y	100	Y	100	Y
22	HARSHA MOHANDAS.CM	UFAWSMT026	3	3	3	100	Y	100	Y	100	Y
23	IRFANA SHERIN KALLINGAL	UFAWSMT027	3	3	3	100	Y	100	Y	100	Y
24	MANYA.P	UFAWSMT028	3	3	3	100	Y	100	Y	100	Y
25	MINNA.P	UFAWSMT029	3	3	2	100	Y	100	Y	66.6667	Y
26	RINSHA.V	UFAWSMT030	3	3	3	100	Y	100	Y	100	Y
27	RISHIKA.PK	UFAWSMT031	3	3	3	100	Y	100	Y	100	Y
28	SARANYA.KN	UFAWSMT032	3	3	3	100	Y	100	Y	100	Y
29	SHIFNA SHERI.K	UFAWSMT033	3	3	3	100	Y	100	Y	100	Y
30	ABHINAV.P	UFAWSMT034	3	3	2	100	Y	100	Y	66.6667	Y
31	AKSHAY RAJ.K	UFAWSMT035	3	3	3	100	Y	100	Y	100	Y
32	MAQBOOL RAASI.PM	UFAWSMT037	3	3	3	100	Y	100	Y	100	Y
33	SIBIL.V	UFAWSMT038	3	3	2	100	Y	100	Y	66.6667	Y
34	VISHNU.C	UFAWSMT039	3	3	2	100	Y	100	Y	66.6667	Y
35	MASHBOOBA S V	UFAWSMT040	3	3	2	100	Y	100	Y	66.6667	Y
						35		35		35	
						100.00		100.00		100.00	

FOR LAL (CSC4C04)	CO1 TO 5	CO1 TO 5	ATTENDANCE
	100.00	100.00	100.00

TARGET: 1) 90% OF STUDENTS WILL SCORE 35% OF MARKS IN ASSIGNMENT



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DEPARTMENT OF MATHEMATICS
CO ATTAINMENT - FINAL EXAM MARKS (EVEN SEM . 2023-2024)

Semester: IV

Course: CSC4C04-DATA STRUCTURE USING C

Sl. No.	Name of the student	REG NO	COURSE OUTCOMES	CO ATTAINMENT	
			CO 1 TO CO5	CO 1 TO CO5	
		Max. Grade point	20	%age	Y/N
1	ADLA.P	UFAWSMT001	16	80	Y
2	DILSHA.AP	UFAWSMT003	12	60	Y
3	HIBA SHERIN.MK	UFAWSMT005	10	50	Y
4	HUSNA SHERIN.K	UFAWSMT006	16	80	Y
5	MUFEEDA	UFAWSMT007	16	80	Y
6	RINSHA.TP	UFAWSMT008	14	70	Y
7	RISVANA SHERIN.A	UFAWSMT009	0	0	N
8	SAHANA MUMTHAZ	UFAWSMT010	16	80	Y
9	SANA.MT	UFAWSMT011	14	70	Y
10	SANA.VK	UFAWSMT012	12	60	Y
11	SANEEBA.K	UFAWSMT013	14	70	Y
12	SHAHMA.CH	UFAWSMT014	8	40	Y
13	SHIFNA SHARIN	UFAWSMT016	14	70	Y
14	FAYIZ.C	UFAWSMT017	16	80	Y
15	MOHAMMED SWALIH.C	UFAWSMT018	14	70	Y
16	MUHAMMED SINAN.SV	UFAWSMT019	12	60	Y
17	SHAHID IRFAN.TP	UFAWSMT020	12	60	Y
18	ARYA.VR	UFAWSMT021	16	80	Y
19	ASNA RUBA.K	UFAWSMT022	16	80	Y
20	FATHIMA RANNA.T	UFAWSMT024	10	50	Y
21	HANNA MOL	UFAWSMT025	10	50	Y
22	HARSHA MOHANDAS.CM	UFAWSMT026	10	50	Y
23	IRFANA SHERIN KALLINGAL	UFAWSMT027	10	50	Y
24	MANYA.P	UFAWSMT028	16	80	Y
25	MINNA.P	UFAWSMT029	14	70	Y
26	RINSHA.V	UFAWSMT030	10	50	Y
27	RISHIKA.PK	UFAWSMT031	12	60	Y
28	SARANYA.KN	UFAWSMT032	16	80	Y
29	SHIFNA SHERI.K	UFAWSMT033	14	70	Y
30	ABHINAV.P	UFAWSMT034	0	0	N

31	AKSHAY RAJ.K	UFAWSMT035	10	50	Y
32	MAQBOOL RAASI.PM	UFAWSMT037	14	70	Y
33	SIBIL.V	UFAWSMT038	14	70	Y
34	VISHNU.C	UFAWSMT039	0	0	N
35	MASHBOOBA S V	UFAWSMT040	12	60	Y
				32	
				91.43	
		FOR L&L (CSC4C04)	CO1 to CO5		
			91.43		
		TARGET: 75% OF STUDENTS WILL SCORE 35% OF MARKS			



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DEPARTMENT OF MATHEMATICS

DIRECT ASSESSMENT METHOD - CO ATTAINMENT (EVEN SEM . 2023-2024)

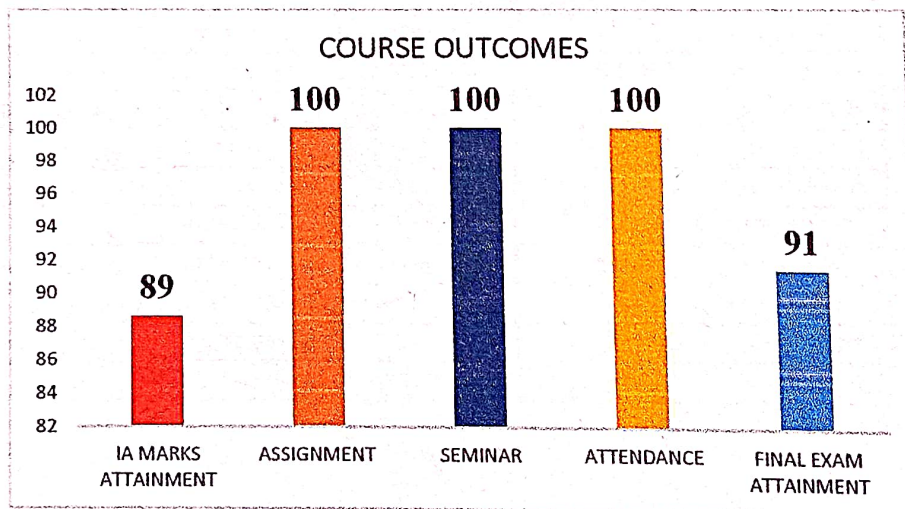
Semester: IV

Course: CSC4C04-DATA STRUCTURE USING C

Name of the faculty member: JASMINE MT

TARGET: 60% ATTAINMENT

COs	CO1 to CO5
IA MARKS ATTAINMENT	89
ASSIGNMENT	100
SEMINAR	100
ATTENDANCE	100
FINAL EXAM ATTAINMENT	91
AVERAGE	96





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DEPARTMENT OF MATHEMATICS

COURSE EXIT SURVEY RESPONSES (EVEN SEM., 2023-2024)

Semester: IV

Course: CSC4C04-DATA STRUCTURE USING C

Name of the faculty member: JASMINE MT

Sl. No.	NAME OF THE STUDENT	REG NO	Are you able to understand and describe fundamental data structures.	Are you able to apply C programming constructs to implement data structures.	Are you able to analyze the efficiency of data structure operations.	Are you able to evaluate arithmetic approaches for data structure manipulation.	Are you able to create and develop advanced data structure applications using C.
COURSE OUTCOMES			CO1	CO2	CO3	CO4	CO5
1	ADLA.P	UFAWSMT001	5 (EXCELLENT)	5 (EXCELLENT)	5 (EXCELLENT)	5 (EXCELLENT)	5 (EXCELLENT)
2	DILSHA.AP	UFAWSMT003	4 (Very Good)	4 (Very Good)	4 (Very Good)	5 (EXCELLENT)	5 (EXCELLENT)
3	HIBA SHERIN.MK	UFAWSMT005	5 (EXCELLENT)	5 (EXCELLENT)	4 (Very Good)	5 (EXCELLENT)	4 (Very Good)
4	HUSNA SHERIN.K	UFAWSMT006	5 (EXCELLENT)	4 (Very Good)	5 (EXCELLENT)	5 (EXCELLENT)	5 (EXCELLENT)
5	MUFEEDA	UFAWSMT007	4 (Very Good)	5 (EXCELLENT)	5 (EXCELLENT)	5 (EXCELLENT)	5 (EXCELLENT)
6	RINSHA.TP	UFAWSMT008	5 (EXCELLENT)	5 (EXCELLENT)	4 (Very Good)	5 (EXCELLENT)	5 (EXCELLENT)
7	RISVANA SHERIN.A	UFAWSMT009	4 (Very Good)	4 (Very Good)	5 (EXCELLENT)	5 (EXCELLENT)	5 (EXCELLENT)
8	SAHANA MUMTHAZ	UFAWSMT010	5 (EXCELLENT)	4 (Very Good)	5 (EXCELLENT)	5 (EXCELLENT)	4 (Very Good)
9	SANA.MT	UFAWSMT011	5 (EXCELLENT)	4 (Very Good)	5 (EXCELLENT)	4 (Very Good)	5 (EXCELLENT)
10	SANA.VK	UFAWSMT012	5 (EXCELLENT)	5 (EXCELLENT)	4 (Very Good)	5 (EXCELLENT)	4 (Very Good)
11	SANEEBA.K	UFAWSMT013	5 (EXCELLENT)	4 (Very Good)	5 (EXCELLENT)	5 (EXCELLENT)	5 (EXCELLENT)
12	SHAHMA.CH	UFAWSMT014	4 (Very Good)	5 (EXCELLENT)	4 (Very Good)	5 (EXCELLENT)	4 (Very Good)

13	SHIFNA SHARIN	UFAWSMT016	5 (EXCELLENT)	5 (EXCELLENT)	5 (EXCELLENT)	4 (Very Good)	5 (EXCELLENT)
14	FAYIZ.C	UFAWSMT017	5 (EXCELLENT)	4 (Very Good)	4 (Very Good)	5 (EXCELLENT)	5 (EXCELLENT)
15	MOHAMMED SWALIH.C	UFAWSMT018	5 (EXCELLENT)	5 (EXCELLENT)	5 (EXCELLENT)	4 (Very Good)	5 (EXCELLENT)
16	MUHAMMED SINAN.SV	UFAWSMT019	5 (EXCELLENT)	5 (EXCELLENT)	5 (EXCELLENT)	5 (EXCELLENT)	4 (Very Good)
17	SHAHID IRFAN.TP	UFAWSMT020	5 (EXCELLENT)	4 (Very Good)	4 (Very Good)	5 (EXCELLENT)	5 (EXCELLENT)
18	ARYA.VR	UFAWSMT021	5 (EXCELLENT)	5 (EXCELLENT)	4 (Very Good)	5 (EXCELLENT)	5 (EXCELLENT)
19	ASNA RUBA.K	UFAWSMT022	4 (Very Good)	5 (EXCELLENT)	5 (EXCELLENT)	5 (EXCELLENT)	4 (Very Good)
20	FATHIMA RANNA.T	UFAWSMT024	5 (EXCELLENT)	4 (Very Good)	5 (EXCELLENT)	5 (EXCELLENT)	5 (EXCELLENT)
21	HANNA MOL	UFAWSMT025	4 (Very Good)	5 (EXCELLENT)	4 (Very Good)	4 (Very Good)	4 (Very Good)
22	HARSHA MOHANDAS.CM	UFAWSMT026	4 (Very Good)	4 (Very Good)	3(Good)	3(Good)	4 (Very Good)
23	IRFANA SHERIN KALLINGAL	UFAWSMT027	5 (EXCELLENT)	5 (EXCELLENT)	4 (Very Good)	5 (EXCELLENT)	4 (Very Good)
24	MANYA.P	UFAWSMT028	5 (EXCELLENT)	5 (EXCELLENT)	5 (EXCELLENT)	5 (EXCELLENT)	5 (EXCELLENT)
25	MINNA.P	UFAWSMT029	5 (EXCELLENT)	4 (Very Good)	4 (Very Good)	4 (Very Good)	5 (EXCELLENT)
26	RINSHA.V	UFAWSMT030	5 (EXCELLENT)	5 (EXCELLENT)	4 (Very Good)	5 (EXCELLENT)	4 (Very Good)
27	RISHIKA.PK	UFAWSMT031	4 (Very Good)	4 (Very Good)	4 (Very Good)	3(Good)	3 (Good)
28	SARANYA.KN	UFAWSMT032	5 (EXCELLENT)	4 (Very Good)	4 (Very Good)	4 (Very Good)	5 (EXCELLENT)
29	SHIFNA SHERI.K	UFAWSMT033	5 (EXCELLENT)	5 (EXCELLENT)	4 (Very Good)	4 (Very Good)	5 (EXCELLENT)
30	ABHINAV.P	UFAWSMT034	4 (Very Good)	2 (Very Fair)	3 (Good)	3 (Good)	2(Very Fair)
31	AKSHAY RAJ.K	UFAWSMT035	4 (Very Good)	4 (Very Good)	3 (Good)	3 (Good)	3 (Good)
32	MAQBOOL RAASI.PM	UFAWSMT037	5 (EXCELLENT)	5 (EXCELLENT)	5 (EXCELLENT)	4 (Very Good)	4 (Very Good)
33	SIBIL.V	UFAWSMT038	5 (EXCELLENT)	5 (EXCELLENT)	4 (Very Good)	4 (Very Good)	4 (Very Good)
34	VISHNU.C	UFAWSMT039	4 (Very Good)	3 (Good)	3 (Good)	3 (Good)	2(Very Fair)
35	MASHBOOBA S V	UFAWSMT040	5 (EXCELLENT)	5 (EXCELLENT)	4 (Very Good)	5 (EXCELLENT)	4 (Very Good)
No. of graded "0"			0	0	0	0	0
No. of graded "1"			0	0	0	0	0
No. of graded "2"			0	1	0	0	2
No. of graded "3"			0	1	4	5	2

No. of graded "4"	11	14	17	9	13
No. of graded "5"	24	19	14	21	18

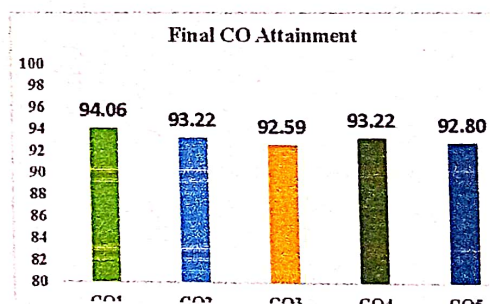


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DEPARTMENT OF MATHEMATICS
COURSE EXIT SURVEY RESPONSES (EVEN SEM., 2023-2024)

Semester: IV			Course: CSC4C04-DATA STRUCTURE USING C									
Name of the faculty member: JASMINE MT			No. of students given the ratings						Total Responses	Weighted Average	CO Max. Count	%age CO attainment
CO No.	CO description	Course Exit Survey Questions	0	1	2	3	4	5				
CO1	Understand and describe fundamental data structures.	Are you able to understand and describe fundamental data structures.	0	0	0	0	11	24	35	4.32	5	86.32
CO2	Apply C programming constructs to implement data structures.	Are you able to apply C programming constructs to implement data structures.	0	0	1	1	14	19	35	4.11	5	82.11
CO3	Analyze the efficiency of data structure operations.	Are you able to analyze the efficiency of data structure operations.	0	0	0	4	17	14	35	3.95	5	78.95
CO4	Evaluate arithmetic approaches for data structure manipulation.	Are you able to evaluate arithmetic approaches for data structure manipulation.	0	0	0	5	9	21	35	4.11	5	82.11
CO5	Create and develop advanced data structure applications using C.	Are you able to create and develop advanced data structure applications using C.	0	0	2	2	13	18	35	4.00	5	80.00

CO Assessment method	CO1	CO2	CO3	CO4	CO5
Direct method (IA Test, Assignment/quiz and exam)	96	96	96	96	96
Weightage (80%)	77	77	77	77	77
Indirect method (Course Exit Survey)	86.32	82.11	78.95	82.11	80.00
Weightage (20%)	17.26	16.42	15.79	16.42	16.00
Final CO Attainment	94.06	93.22	92.59	93.22	92.80





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DEPARTMENT OF MATHEMATICS

CO-PO-PSO MAPPING (EVEN SEM . 2023-2024)

Course: CSC4C04-DATA STRUCTURE USING C

Semester: IV

Name of the faculty member: JASMINE MT

(I) CO Attainment

A: Direct assessment (80%)-Tests, Assignment, Examination

B: Indirect assessment (20%)-Course end survey

COs	Mapping of POs	Mapping of PSOs	Direct Assessment	Indirect Assessment		Overall Attainment	Target (%)	Attainment
				(a)	(b)			
CO1	PO1 & PO8	PSO1 ,PSO3 & PSO5	96		86.32	94		
CO2	PO1, PO3, PO4,PO5,PO7 & PO8	PSO1 , PSO3, PSO4 & PSO5	96		82.11	93		
CO3	PO5 & PO8	PSO3 & PSO4	96		78.95	93	75	YES
CO4	PO3, PO4 ,PO5, PO7 & PO8	PSO1, PSO3 , PSO4, PSO5 & PSO6	96		82.11	93		
CO5	PO3, PO4 ,PO5, PO7 & PO8	PSO1 , PSO3, PSO4, PSO5 & PSO6	96		80.00	93		

FACULTY

HOD

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