CHRIST THE KING
ENGINEERING COLLEGE
Karamadai, Coimbatore - 641104
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Ph: +91 91500 76729 Email: principal@ckec.ac.in Web: www.ckec.ac.in

MENTOR -MENTEE SYSTEM

The primary objective of implementing a mentor-mentee system in our engineering college is to provide personalized guidance and support to students throughout their academic journey. This system aims to enhance the overall student experience by fostering a supportive and nurturing environment.

The mentoring system is designed to pair students with experienced mentors who can offer valuable insights and advice. These mentors will guide students in various aspects of their academic life, helping them navigate challenges and make informed decisions about their studies and career paths.

In addition to academic support, the mentoring system focuses on developing students' professional skills. Mentors will provide advice on career planning, resume building, interview preparation, and other essential professional skills. This will ensure that students are well-prepared to enter the job market upon graduation.

Networking is another crucial component of the mentoring system. Through connections with mentors and alumni, students will have the opportunity to expand their professional network. This can lead to internships, job opportunities, and valuable industry contacts that can benefit them throughout their careers.

Furthermore, the mentoring system also addresses the personal development of students. Mentors will offer support and guidance in areas such as time management, stress management, and work-life balance. This holistic approach aims to ensure that students develop not only academically and professionally but also personally, becoming well-rounded individuals ready to face future challenges.

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STUDENT RECORD

STUDENT HISTORY CARD

Name: A. Girija

Reg.No.: 7104 2110 4013

Department: CSE Department

Period of Study: 2021 - 2025

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Name: A. Girija

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PERSONAL DETAILS

Name	: A. Ginija
Department	: CSE department
Batch	: 2021 - 2025
Year of Admission	: 2021
Register Number	: 7104 21104 013
Course Duration	: 4 years
Date of Birth	: 06.07.2004
Gender	: Male / Female
Religion	: H / C / M / Others
Community	: OC / BC / MBC / SC / ST
Personal marks of Identification (Moles etc)	: 1. A mole on the right forearm 2. A scar on the right forearm
Nationality	: INDIAN
Blood Group	: O+
Permanent Address	: 1294/A, M ARUN, ANNA NAGAR, Manamelkudi (po&Tk), Pudukkottai dt - 614 620
Communication Address	: 1294/A, M ARUN, ANNA NAGAR Manamelkudi (po&Tk), Pudukkottai dt - 614 620
Phone Number	: 9514807876, 7825914528, 9438281358
E-mail id	: ginija6704@gmail.com
Parent / Guardian Details	
Name of Parent / Guardian	: M Arun
Occupation	: Daily wages
Contact Address	: 1294/A, M Arun, Anna Nagar Manamelkudi (po&Tk), Pudukkottai dt - 614 620
Phone Number	: 9514807876, 7825914528, 9438281358

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RESULT DETAILS

Name : GIRIJA-A Register No : 710421104018

	Subjects / Year of Exam	Nov	Apr	Nov	Apr	Nov	Apr	Nov	Apr	%
Overall	No Appeared									
	Cleared									
	Arrears									
VIII Sem	No Appeared									
	Cleared									
	Arrears									
VII Sem	No Appeared									
	Cleared									
	Arrears									
VI Sem	No Appeared									
	Cleared									
	Arrears									
V Sem	No Appeared									
	Cleared									
	Arrears									
IV Sem	No Appeared				8					
	Cleared				8					
	Arrears				-					
III Sem	No Appeared			9						
	Cleared			9						
	Arrears			-						
II Sem	No Appeared		8							
	Cleared		8							
	Arrears		-							
I Sem	No Appeared	7								
	Cleared	7								
	Arrears	-								
Signature	Class I /C									
	HOD									
	Dean Academic / principal									

PREVIOUS ACADEMIC DETAILS

Course / Degree	Institution / Board / University	Year of Passing	Percentage / Grade
10th	State Board - Govt. Girls. Hr. sec. school Manamelkudi	2019	92%
12th	State Board Govt. Girls. Hr. sec. School	2021	92%. 92.66%
11th	Govt. Girls manamelkudi Hr. sec. School. manamelkudi	2020	79%

Achievements

Academic :

:

Sports / Games : No - No player in School Level

: athletic

Cultural :

:

Literature :

:

NSS / NCC : I have a NCC certificate

:

Others :

A. Girija.

Signature of Parent / Guardian

Signature of the Student

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STUDENTS ACADEMIC REPORT

Semester : I Academic Year : 2021 Register Number : 710421104043

S.No.	Subject Code	Subject	Unit I	Unit II	Unit III	Model Exam	Univ Exam	Arrear Y/N	Year of Passing
1	HS3151	Professional English	99	99			B+	N	2022
2	MA3151	Matrices and calculus	90	95			B+	N	2022
3	PH3151	Engineering physics	95	98			A+	N	2022
4	CY3151	Engineering Chemistry	95	100			A	N	2022
5	GE3151	Problem solving and Python Programming	95	98			A+	N	2022
6	GE3171	Physics & Chemistry Lab	–	–			A+	N	2022
7	GE3171	PSP Laboratory	–	–			A+	N	202
8									
9									
10									
11									
Percentage			95%	98%			8.48		
Attendance Percentage			100%	100%			100%		
Signature of Class Incharge									
Signature of HOD									

ACHIEVEMENT RECORDS
(Academic / Sports / Symposium / Extra-Curricular)

S.No.	Date	Place	Details

PARENT COMMUNICATION RECORDS

S.No.	Date	Matters Discussed	Signature: Parent	Signature: HOD
1.	15.11.21	Discussed with Parents about her	A. Sivamani	
2	12.12.21	Discussed with her mother about studies	A. Sivamani	
3	28.12.21	Discussed with her mother about her health. her studies	A. Sivamani	

Signature of the HOD

STUDENTS ACADEMIC REPORT

Semester : II Academic Year : 2021-22 Register Number : 710421104043

S.No.	Subject Code	Subject	Unit I	Unit II	Unit III	Model Exam	Univ Exam	Arrear Y/N	Year of Passing
1	HS 3251	P. English II	45	39			B+	–	2022
2	MA 3251	BNM	57	66			A	–	2022
3	PH 3256	Physics	60	66			A	–	2022
4	CS 3251	Program in C	58	54			B+	–	2022
5	GE 3251	EG	48	57			A	–	2022
6	BE 3251	BEEE	35	54			B+	–	2022
7	CS 3271	C Lab					O	–	2022
8	GE 3271	EP Lab					O	–	2022
9									
10									
11									
Percentage			54%	54%			7.92		
Attendance Percentage			100%	100%			100%		
Signature of Class Incharge									
Signature of HOD									

ACHIEVEMENT RECORDS
(Academic / Sports / Symposium / Extra-Curricular)

S.No.	Date	Place	Details

PARENT COMMUNICATION RECORDS

S.No.	Date	Matters Discussed	Signature: Parent	Signature: HOD
1	0.4.22	Discussed with her mother about her health	A. Sivamani	
2	15.5.22	Discussed with her mother about her studies	A. Sivamani	
3	20.6.22	Discussed with her mother about her marks.	A. Sivamani	

Signature of the HOD

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Semester : III **Academic Year : 2022 - 2023** **Register Number : 711421104013**

S.No.	Subject Code	Subject	Unit I	Unit II	Unit III	Model Exam	Univ Exam	Arrear Y/N	Year of Passing
1	MA3354	Discrete mathematics	91	100			A	-	2023
2	CS3352	Digital principles & computer organization	77	81			A	-	2023
3	CS3351	Data structures	97	90			A	-	2023
4	CS3391	Object oriented Programming	82	98			A+	-	2023
5	CS3353	Foundations of data science	93	93			A	-	2023
6	CS3301	data structures					O	-	2023
7	CS3381	Object oriented Programming lab					O	-	2023
8	CS3362	data science lab					O	-	2023
9									
10									
11									
Percentage			88%	92.4%			8.57		
Attendance Percentage			81%	89%					
Signature of Class Incharge									
Signature of HOD									

ACHIEVEMENT RECORDS
(Academic / Sports / Symposium / Extra-Curricular)

S.No.	Date	Place	Details

PARENT COMMUNICATION RECORDS

S.No.	Date	Matters Discussed	Signature	
			Parent	HOD
1.			A. Simmons	
2.			A. Simmons	
3.			A. Simmons	

Signature of the HOD

Semester : VIth **Academic Year : 2022-23** **Register Number : 711421104013**

S.No.	Subject Code	Subject	Unit I	Unit II	Unit III	Model Exam	Univ Exam	Arrear Y/N	Year of Passing
1	CS3492	Theory of computation	90				A	-	2023
2	CS3491	Artificial Intelligence & machine learning	96				O	-	2023
3	CS3492	Database management systems	76				A	-	2023
4	CS3401	Algorithms	94				A+	-	2023
5	CS3451	Introduction to operating systems	82				A+	-	2023
6	GE3451	Environmental sciences & sustainability	87				B+	-	2023
7	CS3461	Operating system lab					O	-	2023
8	CS3481	Database management system lab					O	-	
9									
10									
11									
Percentage			87.66%				8.86		
Attendance Percentage			98%						
Signature of Class Incharge									
Signature of HOD									

ACHIEVEMENT RECORDS
(Academic / Sports / Symposium / Extra-Curricular)

S.No.	Date	Place	Details

PARENT COMMUNICATION RECORDS

S.No.	Date	Matters Discussed	Signature	
			Parent	HOD
			A. Simmons	
			A. Simmons	
			A. Simmons	

Signature of the HOD

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COUNSELING DETAILS

S.No.	Date	Matters Discussed	Signature	
			Student	HOD
1.	5.11.21	Instructions are given to the students about rules and regulation of the college.	A.Girija.	
2	25.11.21	Advised to take care of her health and get university rank in university exams.	A.Girija.	
3.	5.1.22	Advised to get university rank in university exam.	A.Girija.	
4.	6/4/22	Instructions are given to the students to avoid absent for classes.	A.Girija.	
5.	20/4/22	Advised to take care of her health and get university rank in Semester Examinations	A.Girija.	
6.	6/5/22	Advised to participate in other Extra curicular Activities and workshops.	A.Girija.	
7.	20/6/22	Advised to work hard for 102, model and Semester examinations	A.Girija.	

COUNSELING DETAILS

S.No.	Date	Matters Discussed	Signature	
			Student	HOD
1	07/09/22	Discussed about Past Semester Results.		
2	11/10/22	Advised to Score marks in Internal & unit tests		
3	17/11/22	Discussed about club activities & Extra curicular activities		
4.	12/1/23	Discussed about academic fees and university exam of 3rd sem		
5.	10/2/23	Discussed about new semester and subjects.		
1.	18/03/23.	Discussed about previous semester Results & improve concentrate to more in studies.		

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CLASS COMMITTEE MEETING

CHRIST THE KING ENGINEERING COLLEGE
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CLASS COMMITTEE MEETING

Document ID:	**2023-24/ ODD/ CKEC/CSE/ 003**	**Document Name:**	**Circular**
Name of the CCC:	Dr.N.R.Gayathri	**Department:**	CSE
Academic Year:	2023-24	**Even/Odd:**	ODD
Course:	B.E	**Batch:**	2021-25
Year:	III	**Semester:**	V
CC Meeting No:	3	**Date:**	27.10.2023

The Third Class Committee meeting for III Year CSE students will be held as per the following schedule:

Schedule Date : 27.10.2023
Time : 2.30 PM
Venue : CS LAB – III

Agenda of Meeting

- Overall Academic Class Feedback
- Individual Subject Feedback
- Attendance
- Syllabus Completion
- Co-Curricular Activity Plans & Participations
- Model Examination – Result
- Internships & Projects
- General Grievances

S.No.	Name of the Members	Name of the Department	Signature
1.	Dr.N.R.Gayathri	Chairperson , Class Committee	
2.	Mr S Saravanakumar	Class Advisor	
3.	Mrs.S.Gokila	AP / CSE	
4.	Mrs.S.Vasumathi	AP/CSE	
5.	Mr.A.Rajamon Singh	AP/AI&DS	
6.	Mrs.J.Revathy	AP/AI&DS	
7.	Mr.M.Pranesh	AP/CSE	
4.	Mr Theodare Lenard	Class Committee Representative	
5.	Ms.Amrutha Raj	Class Committee Representative	

CLASS ADVISOR **HOD** **PRINCIPAL**

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COURSE PLAN – THEORY

Faculty Name	S.Saravanakumar
Designation / Department	Assistant Professor/ Computer Science and Engineering
Course Code /Name	CS3492/ DATABASE MANAGEMENT SYSTEMS
Programme / Branch	B.E.,/COMPUTER SCIENCE AND ENGINEERING
Year /Semester	II/ IV
Academic Year	2023 – 2024
Regulation	2021
Core/ Elective	Core
Contact Hours	45
No. of Credits	3

Course Pre-requisites:

a. Mathematical Principles

b. Fundamentals of Computer Programming

Course Learning Objective:

- To learn the fundamentals of data models, relational algebra and SQL.
- To represent a database system using ER diagrams and to learn normalization techniques.
- To understand the fundamental concepts of transaction, concurrency and recovery processing.
- To understand the internal storage structures using different file and indexing techniques which will help in physical DB design.
- To have an introductory knowledge about the Distributed databases, NOSQL and database security.

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1. **At the end of the course, the student will be able to:**

Course Outcomes		Knowledge Level
CO1	Construct SQL Queries using relational algebra.	U
CO2	Design database using ER model and normalize the database	Ap
CO3	Construct queries to handle transaction processing and maintain consistency of the database	Ap
CO4	Compare and contrast various indexing strategies and apply the knowledge to tune the performance of the database	An
CO5	Appraise how advanced databases differ from Relational Databases and find a suitable database for the given requirement.	Ap

Cognitive Domain:

R- Remember; **U**- Understand; **Ap**-Apply; **An**- Analyze; **E**- Evaluate; **C**-Create

2. **Programme Outcomes:**

Students graduating from COMPUTER SCIENCE AND ENGINEERING should be able to:

PO1 Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals and an engineering specialization to the solution of complex engineering problems.

PO2 Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

PO3 Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

PO4 Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

PO5 Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

PO6 The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

PO7 Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

PO8 Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO9 Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO10 Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PO11 Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO12 Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Programme Specific Outcomes:

Students graduating from COMPUTER SCIENCE AND ENGINERRING should be able to:

PSO1

Evolve network security based efficient domain specific processes for effective decision making in several domains such as business and governance domains.

PSO2

Arrive at actionable Foresight, Insight, hind sight from data for solving business and engineering problems**.**

PSO3

Create, select and apply the theoretical knowledge of networks and cyber security along with practical industrial tools and techniques to manage and solve wicked societal problems.

PSO4

Develop information security and data visualization skills, skills pertaining to knowledge acquisition, knowledge representation and knowledge engineering, and hence be capable of coordinating complex projects.

PSO5

Able to carry out fundamental research to cater the critical needs of the society through cutting edge technologies of cyber security.

3. CO-PO Mapping Table:

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO 1	2	2	3	2	1	-	-	-	2	1	1	1	2	1	3
CO 2	3	1	1	1	1	-	-	-	2	3	3	3	3	1	2
CO 3	3	2	3	2	1	-	-	-	2	1	1	2	2	3	3
CO 4	1	2	3	2	-	-	-	-	3	2	3	3	1	2	3
CO 5	1	1	3	3	2	-	-	-	1	3	3	1	2	2	2
Weighted Average	**2**	**2**	**3**	**2**	**1**	**-**	**-**	**-**	**2**	**2**	**2**	**2**	**2**	**2**	**3**

Level of Correlation 3 - Strong 2- Moderate 1 -Weak

4. Course Syllabus:

CS3492 DATABASE MANAGEMENT SYSTEMS L T P C

3 0 0 3

Course Objectives:

- To learn the fundamentals of data models, relational algebra and SQL
- To represent a database system using ER diagrams and to learn normalization techniques
- To understand the fundamental concepts of transaction, concurrency and recovery processing
- To understand the internal storage structures using different file and indexing techniques which will help in physical DB design
- To have an introductory knowledge about the Distributed databases, NOSQL and database.

UNIT I RELATIONAL DATABASES 10

Purpose of Database System – Views of data – Data Models – Database System Architecture – Introduction to relational databases – Relational Model – Keys – Relational Algebra – SQL fundamentals – Advanced SQL features – Embedded SQL– Dynamic SQL

UNIT II DATABASE DESIGN 8

Entity-Relationship model – E-R Diagrams – Enhanced-ER Model – ER-to-Relational Mapping – Functional Dependencies – Non-loss Decomposition – First, Second, Third Normal Forms, Dependency Preservation – Boyce/Codd Normal Form – Multi-valued Dependencies and Fourth Normal Form – Join Dependencies and Fifth Normal Form

UNIT III TRANSACTIONS 9

Transaction Concepts – ACID Properties – Schedules – Serializability – Transaction support in SQL – Need for Concurrency – Concurrency control –Two Phase Locking- Timestamp – Multiversion – Validation and Snapshot isolation– Multiple Granularity locking – Deadlock Handling – Recovery Concepts – Recovery based on deferred and immediate update – Shadow paging – ARIES Algorithm

UNIT IV IMPLEMENTATION TECHNIQUES 9

RAID – File Organization – Organization of Records in Files – Data dictionary Storage – Column Oriented Storage– Indexing and Hashing –Ordered Indices – B+ tree Index Files – B tree Index Files – Static Hashing – Dynamic Hashing – Query Processing Overview – Algorithms for Selection, Sorting and join operations – Query optimization using Heuristics - Cost Estimation..

UNIT V ADVANCED TOPICS 9

Distributed Databases: Architecture, Data Storage, Transaction Processing, Query processing and optimization – NOSQL Databases: Introduction – CAP Theorem – Document Based systems – Key value Stores – Column Based Systems – Graph Databases. Database Security: Security issues – Access control based on privileges – Role Based access control – SQL

Injection – Statistical Database security – Flow control – Encryption and Public Key infrastructures – Challenges

TOTAL: 45 PERIODS

COURSE OUTCOMES:

CO1: Construct SQL Queries using relational algebra

CO2: Design database using ER model and normalize the database

CO3: Construct queries to handle transaction processing and maintain consistency of the database.

CO4: Compare and contrast various indexing strategies and apply the knowledge to tune the performance of the database

CO5: Appraise how advanced databases differ from Relational Databases and find a suitable database for the given requirement.

TEXT BOOKS:

1. Abraham Silberschatz, Henry F. Korth, S. Sudharshan, "Database System Concepts", Seventh Edition, McGraw Hill, 2020.
2. Ramez Elmasri, Shamkant B. Navathe, "Fundamentals of Database Systems", Seventh Edition, Pearson Education, 2017.

REFERENCES:

1. C.J.Date, A.Kannan, S.Swamynathan, "An Introduction to Database Systems", Eighth Edition, Pearson Education, 2006.

5. Course Plan: **L T P C 3 0 0 3**

Lecture Hours	Topic to be covered	Cumulative hours	Text Book / Reference	Teaching methodology	Focus for CO achievement
UNIT I – RELATIONAL DATABASES **Objective:** To understand the basics of information about database and Entity-Relationship model.					
L1.	Purpose of Database System	1	T1	Chalk and Board	CO 1
L2.	Views of data	2	T1	Chalk and Board	CO 1
L3.	Data Models	3	T1	Chalk and Board	CO 1

L4.	Database System Architecture	4	T1	Chalk and Board	CO 1
L5.	Introduction to relational databases	5	T1	Chalk and Board	CO 1

L6.	Relational Model, Keys	6	T1	Chalk and Board	CO 1
L7.	Relational Algebra	7	T1	Chalk and Board	CO 1
L8.	SQL fundamentals	8	T1	Chalk and Board	CO 1
L9.	Advanced SQL features	9	T1	Chalk and Board	CO 1
L10.	Embedded SQL, Dynamic SQL	10	T1	Chalk and Board	CO 1

Learning Outcomes:

On learning this unit, the student should be able to:

- Know the fundamentals of data modeling.
- Gain knowledge about database.
- Understand the concept of ER model.

UNIT II DATABASE DESIGN

Objective: To discuss the fundamental ideas of Relational Database and Normalization techniques**.**

L11.	Entity-Relationship model – E-R Diagrams	10	T1	Chalk and Board	CO 2
L12.	Enhanced-ER Model – ER-to-Relational Mapping	11	T1	Chalk and Board	CO 2
L13.	Functional Dependencies – Non-loss Decomposition	12	T1	Chalk and Board	CO 2
L14.	First, Second, Third Normal Forms	13	T1	Chalk and Board	CO 2
L15.	Dependency Preservation	14	T1	Chalk and Board	CO 2
L16.	Boyce/Codd Normal Form	15	T1	Chalk and Board	CO 2
L17.	Multi-valued Dependencies and Fourth Normal Form	16	T1	Chalk and Board	CO 2
L18.	Join Dependencies and Fifth Normal Form	17	T1	Chalk and Board	CO 2

Learning Outcomes:

On learning this unit, the student should be able to:

- Understand the concept of Data Manipulation.
- Define Relational model .
- Gain the knowledge about SQL Programming.

UNIT III - TRANSACTIONS

Objective: To discuss the fundamental ideas of Transaction Management and also deals with locking techniques.

L19.	Transaction Concepts – ACID Properties	19	T1	Chalk and Board	CO 3
L20.	Schedules – Serializability	20	T1	Chalk and Board	CO 3
L21.	Transaction support in SQL – Need for Concurrency	21	T1	Chalk and Board	CO 3
L22.	Concurrency control –Two Phase Locking	22	T1	Chalk and Board	CO 3
L23.	Timestamp – Multiversion – Validation and Snapshot isolation	23	T1	Chalk and Board	CO 3
L24.	Multiple Granularity locking	24	T1	Chalk and Board	CO 3
L25.	Deadlock Handling – Recovery Concepts	25	T1	Chalk and Board	CO 3
L26.	Recovery based on deferred and immediate update	26	T1	Chalk and Board	CO 3
L27.	Shadow paging – ARIES Algorithm	27	T1	Chalk and Board	CO 3

Learning Outcomes:

On learning this unit, the student should be able to:

- Understand the concept of Transaction Management.
- Known about Two phase locking techniques.

UNIT IV - IMPLEMENTATION TECHNIQUES

Objective:. To discuss the fundamental ideas of RAID file system and B+ tree Index.

L28.	RAID – File Organization	28	T1	Chalk and Board	CO 4
L29.	Organization of Records in Files – Data dictionary Storage	29	T1	Chalk and Board	CO 4
L30.	Column Oriented Storage	30	T1	Chalk and Board	CO 4

L31.	Indexing and Hashing – Ordered Indices	31	T1	Chalk and Board	CO 4

L32.	B+ tree Index Files – B tree Index Files	32	T1	Chalk and Board	CO 4
L33.	Static Hashing – Dynamic Hashing	33	T1	Chalk and Board	CO 4
L34.	Query Processing Overview, Algorithms for Selection,	34	T1	Chalk and Board	CO 4
L35.	Sorting and join operations	35	T1	Chalk and Board	CO 4
L36.	Query optimization using Heuristics - Cost Estimation	36	T1	Chalk and Board	CO 4

Learning Outcomes:

On learning this unit, the student should be able to:

- Understand the concept of B+ tree Index.
- Known about Query processing and sorting.

UNIT V - ADVANCED TOPICS

Objective: To discuss the fundamental ideas of object relational and No-SQL .

L37.	Distributed Databases: Architecture, Data Storage, Transaction Processing	35	T1	Chalk and Board	CO 5
L38.	Query processing and optimization	36	T1	Chalk and Board	CO 5
L39.	NOSQL Databases: Introduction – CAP Theorem	37	T1	Chalk and Board	CO 5
L40.	Document Based systems – Key value Stores	38	T1	Chalk and Board	CO 5
L41.	Column Based Systems – Graph Databases	39	T1	Chalk and Board	CO 5
L42.	Security: Security issues – Access control based on privileges	40	T1	Chalk and Board	CO 5
L43.	Role Based access control – SQL Injection	41	T1	Chalk and Board	CO 5
L44.	Statistical Database security – Flow control	42	T1	Chalk and Board	CO 5
L45.	Encryption and Public Key infrastructures – Challenges	43	T1	Chalk and Board	CO 5
L46.	Content Beyond Syllabus				

Learning Outcomes:

On learning this unit, the student should be able to:

- Understand the concept of Object Relational and Object identifier.
- Known about User defined techniques.

6. Text Books/References/Websites:

Text/Ref/Website	Details
T1	Abraham Silberschatz, Henry F. Korth, S. Sudharshan, "Database System Concepts", Seventh Edition, McGraw Hill, 2020
T2	Ramez Elmasri, Shamkant B. Navathe, "Fundamentals of Database Systems", Seventh Edition, Pearson Education, 2017.
R1	C.J.Date, A.Kannan, S.Swamynathan, "An Introduction to Database Systems", Eighth Edition, Pearson Education, 2006..
NPTEL	https://archive.nptel.ac.in/courses/106/105/106105175/

7. Content Beyond Syllabus:

Sl.No.	Topic	Mode of Implementation	Resource Person	Coverage of POs /PSOs
1	Automated Database Management	Internal	Internal	PO1,PO2, PO3, PO5 & PSO1

8. Assignment:

Sl.No.	Assignment Topics	Submission Date	Coverage of CO's with Knowledge Levels (Ap/An Level only)
1	1. With the help of a neat block diagram explain basic architecture of a database management system. 2. Explain various operations in relational algebra with examples.		

2	1. Draw the ER diagram for banking systems(Home loan applications) 2. What is database normalization? Explain the first normal, second normal form and third normal form?		
3	1. What is concurrency control? How it is implemented in DBMS? Briefly elaborate diagrams and examples? 2. What is deadlock? How does it occur? How transactions can be written to i) avoid deadlock ii) guarantee correct execution.		
4	1. Describe the structure of B+ tree and give the algorithm for search in the B+ tree with example. 2. What is hashing? Explain static hashing and dynamic hashing with an example.		
5	1. Discuss in detail about the distributed databases. 2. Explain various challenges faced by database security system. 3. Elaborate on CAP theorem.		

9. Student's Class Notes Verification Schedule:

Sl.No.	Portions	Verification date
1	Upto 2.5 units	Before the commencement of CIA – I
2	Unit-2.5 toUnit-5	Before the commencement of CIA – II

10. Internal Examination Schedule:

Sl.No.	Examination	Date	Topic	Marks
1	CIA– I	As per Anna University Chennai Schedule	Upto 2.5 Units	100
2	CIA– II	As per Anna University Chennai Schedule	Unit2.5 to Unit 5	100

CIA-Continuous Internal Assessment

11. Course Outcome (CO) Assessment:

Direct Outcome (80%)		Indirect Outcome (20%)
CIA– I	60% of Direct Outcome	Course End Survey
CIA– II		
Assignment		
MCQ		
AU End Semester Examination	40% of Direct Outcome	

CIA - Continuous Internal Assessment MCQ – Multiple Choice Questions

12. End Semester Evaluation Components (Anna University, Chennai):

Sl. No.	Components	Marks	
		Internal	External
1	Internal Examinations (I – II)	40	
2	University Examination		60
	Total	**100**	

Date of preparation: 06.03.2024

S. Saravana

Course Coordinator

Saravanakumar.S
AP/ CSE

HoD– CSE

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Project Work

CS 8811 PROJECT WORK

ACADEMIC YEAR (2023-2024)

PROJECT PRESENTATION EVALUATION SHEET

Date: 12/2/24

Project Review No. : I
Title of the project : Job Recommendation 4.0
Sponsoring Company : —
Name of Supervisor : Dr. N. P. Gayathri

S. No	Name of the Students	Register No.	Mark Allocation				
			Dress Code	Technical Content	Presentation Presentation	Innovativeness / Ideas	Total
			10	40	30	20	100
1	Jaffy Thomas. J.B	7104201104015	9	30	25	15	79
2	Sham Pavithran. R	7104201104036	10	35	30	15	96
3	Manikandan. S	7104201104021	10	35	25	15	85
4	Suruja. S	7104201104040	9	35	25	13	82

Remarks of the evaluators (Major weaknesses identified):

Need technical content and proper presentation.

Signature of the Evaluators	Signature of the Supervisor	Head of the Department
1.		
2.		

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