FACULTY READINESS PROGRAM REPORT

DATABASE MANAGEMENT SYSTEMS (DBMS)

Organized by

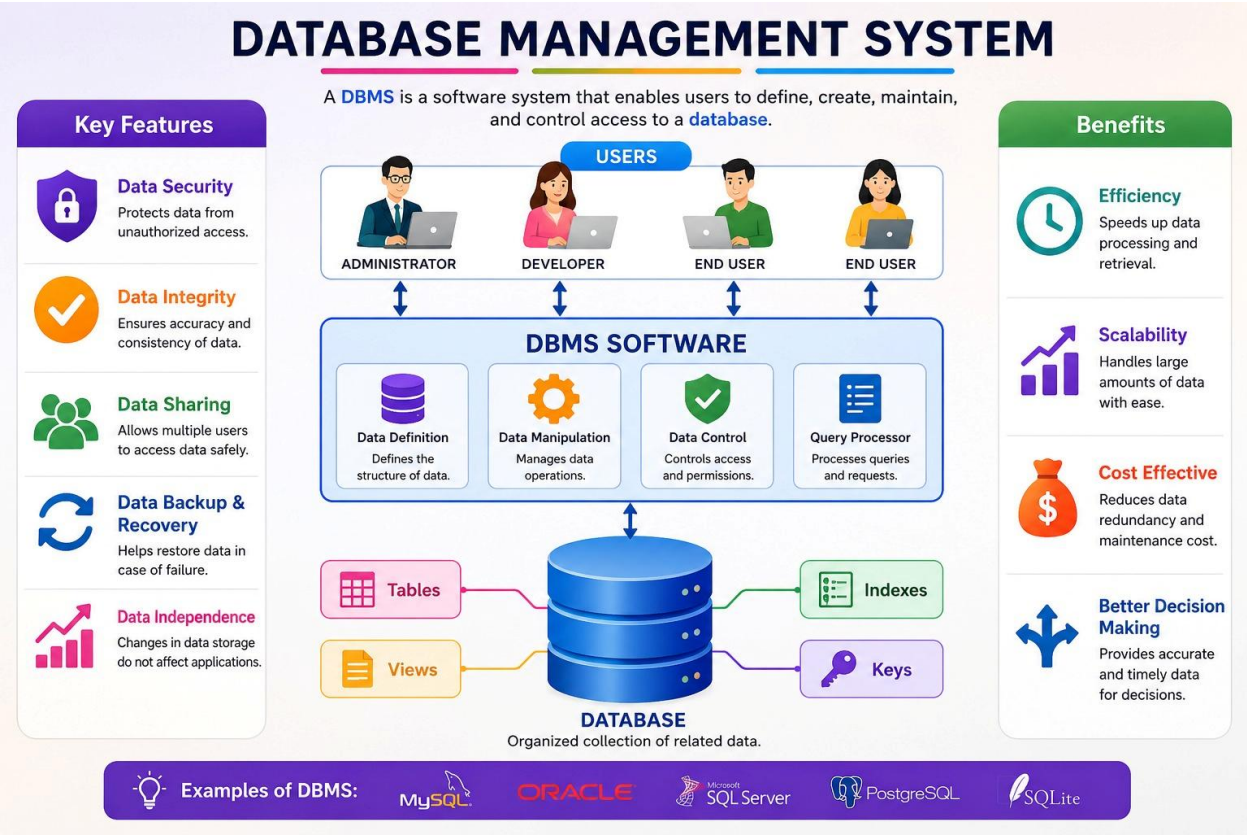
Department of Computer Science & Engineering

Duration

01 June 2026 – 06 June 2026

Venue

Narsimha Reddy Engineering College (Autonomous)



Preface:

The rapid growth of data-driven technologies has made Database Management Systems (DBMS) one of the most important subjects in Computer Science and Information Technology. To equip faculty members with the latest developments, practical skills, and pedagogical approaches in DBMS, the Department of Computer Science & Engineering organized a One-Week Faculty Readiness Program (FRP) on “Database Management Systems” from 01 June 2026 to 06 June 2026.

The program was designed to strengthen participants’ understanding of database concepts, relational models, SQL programming, database design, transaction management, concurrency control, recovery systems, and emerging database technologies. Through expert lectures, interactive discussions, practical demonstrations, and hands-on exercises, the program aimed to enhance the teaching effectiveness and technical competencies of faculty members.

Acknowledgement

The Department of Computer Science & Engineering expresses its sincere gratitude to the Management, Director, **Dr. A Mohan Sir**, Principal **Dr. R Lokanadham Sir**, Dean Academics **Prof. Ch Sreelakshmi Madam**, Program Convener **Dr. N Rajashekar Sir**, and Head of the Department **Dr. P Ramesh Babu Sir,** for their constant encouragement and support in organizing this Faculty Readiness Program.

We extend our heartfelt thanks to all distinguished resource persons for sharing their expertise and valuable insights. Their contributions enriched the learning experience and inspired participants to explore advanced concepts in Database Management Systems.

We also appreciate the efforts of the organizing committee, and all faculty participants whose active involvement contributed significantly to the success of this program.

1. Introduction

Database Management Systems form the backbone of modern information systems and play a crucial role in managing organizational data efficiently. With increasing dependence on data-driven decision-making, cloud computing, artificial intelligence, and big data analytics, faculty members need to remain updated with both theoretical foundations and practical implementation aspects of DBMS.

Recognizing this need, the Department of CSE/IT organized a Faculty Readiness Program aimed at empowering faculty members with comprehensive knowledge of database technologies. The program focused on strengthening subject expertise, enhancing practical competencies, and promoting innovative teaching practices aligned with current industry requirements.

2. Program Objectives

The primary objectives of the Faculty Readiness Program were:

1. To strengthen the foundational understanding of Database Management Systems.
2. To familiarize faculty with relational database concepts and SQL programming.
3. To provide hands-on experience in database design and implementation.
4. To develop expertise in normalization and schema refinement techniques.
5. To understand transaction management and concurrency control mechanisms.
6. To explore database recovery and reliability techniques.
7. To bridge the gap between academic curriculum and industry practices.
8. To improve teaching effectiveness through practical demonstrations and case studies.

3. Program Outcomes

After successful completion of the program, participants were able to:

- Understand DBMS architecture and database applications.
- Design efficient relational database schemas.
- Write and optimize SQL queries.
- Apply normalization techniques to eliminate redundancy.
- Understand transaction processing and ACID properties.
- Analyze concurrency control mechanisms.
- Implement recovery techniques for fault tolerance.
- Explore modern database technologies and industry trends.

4. Day-Wise Report

Day 1 – Introduction To Database Systems

Topics Covered

• Introduction to Database Systems

• Applications of Database Systems

• Database versus File Processing Systems

• Data Models

• Database System Architecture

• Three-Level Architecture

• Database Users and Administrators

Session Summary

The inaugural session commenced with a welcome address followed by an overview of the Faculty Readiness Program. The resource person explained the evolution of database systems and highlighted the limitations of traditional file systems. Participants explored various database applications in banking, healthcare, education, e-commerce, and social networking platforms.

The session further discussed database architecture, emphasizing the importance of data independence and abstraction. Interactive examples helped participants understand conceptual, logical, and physical database design.

Learning Outcomes

• Understanding of DBMS fundamentals.

• Ability to differentiate between file systems and databases.

• Knowledge of database architecture and data abstraction.

Day 2 – Relational Model and SQL

Topics Covered

• Relational Database Model

• Entity Relationship Modeling

• Relational Algebra

• SQL Fundamentals

• Data Definition Language (DDL)

• Data Manipulation Language (DML)

• Data Control Language (DCL)

Session Summary

The second day focused on relational database concepts and SQL programming. Participants learned how to model real-world scenarios using ER diagrams and convert them into relational schemas. Practical demonstrations were conducted using MySQL.

Hands-on exercises included:

CREATE TABLE

INSERT INTO

UPDATE

DELETE

ALTER TABLE

SELECT Queries

Participants actively practiced query writing and execution.

Learning Outcomes

• Ability to design relational schemas.

• Development of SQL programming skills.

• Understanding of database creation and manipulation.

Day 3 – Advanced SQL And Database Design

Topics Covered

• Joins

• Subqueries

• Aggregate Functions

• Views

• Stored Procedures

• Triggers

• Indexing Concepts

Session Summary

The third day introduced advanced SQL concepts required for complex database applications. Various join operations including Inner Join, Outer Join, Left Join, and Right Join were demonstrated through practical examples.

Participants learned query optimization techniques and the role of indexes in improving database performance. Sessions on stored procedures and triggers helped faculty understand database automation mechanisms.

Learning Outcomes

• Ability to write complex SQL queries. • Understanding of query optimization techniques. • Knowledge of database automation mechanisms.

Day 4 – Schema Refinement and Normalization

Topics Covered

• Functional Dependencies

• Closure of Functional Dependencies

• Schema Refinement

• Decomposition

• Normalization

• 1NF, 2NF, 3NF

• BCNF, 4NF, 5NF

Session Summary

The fourth day focused on improving database design through normalization techniques. The resource person explained the causes of data redundancy and update anomalies.

Several case studies were discussed, and participants practiced converting unnormalized relations into higher normal forms. The importance of lossless decomposition and dependency preservation was emphasized.

Learning Outcomes

• Ability to identify anomalies.

• Application of normalization techniques.

• Design of efficient database schemas.

Day 5 – Transaction Management And Concurrency Control

Topics Covered

• Transaction Concepts

• Transaction States

• ACID Properties

• Concurrent Execution

• Serializability

• Recoverability

• Lock-Based Protocols

• Timestamp Protocols

• Validation-Based Protocols

Session Summary

The fifth day covered transaction processing mechanisms that ensure database consistency. Through banking system examples, participants understood transaction execution and concurrency issues.

The session explained locking protocols, deadlocks, timestamp ordering, and validation techniques. Practical examples illustrated the importance of isolation and consistency in multi-user environments.

Learning Outcomes

• Understanding transaction processing.

• Knowledge of ACID properties.

• Ability to analyze concurrency control mechanisms.

Day 6 – Recovery Systems And Emerging Database Technologies

Topics Covered

• Recovery and Atomicity

• Log-Based Recovery

• Shadow Paging

• Buffer Management

• Recovery with Concurrent Transactions

• Distributed Databases

• NoSQL Databases

• Cloud Database Systems

Session Summary

The final day focused on fault tolerance and recovery mechanisms. Participants learned how databases recover from system crashes using logging and checkpoint techniques.

The resource person also introduced modern database technologies including NoSQL databases, distributed databases, and cloud-based data management systems. The valedictory session highlighted future opportunities for research and advanced learning in database technologies.

Learning Outcomes

• Understanding database recovery mechanisms.

• Knowledge of fault-tolerant database systems.

• Awareness of emerging database technologies.

5. Participant Engagement

The program witnessed enthusiastic participation from faculty members across various departments. Interactive discussions, practical demonstrations, quizzes, and question-answer sessions ensured active involvement throughout the program.

Faculty members actively participated in:

• SQL Coding Exercises

• Database Design Activities

• Normalization Practice Sessions

• Transaction Scheduling Problems

• Case Study Discussions

6. Feedback Analysis

Participants provided highly positive feedback regarding:

• Quality of Content

• Resource Person Expertise

• Practical Demonstrations

• Relevance to Curriculum

• Interactive Learning Environment

Overall satisfaction level exceeded expectations, with participants appreciating the balance between theoretical concepts and practical implementation.

7. SDG Mapping

The Faculty Readiness Program aligns with the following Sustainable Development Goals:

- **SDG 4 – Quality Education:** Enhancing faculty competency and teaching effectiveness.
- **SDG 8 – Decent Work and Economic Growth:** Promoting industry-relevant technical skills.
- **SDG 9 – Industry, Innovation and Infrastructure:** Supporting digital innovation through database technologies.
- **SDG 16 – Peace, Justice and Strong Institutions:** Encouraging secure and reliable information management.
- **SDG 17 – Partnerships for the Goals:** Promoting academic collaboration and knowledge sharing.

8. NEP 2020 Alignment

The program supports the objectives of NEP 2020 through:

- Faculty Professional Development.
- Technology Integration in Education.
- Outcome-Based Education.
- Skill-Oriented Learning.
- Research and Innovation Promotion.

- Lifelong Learning and Continuous Upskilling.
- Industry-Academia Relevance.

9. Impact of the Program

The Faculty Readiness Program successfully enhanced participants' understanding of Database Management Systems and modern database technologies. Faculty members reported increased confidence in teaching advanced DBMS concepts, conducting laboratory sessions, developing curriculum content, and guiding student projects. The practical orientation of the program ensured immediate applicability in academic and research environments.

Key impacts include:

• Improved classroom delivery.

• Enhanced laboratory instruction.

• Better understanding of industry practices.

• Increased motivation for research activities.

• Adoption of practical teaching methodologies.

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10. Mapping with Sustainable Development Goals (SDGs)

SDG	Goal	Relevance to FRP on DBMS
SDG 4	Quality Education	Enhances faculty competency, promotes lifelong learning, and improves the quality of technical education.
SDG 8	Decent Work and Economic Growth	Develops industry-relevant skills in database technologies, improving employability and productivity.
SDG 9	Industry, Innovation and Infrastructure	Encourages innovation in database systems, data management, and digital infrastructure development.
SDG 16	Peace, Justice and Strong Institutions	Promotes secure, reliable, and transparent information management through effective database systems.
SDG 17	Partnerships for the Goals	Facilitates collaboration among faculty, institutions, researchers, and industry experts.

11. SDG Contribution Statement

The Faculty Readiness Program on Database Management Systems contributes primarily to **SDG 4 (Quality Education)** by strengthening faculty expertise and improving teaching-learning practices. The program also supports **SDG 8**, **SDG 9**, **SDG 16**, and **SDG 17** through skill development, innovation, secure data management, and collaborative learning initiatives.

12. Mapping with NEP 2020

NEP 2020 Alignment Statement

The Faculty Readiness Program on Database Management Systems aligns with the vision of **NEP 2020** by promoting continuous professional development, technology-enabled learning, innovation, research culture, and industry-oriented skill development. The program strengthens faculty preparedness for delivering high-quality, outcome-based technical education in emerging digital domains.

SDG and NEP Mapping

The Faculty Readiness Program on "Database Management Systems" was designed in alignment with the Sustainable Development Goals (SDGs) and the National Education Policy (NEP) 2020. The program contributed significantly to **SDG 4 (Quality Education)** by enhancing faculty competencies and promoting lifelong learning. It also supported **SDG 8 (Decent Work and Economic Growth)**, **SDG 9 (Industry, Innovation and Infrastructure)**, **SDG 16 (Peace, Justice and Strong Institutions)**, and **SDG 17 (Partnerships for the Goals)** through skill development, innovation, secure data management practices, and collaborative learning.

Further, the program aligned with the objectives of **NEP 2020** by emphasizing faculty development, digital education, research and innovation, technology integration, skill enhancement, and continuous professional development. The hands-on sessions and industry-relevant content helped faculty members strengthen their technical expertise and adopt outcome-based teaching practices.

13. Key Learning Outcomes Achieved

Syllabus Unit	CO Addressed	Topics Mastered	Assessment Method
Unit-I	CO-1	ER Modeling, Conceptual	Schema Design

Syllabus Unit	CO Addressed	Topics Mastered	Assessment Method
		Design	Assignment
Unit-II	CO-1, CO-2	Relational Algebra, Calculus	Query Translation Quiz
Unit-III	CO-2, CO-3	SQL, Normalization, Triggers	Lab Practical + MCQ
Unit-IV	CO-3	ACID, Concurrency, Recovery	Case Study Analysis
Unit-V	CO-4	Indexing, B+ Trees, Storage	Simulation Demonstration

14. Executive Summary

The Department of Computer Science & Engineering / Information Technology, Narsimha Reddy Engineering College (Autonomous), successfully organized a One-Week Faculty Readiness Program (FRP) on Database Management Systems (DBMS) from 01 June 2026 to 06 June 2026 at the Seminar Hall, MG Block. The program was coordinated and delivered by Prof. D. Srinivas, Dean – ICT, with the objective of strengthening faculty expertise in modern database concepts, SQL programming, database design, transaction processing, concurrency control, and recovery systems.

The six-day intensive program was carefully structured according to the DBMS curriculum (Course Code: 23CS404) and included theory sessions, demonstrations, practical workshops, simulations, and case studies. Faculty members from CSE and IT departments actively participated in the sessions and gained both conceptual understanding and hands-on experience in database technologies. The program significantly enhanced participants' preparedness for effective classroom delivery, laboratory instruction, curriculum implementation, and research activities related to Database Management Systems.

15. Conclusion

The One-Week Faculty Readiness Program on "Database Management Systems" successfully achieved its objectives by providing comprehensive knowledge and practical exposure to participants. The program served as an excellent platform for knowledge sharing, skill enhancement, and professional development.

The active participation of faculty members, expert guidance from resource persons, and continuous support from the institution contributed to the grand success of the program. The Department looks forward to organizing similar programs in emerging areas of Computer Science and Engineering in the future.

This One-Week Faculty Readiness Program on Database Management Systems (DBMS) was conducted successfully and achieved all its intended objectives. Through structured sessions, practical demonstrations, simulations, and interactive discussions, the program strengthened faculty competencies in database design, SQL programming, transaction processing, concurrency control, normalization, indexing, and recovery systems. The enthusiastic participation of faculty members and the expert guidance of Prof. D. Srinivas, Dean – ICT, contributed significantly to the success of the program and reinforced the institution's commitment to academic excellence and continuous professional development.

16. Organizing Committee

Chief Patron: Sri. J Narsimha Reddy – Chairman

Sri. J Trishul Reddy – Secretary

Sr. J Thrilok Reddy - Treasurer

Patron: Dr. A Mohan – Director

Dr. R Lokandaham - Principal

Convener: Dr. N Rajashekar, Dean-External Affair

17. Faculty Testimonials

Dr. N Srinivasa Rao, Associate Professor, CSE

"Prof. D. Srinivas delivered the sessions with exceptional clarity and depth. His ability to explain complex DBMS concepts through practical examples made the learning experience highly engaging and effective. The sessions were well-organized, interactive, and aligned with current academic and industry requirements."

Dr. B Reena, Associate Professor, CSE-AIML

"The resource person demonstrated excellent subject expertise and presentation skills throughout the program. The sessions on SQL programming, normalization, and transaction management were particularly insightful. The practical demonstrations helped us gain a better understanding of real-world database applications."

Mr. S L Hemanth Chandra, Assistant Professor, CSE

"The resource person’s extensive knowledge and experience were evident throughout the program. The detailed explanations, real-time examples, and case studies significantly enhanced our understanding of Database Management Systems. The sessions were both informative and inspiring."

Mr. Rajashekar, Assistant Professor, FME

"The sessions were meticulously planned and delivered with great enthusiasm. Prof. D. Srinivas ensured that every participant understood the concepts through practical illustrations and interactive discussions. The program greatly enriched our teaching and technical skills."

Mrs. D. Kalpana, Assistant Professor, CSE-CS

"I was particularly impressed by the sessions on indexing, concurrency control, and recovery systems. The resource person explained these topics with remarkable clarity and provided valuable insights into their practical implementation. The overall learning experience was outstanding."

Ms. M Narmadha, Assistant Professor, CSE

"The Faculty Readiness Program was highly beneficial due to the expertise and dedication of the resource person. The sessions were comprehensive, well-paced, and covered all important aspects of DBMS. The practical orientation of the program made it highly effective."

Mrs. Lavanya, Assistant Professor, IT

"Prof. D. Srinivas created an excellent learning environment through his engaging teaching style and interactive approach. The hands-on activities and demonstrations helped us connect theoretical concepts with practical applications."

Mr. Vijayalakshmi, Assistant Professor, CSE

"The resource person's command over the subject and his ability to simplify complex concepts were truly commendable. Every session was informative, relevant, and focused on enhancing both conceptual understanding and practical skills."

ANNEXURES

Annexure-I : Program Schedule

FACULTY READINESS PROGRAM (FRP)
on Database Management Systems

Duration: **One Week** (6 Days) | Resource Person: **Prof. D. Srinivas**, Dean-ICT | Course Code: 23CS404

DAY 1

DATABASE FUNDAMENTALS & SYSTEM ARCHITECTURE

Theme: Introduction to Database Systems and Database Design (Syllabus Unit-I)

Day Schedule

Time	Session	Mode	Topics Covered
09:30 – 10:30	Session 1: Introduction to Database Systems	Theory	Database Systems and their Applications, Database vs File System, Advantages of DBMS
10:30 – 10:45	*Short Break*	—	—
10:45 – 12:30	Session 2: Database Architecture & Data Models	Theory + Discussion	View of Data, Data Models, Schema and Instances
12:30 – 13:30	*Lunch Break*	—	—
13:30 – 15:00	Session 3: Database Users & System Structure	Theory + Demo	Database Users, DBA, Database Languages, DBMS Structure
15:00 – 15:15	*Short Break*	—	—
15:15 – 16:30	Session 4: Database Design Fundamentals	Practical	Requirement Analysis and Database Design Exercises

Day 1 Outcomes

Understand DBMS concepts and applications.
Differentiate DBMS and File Systems.
Explain DBMS architecture.
Apply basic database design principles.

FACULTY READINESS PROGRAM (FRP)

on Database Management Systems

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DAY 2

SQL QUERIES, CONSTRAINTS & PROGRAMMING

Theme: SQL, Integrity Constraints, Views and Database Programming (Syllabus Unit-II)

Day Schedule

Time	Session	Mode	Topics Covered
09:30 – 10:30	Session 1: SQL Fundamentals	Theory + Demonstration	Types of SQL Commands (DDL, DML, DCL, TCL), Form of Basic SQL Queries, SQL Operators, Selection, Projection, Sorting, Filtering, Query Execution
10:30 – 10:45	*Short Break*	—	—
10:45 – 12:30	Session 2: Advanced SQL Queries	Theory + Hands-on	Aggregate Functions (COUNT, SUM, AVG, MIN, MAX), Group By and Having Clause, Set Operators (UNION, INTERSECT, EXCEPT), Nested Queries and Subqueries, Handling NULL Values
12:30 – 13:30	*Lunch Break*	—	—
13:30 – 15:00	Session 3: Constraints, Keys & Joins	Theory + Demonstration	Primary Key, Foreign Key, Candidate Key, Super Key, Entity Integrity, Referential Integrity, Domain Constraints, SQL Joins (Inner, Outer, Left, Right, Self Joins)
15:00 – 15:15	*Short Break*	—	—
15:15 – 16:30	Session 4: Views, PL/SQL & Active Databases	Practical + Workshop	Introduction to Views, Creating and Managing Views, Introduction to PL/SQL, Variables and Blocks, Cursors, Triggers, Active Database Concepts and Applications

Day 2 Outcomes

- Write and execute SQL queries for data retrieval and manipulation.
- Apply aggregate, set, and nested query operations effectively.
- Design and enforce integrity constraints in relational databases, Implement joins and views for complex database applications.
- Understand the fundamentals of PL/SQL programming.

FACULTY READINESS PROGRAM (FRP)

on Database Management Systems

Duration: **One Week** (6 Days) | Resource Person: **Prof. D. Srinivas**, Dean-ICT | Course Code: 23CS404

DAY 3

RELATIONAL MODEL, FILE ORGANIZATION & INDEXING

Theme: Relational Database Theory and Efficient Data Access Techniques (Syllabus Unit-III)

Day Schedule

Time	Session	Mode	Topics Covered
09:30 – 10:30	Session 1: Relational Model Fundamentals	Theory	Introduction to Relational Model, Basic Structure of Relations, Tuples and Attributes, Domains, Database Schema, Instance and Integrity Concepts, Advantages of Relational Databases
10:30 – 10:45	*Short Break*	—	—
10:45 – 12:30	Session 2: Relational Query Languages	Theory + Demonstration	Relational Algebra Operations (Selection, Projection, Union, Set Difference, Cartesian Product, Rename), Extended Relational Algebra Operations, Relational Calculus
12:30 – 13:30	*Lunch Break*	—	—
13:30 – 15:00	Session 3: File Organization Techniques	Theory + Demonstration	Introduction to File Organization, Heap Files, Sequential Files, Sorted Files, Hashed Files, Clustered and Non-Clustered File Organizations, Storage Considerations
15:00 – 15:15	*Short Break*	—	—
15:15 – 16:30	Session 4: Indexing and Access Methods	Theory + Simulation	Overview of Indexes, Primary and Secondary Indexes, Dense and Sparse Indexes, Multilevel Indexes, B+ Tree Indexing, Tree Structured Indexing, Static and Dynamic Hashing

Day 3 Outcomes

- Explain the structure and concepts of the Relational Model.
- Apply Relational Algebra operations to formulate database queries.
- Differentiate between Tuple Relational Calculus and Domain Relational Calculus.
- Analyze various file organization techniques and their applications.

FACULTY READINESS PROGRAM (FRP)

on Database Management Systems

Duration: **One Week** (6 Days) | Resource Person: **Prof. D. Srinivas**, Dean-ICT | Course Code: 23CS404

DAY 4

SCHEMA REFINEMENT & NORMALIZATION

Theme: Database Design Optimization and Normalization Techniques (Syllabus Unit-IV)

Day Schedule

Time	Session	Mode	Topics Covered
09:30 – 10:30	Session 1: Introduction to Schema Refinement	Theory	Introduction to Schema Refinement, Motivation for Database Design Refinement, Redundancy and Anomalies (Insertion, Deletion, Update), Need for Normalization, Design Quality Measures
10:30 – 10:45	*Short Break*	—	—
10:45 – 12:30	Session 2: Functional Dependencies & Decomposition	Theory + Demonstration	Functional Dependencies (FDs), Types of Functional Dependencies, Closure of Attributes, Armstrong's Axioms, Reasoning About Functional Dependencies, Properties of Decomposition, Lossless Join Decomposition, Dependency Preservation
12:30 – 13:30	*Lunch Break*	—	—
13:30 – 15:00	Session 3: Normalization Fundamentals	Theory + Examples	First Normal Form (1NF), Second Normal Form (2NF), Third Normal Form (3NF), Identification of Partial and Transitive Dependencies, Conversion of Unnormalized Relations into Normal Forms
15:00 – 15:15	*Short Break*	—	—
15:15 – 16:30	Session 4: Advanced Normalization Workshop	Practical + Case Study	Boyce-Codd Normal Form (BCNF), Fourth Normal Form (4NF), Fifth Normal Form (5NF), Multivalued Dependencies, Join Dependencies

Day 4 Outcomes

- Explain the importance of schema refinement in database design.
- Identify and analyze functional dependencies in relational schemas.
- Apply reasoning techniques using Armstrong's axioms and attribute closures.
- Evaluate decomposition properties such as lossless join and dependency preservation.
- Normalize database schemas up to BCNF, 4NF, and 5NF.

FACULTY READINESS PROGRAM (FRP)

on Database Management Systems

Duration: **One Week** (6 Days) | Resource Person: **Prof. D. Srinivas**, Dean-ICT | Course Code: 23CS404

DAY 5

TRANSACTION MANAGEMENT, CONCURRENCY

Theme: Transaction Processing and Database Reliability (Syllabus Unit-V)

Day Schedule

Time	Session	Mode	Topics Covered
09:30 – 10:30	Session 1: Transaction Management Fundamentals	Theory	Transaction Concept, Transaction States, ACID Properties, Implementation of Atomicity and Durability, Transaction Lifecycle, Database Reliability Concepts
10:30 – 10:45	*Short Break*	—	—
10:45 – 12:30	Session 2: Concurrent Execution	Theory + Demonstration	Concurrent Executions, Schedules, Serial and Concurrent Schedules
12:30 – 13:30	*Lunch Break*	—	—
13:30 – 15:00	Session 3: Serializability	Theory + Demonstration	Conflict Serializability, View Serializability, Recoverability, Cascading Rollbacks, Implementation of Isolation, Testing for Serializability using Precedence Graphs
15:00 – 15:15	*Short Break*	—	—
15:15 – 16:00	Session 4: Concurrency Control Protocols	Theory + Simulation	Lock-Based Protocols (Binary Locks, Shared/Exclusive Locks, Two-Phase Locking), Deadlock Handling, Timestamp-Based Protocols, Validation-Based Protocols, Comparison of Concurrency Control Techniques

Day 5 Outcomes

- Explain transaction concepts and the importance of ACID properties.
- Analyze transaction states and implement atomicity and durability mechanisms.
- Evaluate serializability and recoverability in concurrent transaction environments.
- Apply lock-based, timestamp-based, and validation-based concurrency control protocols.

FACULTY READINESS PROGRAM (FRP)

on Database Management Systems

Duration: **One Week** (6 Days) | Resource Person: **Prof. D. Srinivas**, Dean-ICT | Course Code: 23CS404

DAY 6

RECOVERY SYSTEMS

Theme: Transaction Processing and Database Reliability (Syllabus Unit-V)

Day Schedule

Time	Session	Mode	Topics Covered
09:30 – 10:30	Session 1: Recovery Systems	Theory	Recovery and Atomicity, Log-Based Recovery, Write-Ahead Logging (WAL),
10:30 – 10:45	*Short Break*	—	—
10:45 – 12:30	Session 2: Database Resilience	Theory	Immediate and Deferred Updates, Shadow Paging, Recovery with Concurrent Transactions
12:30 – 13:30	*Lunch Break*	—	—
13:30 – 15:00	Session 3: Check Points	Theory + Simulation	Checkpoints, Buffer Management, Recovery Scenarios and Exercises
15:00 – 15:15	*Short Break*	—	—
15:15 – 16:30	Session 4: Valedictory Ceremony	-	-

Day 6 Outcomes

Faculty will be able to:

Understand database recovery techniques using logs and shadow paging.

Demonstrate recovery procedures for concurrent transaction failures.

Analyze the role of buffer management in ensuring database performance and consistency.

FACULTY READINESS PROGRAM (FRP)

on

DATABASE MANAGEMENT SYSTEMS (DBMS)

RESOURCE PERSON

Prof. D Srinivas
Dean – ICT

ONE WEEK – FRP SCHEDULE

DATES
1st June 2026 – 6th June 2026

TIMINGS
9:30 AM – 4:00 PM (Each Day)

VENUE
Seminar Hall & DBMS Lab

DAY / DATE	TOPIC & FOCUS	KEY TAKEAWAYS	TIMINGS	VENUE
Day 1 1st June 2026 (Monday)	System Architecture & The Foundations of Database Design (Unit I)	• DBMS Architecture & Ecosystem • File Systems vs. DBMS • Three-Schema Architecture • ER Modeling & Mapping • Hands-on ER Design Activity	9:30 AM – 4:00 PM	Seminar Hall & DBMS Lab
Day 2 2nd June 2026 (Tuesday)	Mastering SQL, Relational Algebra & Calculus (Unit II & III)	• Relational Algebra & Calculus • SQL: Constraints, Joins, Subqueries, Views • Practical Query Lab • Common SQL Errors Guide	9:30 AM – 4:00 PM	Seminar Hall & DBMS Lab
Day 3 3rd June 2026 (Wednesday)	Active Databases, PL/SQL & Storage Infrastructure (Unit II & III)	• PL/SQL Blocks, Cursors, Triggers • File Organization & Indexing • Lab: Triggers & Cursors • Indexing Simulation & Performance Benchmarking	9:30 AM – 4:00 PM	Seminar Hall & DBMS Lab
Day 4 4th June 2026 (Thursday)	Advanced Indexing & Schema Refinement Part I (Unit III & IV)	• B-Trees, B+ Trees & Hashing • Functional Dependencies • Closure, Armstrong's Axioms • Algorithms & Index Evaluation	9:30 AM – 4:00 PM	Seminar Hall & DBMS Lab
Day 5 5th June 2026 (Friday)	Normalization Algorithms & Transaction Concepts (Unit IV & V)	• Normal Forms (1NF to 5NF) • Lossless Join & Dependency Preservation • Transactions & ACID Properties • Serializability Concepts	9:30 AM – 4:00 PM	Seminar Hall & DBMS Lab
Day 6 6th June 2026 (Saturday)	Concurrency Control, Recovery Systems & Program Capstone (Unit V)	• Concurrency Control Protocols • Deadlocks & Optimistic Protocols • Log-based Recovery & Buffer Management • Capstone, Assessment & Feedback	9:30 AM – 4:00 PM	Seminar Hall & DBMS Lab

RECOMMENDED RESOURCE KIT DELIVERABLES

SYLLABUS MAPPING MATRIX
Connect every topic to specific textbook chapters (e.g., Silberschatz/ Raghu Ramakrishnan).

READY-TO-USE SQL DUMPS
A script to auto-generate a complex database so faculty can skip data-entry overhead in labs.

VISUALIZATION TOOLS
Links to interactive tools for B+ tree animations and normal form calculators to enhance classroom engagement.

TEACHING SUPPORT MATERIALS
Slide decks, question banks, lab manuals, assignments, rubrics, and best practices for effective DBMS teaching.

OUR GOAL: Empower Faculty. Enhance Teaching. Inspire Learning.
Together, Let's Build Strong Foundations in Database Education!

Annexure-II : Resource Person Profile

Resource Person Profile

Prof. D. Srinivas

Dean – Information and Communication Technology (ICT)

Narsimha Reddy Engineering College (Autonomous), Hyderabad

Prof. D. Srinivas is a distinguished academician, researcher, and administrator with extensive experience in the fields of Computer Science, Information Technology, Data Analytics, Artificial Intelligence, and Database Systems. Currently serving as the **Dean – Information and Communication Technology (ICT)** at Narsimha Reddy Engineering College (Autonomous), Hyderabad, he plays a pivotal role in academic planning, curriculum development, faculty mentoring, research promotion, and industry-academia collaboration initiatives.

With a strong passion for teaching and innovation, Prof. D. Srinivas has successfully guided numerous students and faculty members in emerging technologies and outcome-based education practices. His expertise spans Database Management Systems, Data Structures, Data Analytics, Machine Learning, Artificial Intelligence, Cloud Computing, and Software Engineering.

Over the years, he has organized and delivered several Faculty Development Programs (FDPs), Faculty Readiness Programs (FRPs), workshops, seminars, and technical training sessions for faculty members, students, and industry professionals. His sessions are highly appreciated for their practical orientation, industry relevance, and interactive learning approach.

As Dean–ICT, he has been instrumental in strengthening digital learning ecosystems, promoting research culture, facilitating accreditation processes, and enhancing institutional quality standards. Under his leadership, several academic initiatives have been successfully implemented to bridge the gap between academia and industry requirements.

Prof. D. Srinivas actively contributes to curriculum design, research publications, innovation projects, and skill development programs. His commitment to continuous learning and professional excellence has inspired faculty members and students to pursue academic excellence and lifelong learning.

Areas of Expertise

- Database Management Systems (DBMS)
- Data Structures and Algorithms
- Artificial Intelligence and Machine Learning

- Data Analytics and Business Intelligence
- Cloud Computing
- Software Engineering
- Web Technologies
- Data Mining
- Research Methodology
- Outcome-Based Education (OBE)

Academic Contributions

- Faculty Development Programs (FDPs)
- Faculty Readiness Programs (FRPs)
- Curriculum Design and Development
- Research Guidance and Mentoring
- Industry-Academia Collaboration
- Accreditation and Quality Assurance Activities
- Academic Administration and Leadership

Professional Strengths

- Academic Leadership
- Faculty Mentoring
- Research Promotion
- Technical Training
- Strategic Planning
- Innovation and Entrepreneurship Support
- Quality Enhancement in Higher Education

Prof. D. Srinivas continues to contribute significantly to technical education through his dedication to teaching, research, academic administration, and professional development initiatives. His vision of fostering excellence in education and technology-driven learning has greatly benefited faculty members, students, and the broader academic community.

Annexure-III : Attendance Records

NARSIMHA REDDY ENGINEERING COLLEGE

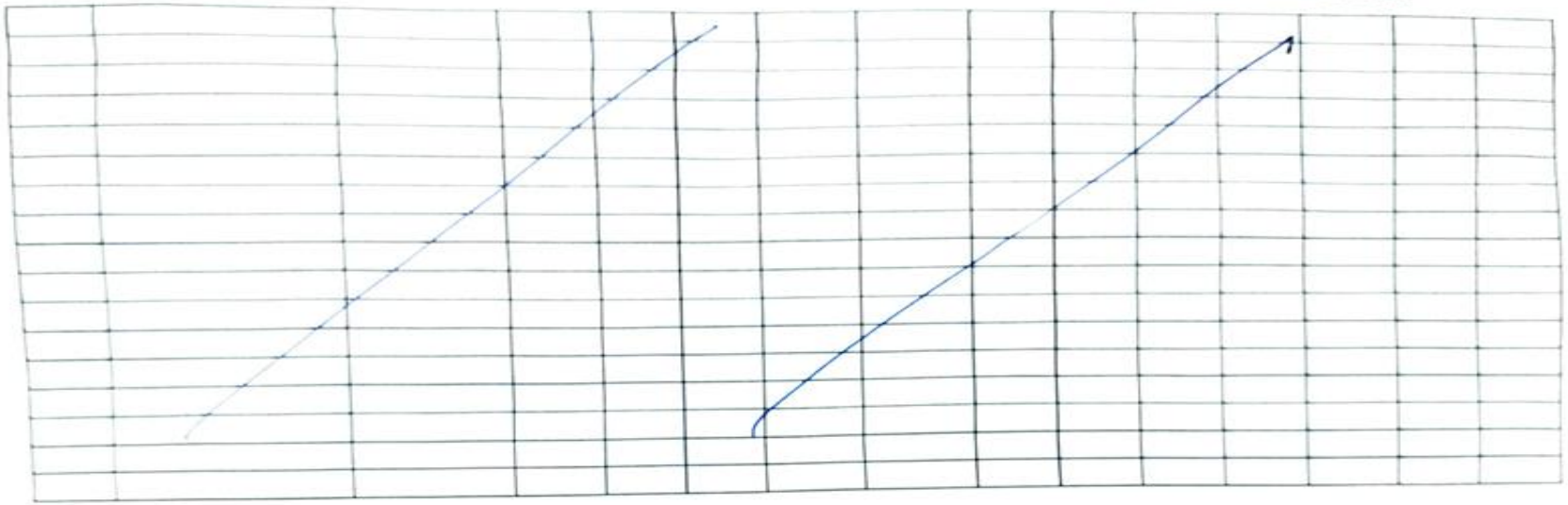
Department of CSE

Faculty Readiness Program (FRP) on DBMS

Attendance Sheet

S.No.	Name of the Faculty	Department	Day-1(1-6-26)		Day-2(2-6-26)		Day-3(3-6-26)		Day-4(4-6-26)		Day-5(5-6-26)		Day-6(6-6-26)	
			FN	AN	FN	AN	FN	AN	FN	AN	FN	AN	FN	AN
1	Ds. Reena Bansal	AIML	RB	RB	RB	AB	RB	RB	RB	RB	RB	RB	RB	AB
2	M. Narmadha	CSE	M.N	M.N	M.N	M.N	M.N	M.N	M.N	M.N	M.N	M.N	M.N	M.N
3	G. Vijaya Lakshmi	CSE	Laxmi	Laxmi	Laxmi	Laxmi	Laxmi	Laxmi	Laxmi	Laxmi	Laxmi	Laxmi	Laxmi	Laxmi
4	L. Sunanda	IT												
5	N. Lavanya	IT												
6	L. Lakshma Reddy	IT	L.L.R	L.L.R	L.L.R	L.L.R	L.L.R	L.L.R	L.L.R	L.L.R	L.L.R	L.L.R	L.L.R	L.L.R
7	S. Rajashekar	FMG												
8	Hemanth Chandra	CSE												
9	PALEM NARESH	IT	P.Naresh	P.Naresh	P.Naresh	P.Naresh	P.Naresh	P.Naresh	P.Naresh	P.Naresh	P.Naresh	P.Naresh	P.Naresh	P.Naresh
10	R. Jeevitha	CSE												
11	D. Kalpana	CSE-CS												
12	J. Swathi	CSE												
13	Swarna Ramya P	CSE			AB	AB	AB	AB	AB	AB	AB	AB	AB	AB
14	Amutha	CSE							AB	AB	AB	AB	AB	AB
15	Dr. N. Srinivas	C.S.E	AB	AB										

Maisammaguda (V), Dhulapally (P)
Near Kompally, Medchal (M), Secunderabad – 500 100.
principal@nrcmec.org
9949092454 www.nrcmec.org

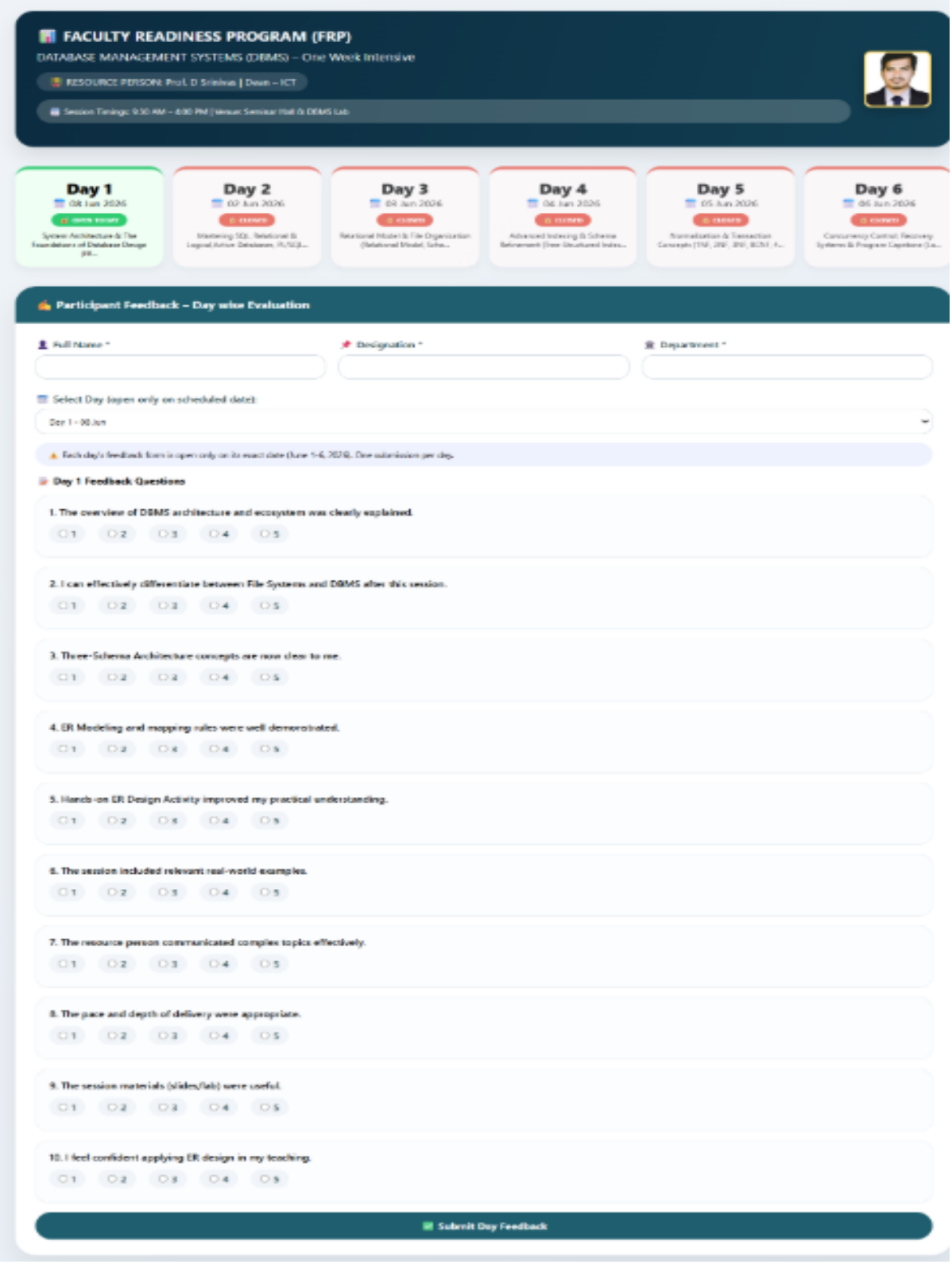


Resource Person Details: Prof. D. Srinivas
Dean ICT, Dept. of CSE,
NRCM.

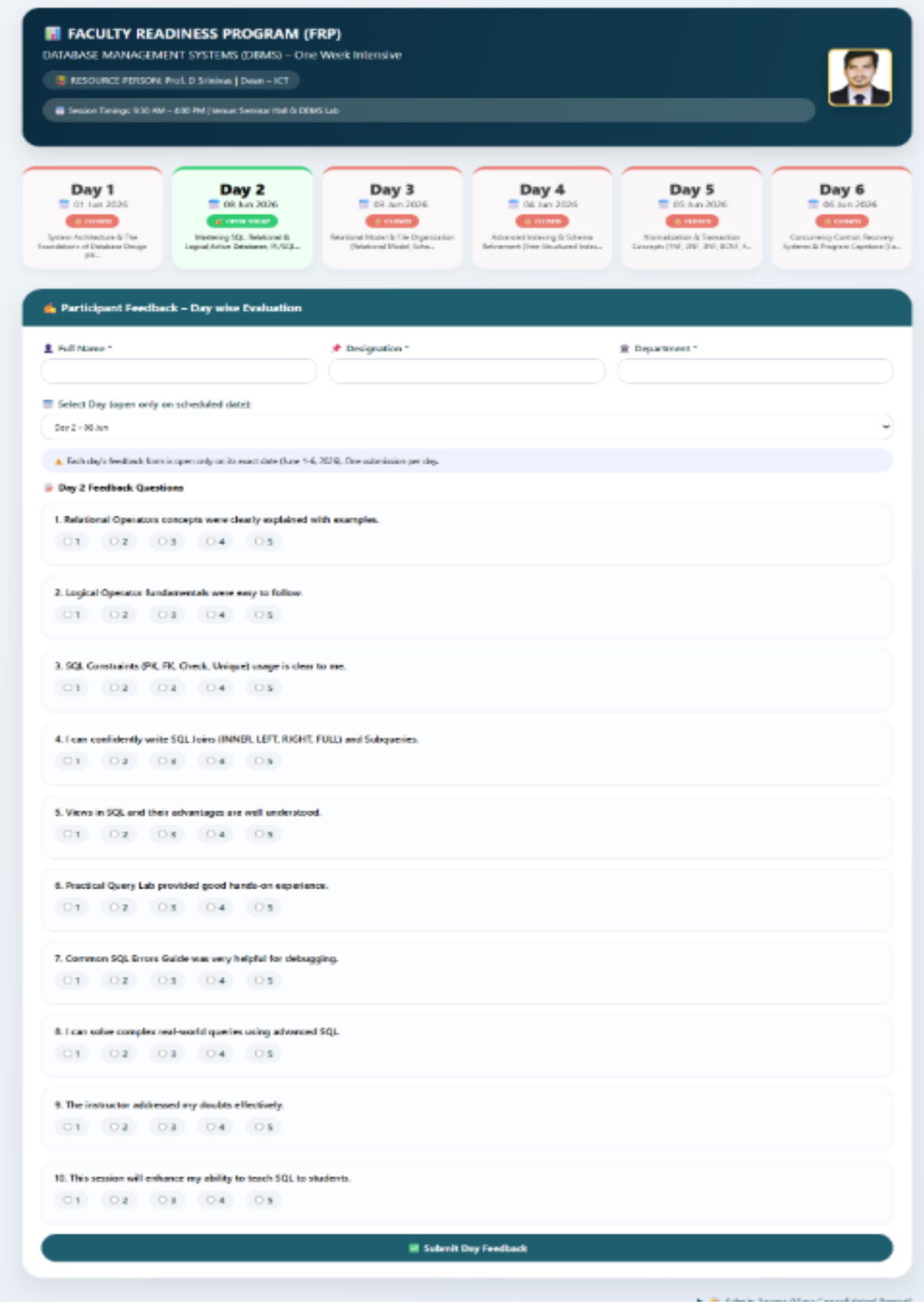
Signature:

Maisammaguda (V), Dhulapally (P)
Near Kompally, Medchal (M), Secunderabad – 500 100.
principal@nrcmec.org
9949092454 www.nrcmec.org

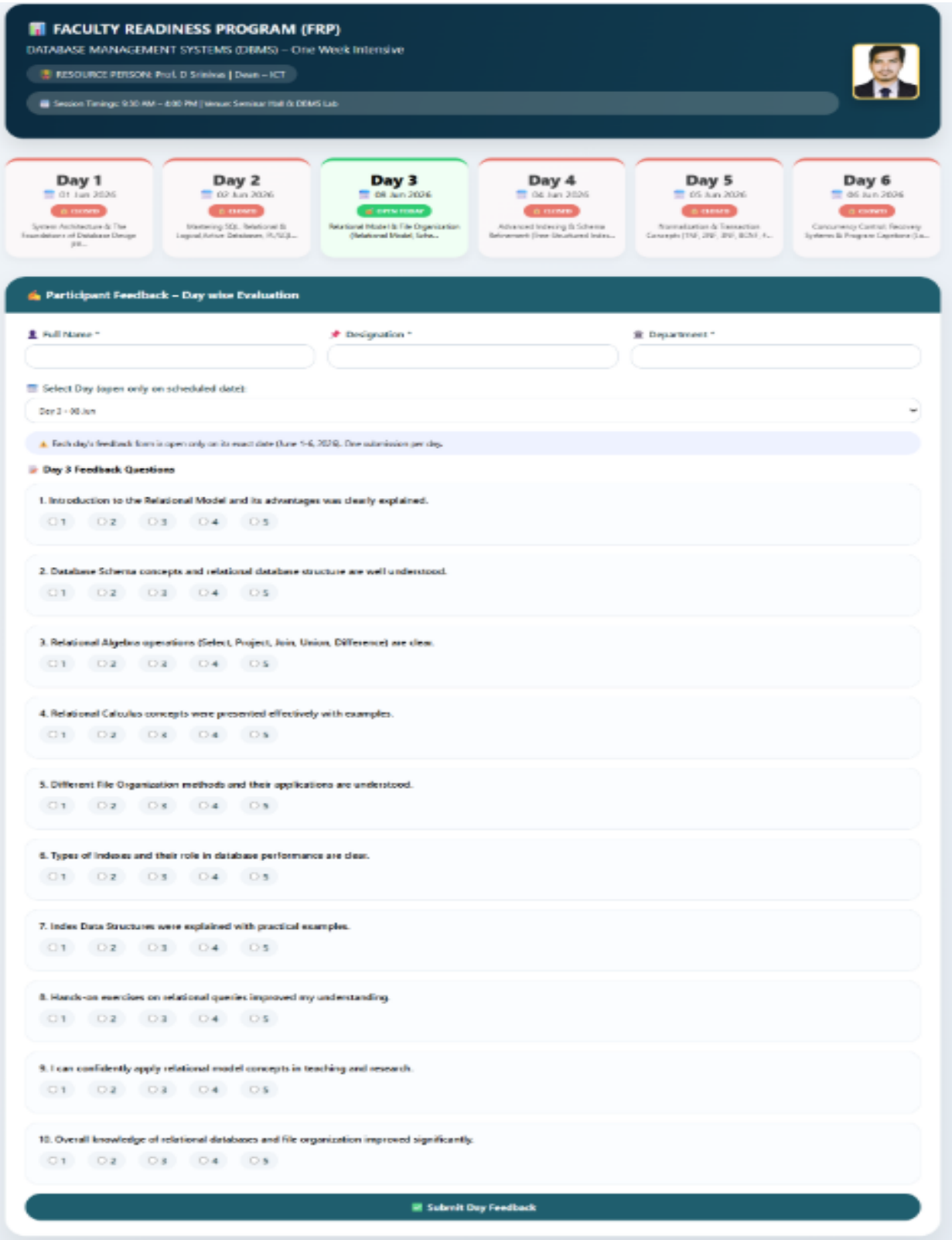
Annexure-IV : Feedback Forms
Day-1



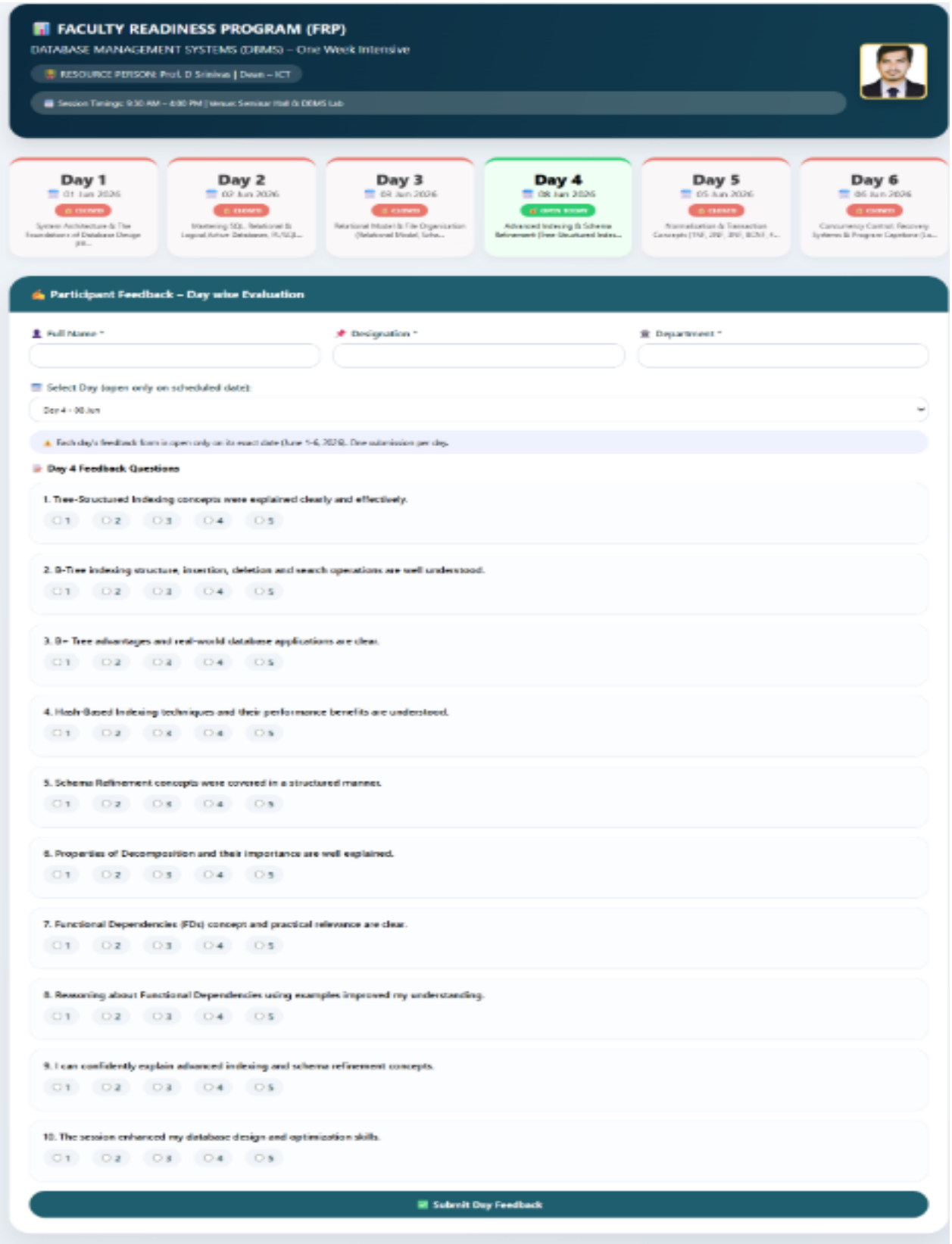
Day-2


FACULTY READINESS PROGRAM (FRP)
DATABASE MANAGEMENT SYSTEMS (DBMS) – One Week Intensive
RESOURCE PERSON: Prof. D Srinivas | Dean – ICT
Day 1
Day 2
Day 3
Day 4
Day 5
Day 6
Participant Feedback – Day wise Evaluation
Full Name *
Designation *
Department *
Select Day (open only on scheduled date):
Day 2 - 08 Jun
Day 2 Feedback Questions
1. Relational Operators concepts were clearly explained with examples.
2. Logical Operator fundamentals were easy to follow.
3. SQL Constraints (PK, FK, Check, Unique) usage is clear to me.
4. I can confidently write SQL Joins (INNER, LEFT, RIGHT, FULL) and Subqueries.
5. Views in SQL and their advantages are well understood.
6. Practical Query Lab provided good hands-on experience.
7. Common SQL Errors Guide was very helpful for debugging.
8. I can solve complex real-world queries using advanced SQL.
9. The instructor addressed my doubts effectively.
10. This session will enhance my ability to teach SQL to students.
Submit Day Feedback

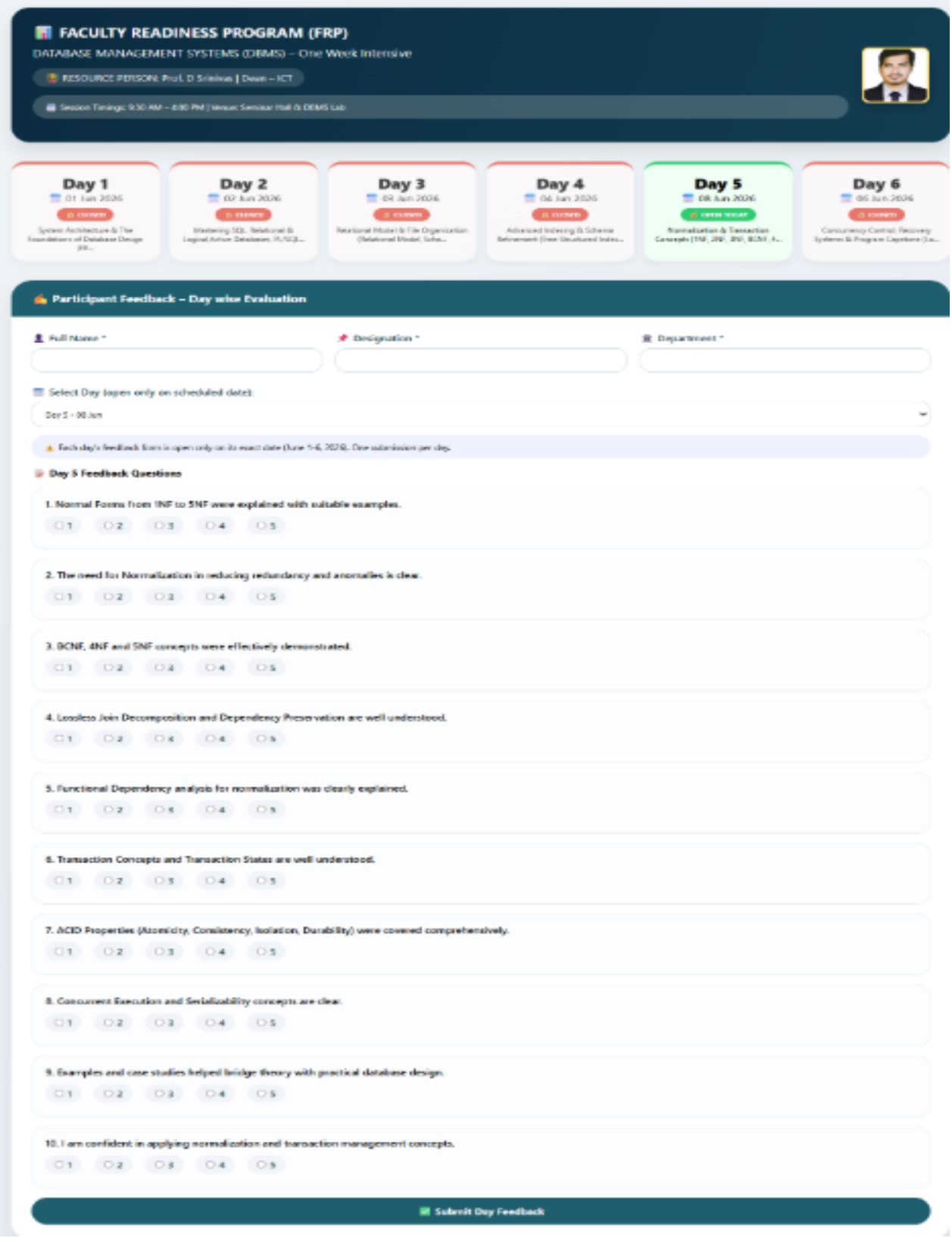
Day-3


FACULTY READINESS PROGRAM (FRP)
DATABASE MANAGEMENT SYSTEMS (DBMS) – One Week Intensive
Day 1
Day 2
Day 3
Day 4
Day 5
Day 6
Participant Feedback – Day wise Evaluation
Full Name *
Designation *
Department *
Select Day (open only on scheduled date):
Day 3 Feedback Questions
1. Introduction to the Relational Model and its advantages was clearly explained.
2. Database Schema concepts and relational database structure are well understood.
3. Relational Algebra operations (Select, Project, Join, Union, Difference) are clear.
4. Relational Calculus concepts were presented effectively with examples.
5. Different File Organization methods and their applications are understood.
6. Types of Indexes and their role in database performance are clear.
7. Index Data Structures were explained with practical examples.
8. Hands-on exercises on relational queries improved my understanding.
9. I can confidently apply relational model concepts in teaching and research.
10. Overall knowledge of relational databases and file organization improved significantly.
Submit Day Feedback

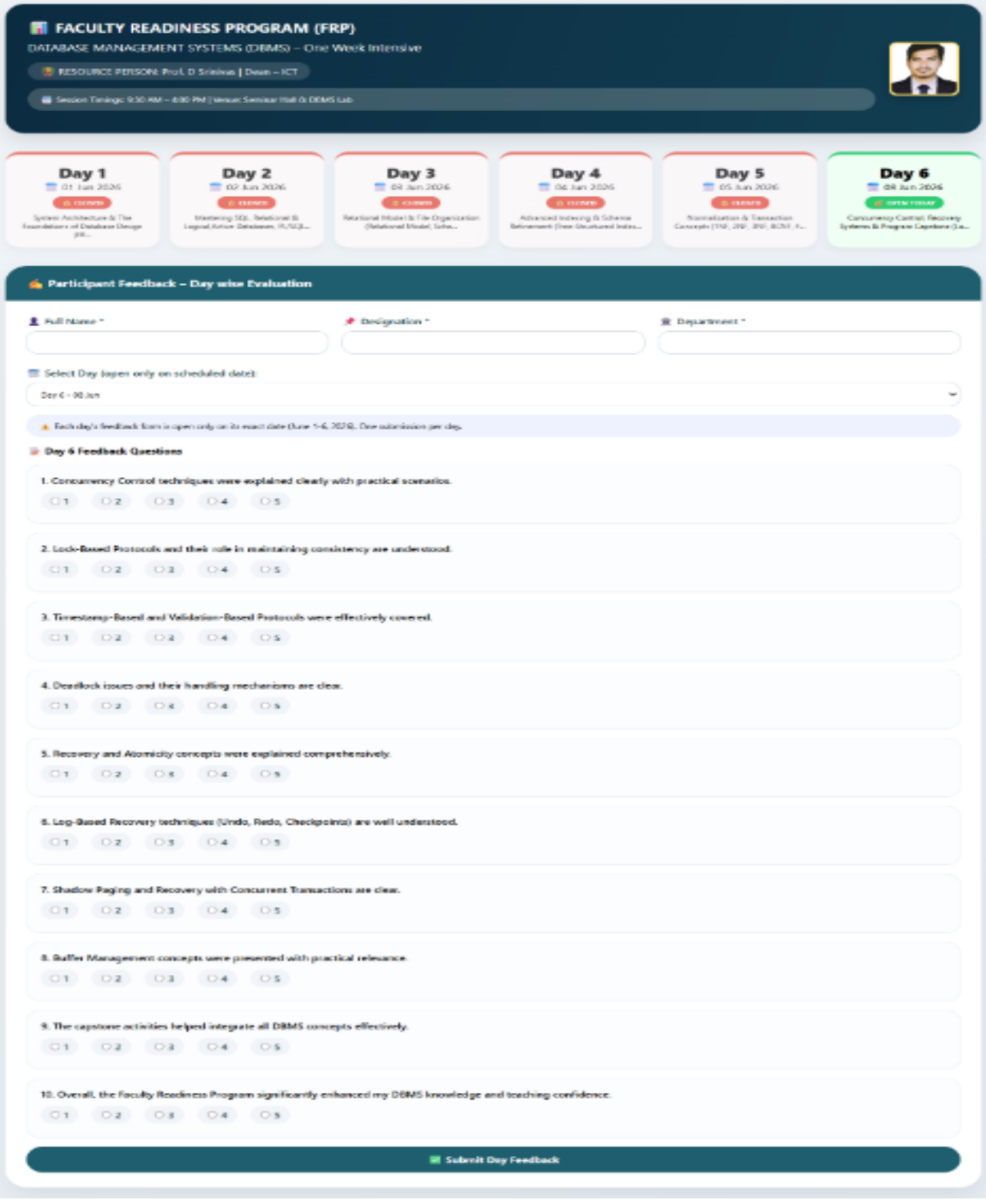
Day-4


FACULTY READINESS PROGRAM (FRP)
DATABASE MANAGEMENT SYSTEMS (DBMS) – One Week Intensive
Day 1
Day 2
Day 3
Day 4
Day 5
Day 6
Participant Feedback – Day wise Evaluation
Full Name *
Designation *
Department *
Select Day (open only on scheduled date):
Day 4 Feedback Questions
1. Tree-Structured Indexing concepts were explained clearly and effectively.
2. B-Tree indexing structure, insertion, deletion and search operations are well understood.
3. B+ Tree advantages and real-world database applications are clear.
4. Hash-Based Indexing techniques and their performance benefits are understood.
5. Schema Refinement concepts were covered in a structured manner.
6. Properties of Decomposition and their importance are well explained.
7. Functional Dependencies (FDs) concept and practical relevance are clear.
8. Reasoning about Functional Dependencies using examples improved my understanding.
9. I can confidently explain advanced indexing and schema refinement concepts.
10. The session enhanced my database design and optimization skills.
Submit Day Feedback

Day-5


FACULTY READINESS PROGRAM (FRP)
DATABASE MANAGEMENT SYSTEMS (DBMS) – One Week Intensive
Day 1
Day 2
Day 3
Day 4
Day 5
Day 6
Participant Feedback – Day wise Evaluation
Full Name *
Designation *
Department *
Select Day (open only on scheduled date):
Day 5 - 08 Jun
Day 5 Feedback Questions
1. Normal Forms from 1NF to 5NF were explained with suitable examples.
2. The need for Normalization in reducing redundancy and anomalies is clear.
3. BCNF, 4NF and 5NF concepts were effectively demonstrated.
4. Lossless Join Decomposition and Dependency Preservation are well understood.
5. Functional Dependency analysis for normalization was clearly explained.
6. Transaction Concepts and Transaction States are well understood.
7. ACID Properties (Atomicity, Consistency, Isolation, Durability) were covered comprehensively.
8. Concurrent Execution and Serializability concepts are clear.
9. Examples and case studies helped bridge theory with practical database design.
10. I am confident in applying normalization and transaction management concepts.
Submit Day Feedback

Day-6

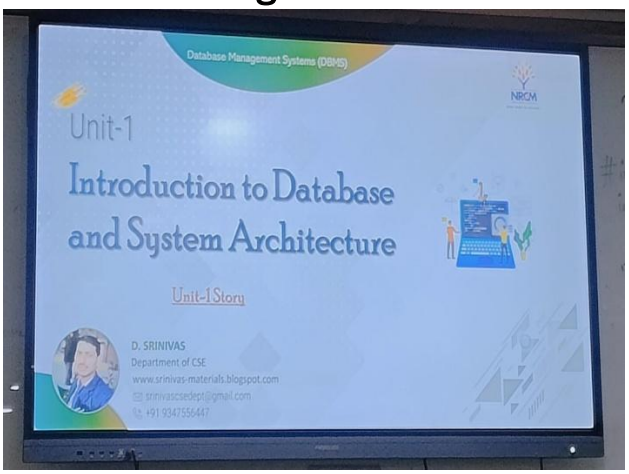

FACULTY READINESS PROGRAM (FRP)
DATABASE MANAGEMENT SYSTEMS (DBMS) – One Week Intensive
Day 1
Day 2
Day 3
Day 4
Day 5
Day 6
Participant Feedback – Day wise Evaluation
Full Name *
Designation *
Department *
Select Day (open only on scheduled date):
Day 6 Feedback Questions
1. Concurrency Control techniques were explained clearly with practical scenarios.
2. Lock-Based Protocols and their role in maintaining consistency are understood.
3. Timestamp-Based and Validation-Based Protocols were effectively covered.
4. Deadlock issues and their handling mechanisms are clear.
5. Recovery and Atomicity concepts were explained comprehensively.
6. Log-Based Recovery techniques (Undo, Redo, Checkpoints) are well understood.
7. Shadow Paging and Recovery with Concurrent Transactions are clear.
8. Buffer Management concepts were presented with practical relevance.
9. The capstone activities helped integrate all DBMS concepts effectively.
10. Overall, the Faculty Readiness Program significantly enhanced my DBMS knowledge and teaching confidence.
Submit Day Feedback

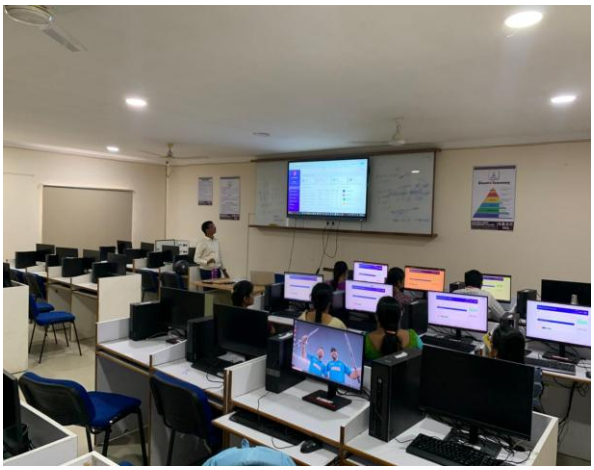
Annexure-V : Participant List

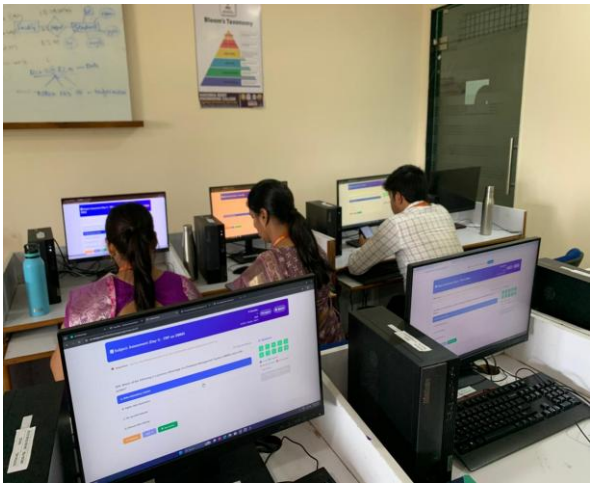
S.No	Name	Designation	Department
1	Lebaka Lakshmi Reddy	Assistant Professor	IT
2	Dr.Nidamanuru Srinivasa Rao	Associate Professor	CSE
3	N.Lavanya	Assistant Professor	IT
4	Lingampalli Sunanda	Assistant Professor	IT
5	Jonnoji Swathi	Assistant Professor	CSE
6	G.Vijaya Laxmi	Assistant Professor	CSE
7	Mangalagiri Narmadha	Assistant Professor	CSE
8	S Raja Shekhar	Assistant Professor	FME
9	G Anusha	Assistant Professor	CSE
10	D Kalpana	Assistant Professor	CSE(CS)
11	Naresh Palem	Assistant Professor	IT
12	S L Hemanth Chandra	Assistant Professor	CSE
13	Dr Reena Bansal	Associate Professor	AIML
14	R Jeevitha	Assistant Professor	CSE

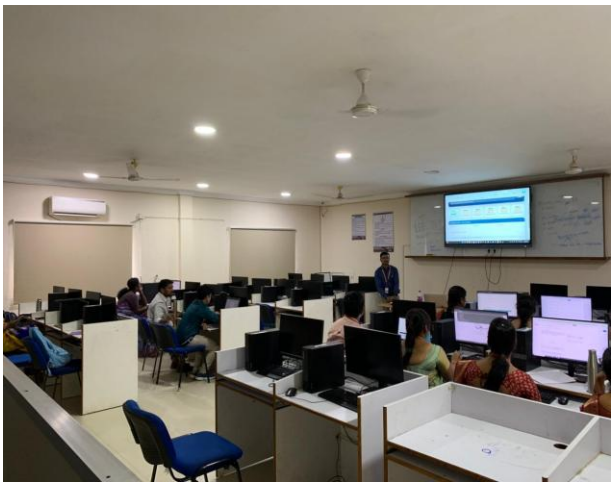
Annexure-VI : Photographs

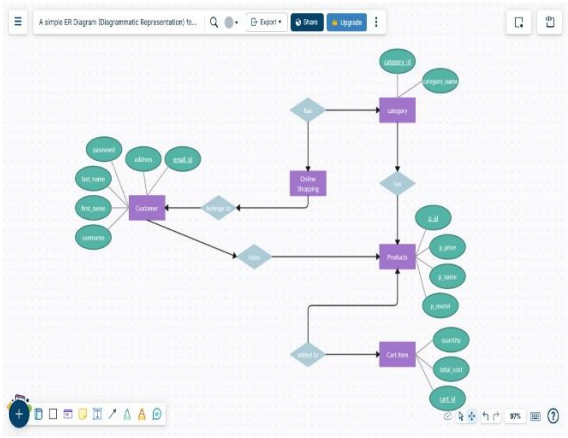
DAY-1 Morning Session & Afternoon Session

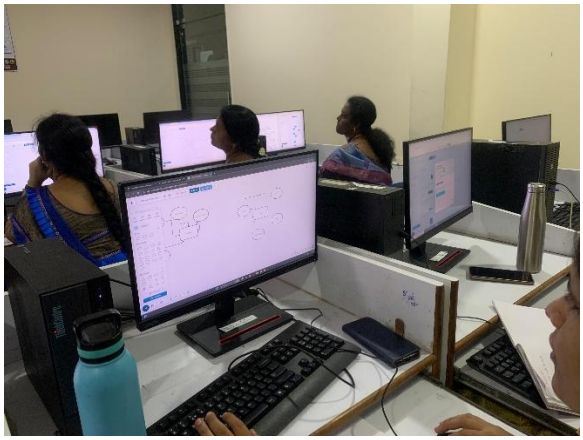


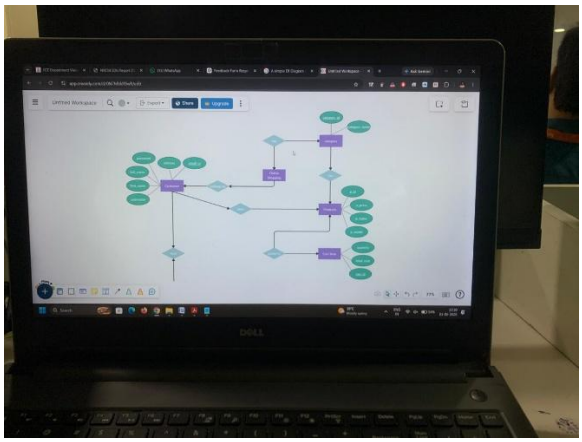


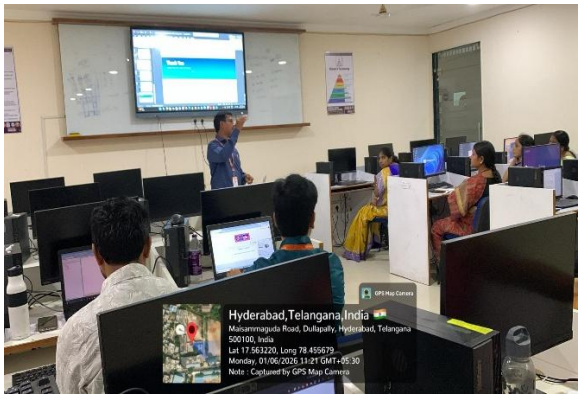


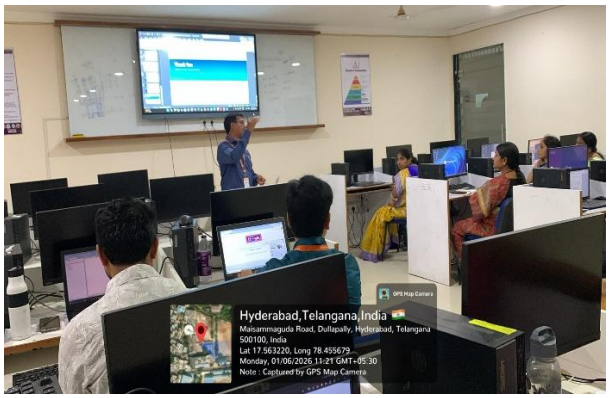


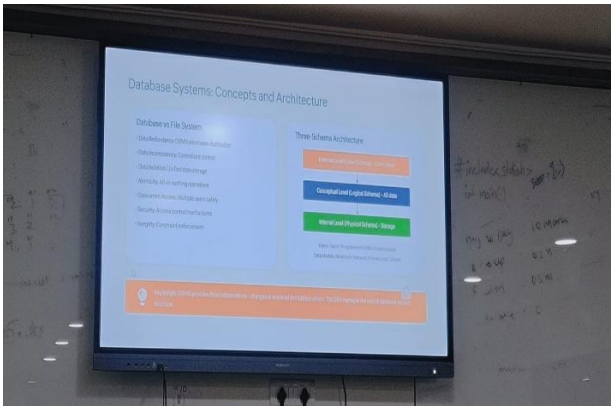

A simple ER Diagram (Diagrammatic Representation) to...
Export
Share
Upgrade
category_id
category_name
has
category
password
address
email_id
last_name
first_name
username
Customer
belongs to
Online Shopping
has
Orders
Products
p_id
p_price
p_name
p_model
added to
Cart Item
quantity
total cost
cart_id
97%



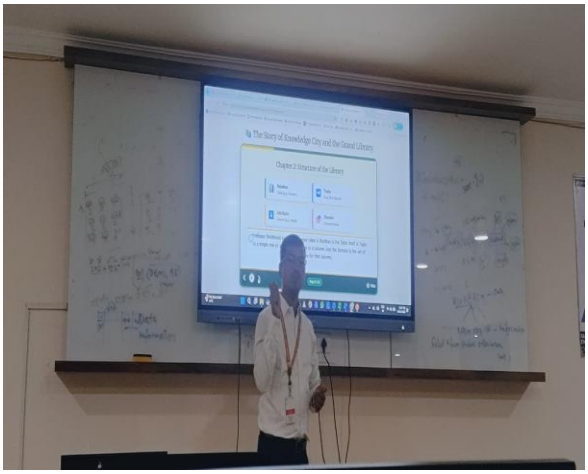


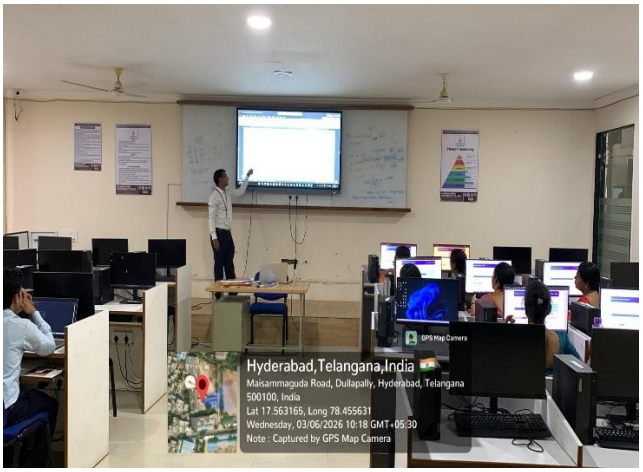

Hyderabad,Telangana,India
Maisammaguda Road, Dullapally, Hyderabad, Telangana
500100, India
Lat 17.563220, Long 78.455679
Monday, 01/06/2026 11:21 GMT+05:30
Note : Captured by GPS Map Camera

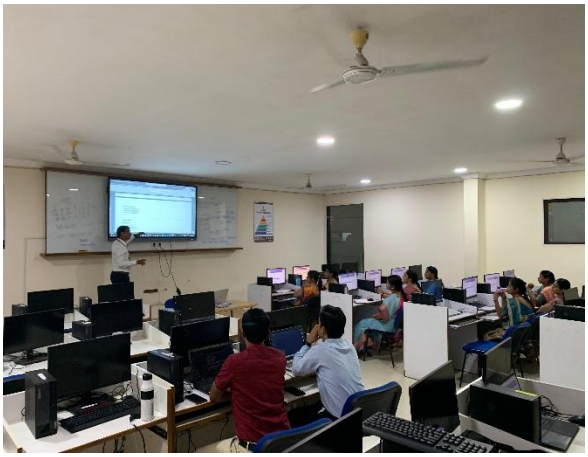

Hyderabad,Telangana,India
Maisammaguda Road, Dullapally, Hyderabad, Telangana
500100, India
Lat 17.563220, Long 78.455679
Monday, 01/06/2026 11:21 GMT+05:30
Note : Captured by GPS Map Camera

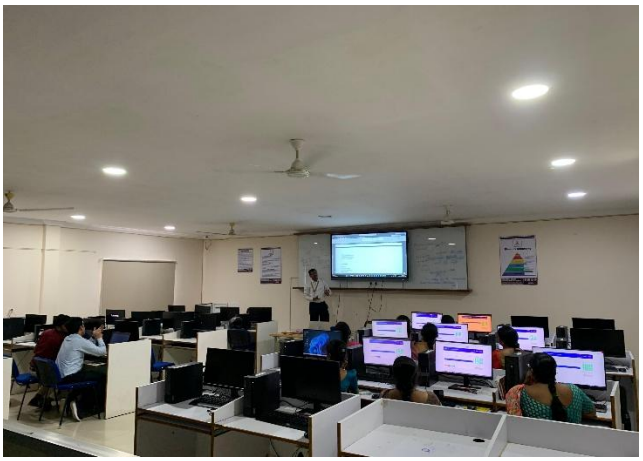

Database Systems: Concepts and Architecture
Database vs File System
Three-Schema Architecture

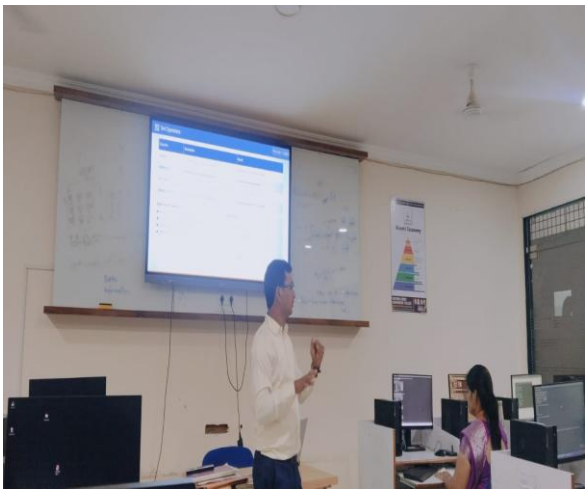
Day-2 Morning Session & Afternoon Session

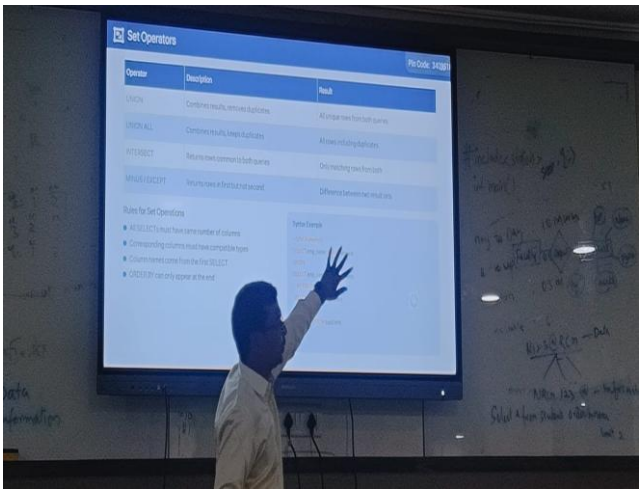






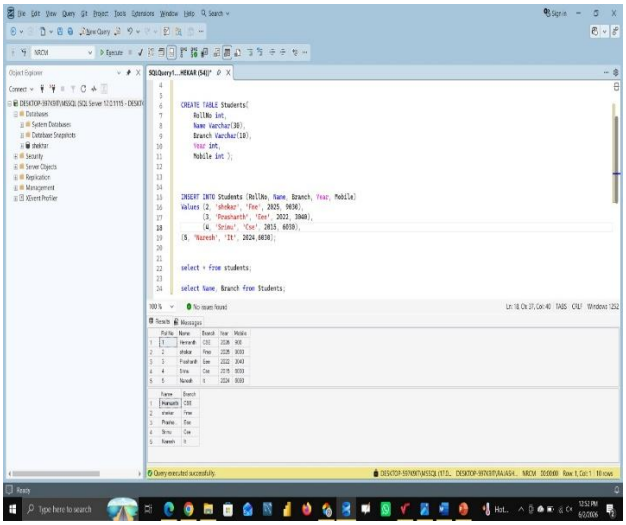


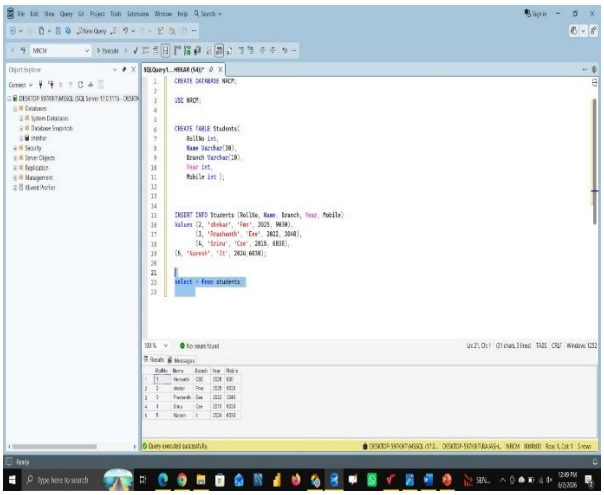


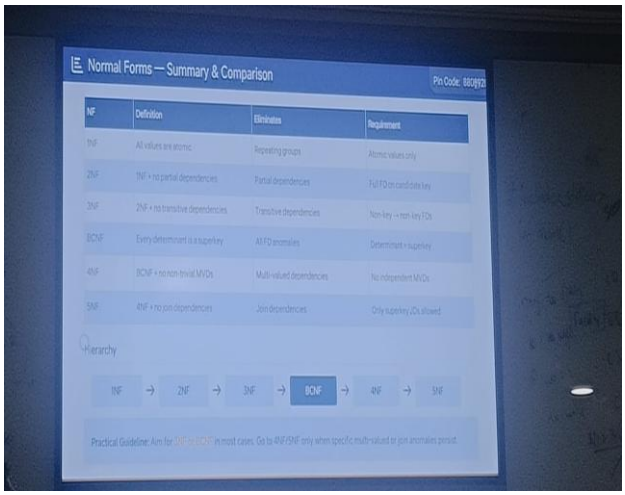


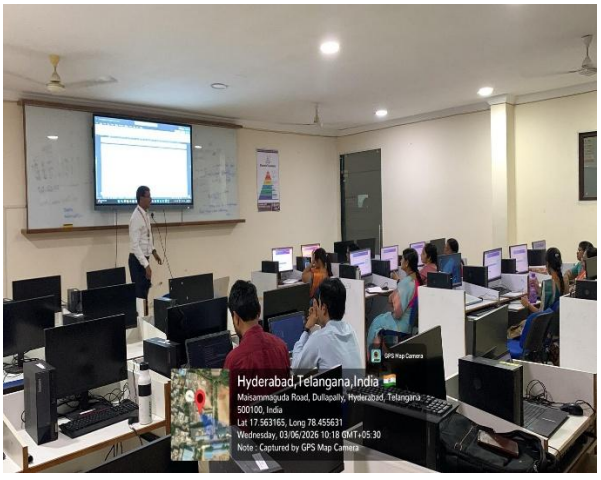
```
mysql> SELECT * FROM STUDENTS;
+---------+-----------------+--------+------+-----------+
| ROLL_NO | NAME_OF_STUDENT | BRANCH | YEAR | MOBILE    |
+---------+-----------------+--------+------+-----------+
|       1 | VISHNU          | CE     | IV   | 908458266 |
|     401 | Rajasekhar      | ECE    | III  | 909408834 |
|     402 | Prashanth       | EEE    | IV   | 808080824 |
|     501 | RAJESH          | CSE    | II   | 949806946 |
|     502 | RAHUL           | CSE    | II   | 888080808 |
|     503 | ANITHA          | AIML   | II   | 955855556 |
|     504 | RAJU            | CSE    | II   | 805588965 |
|     506 | NARESH          | IT     | II   | 984802233 |
+---------+-----------------+--------+------+-----------+
8 rows in set (0.00 sec)

mysql> select * FROM STUDENTS WHERE NAME_OF_STUDENT LIKE 'A%';
+---------+-----------------+--------+------+-----------+
| ROLL_NO | NAME_OF_STUDENT | BRANCH | YEAR | MOBILE    |
+---------+-----------------+--------+------+-----------+
|     503 | ANITHA          | AIML   | II   | 955855556 |
+---------+-----------------+--------+------+-----------+
1 row in set (0.00 sec)
```









Schema SQL

```
1 CREATE TABLE, INSERT, UPDATE etc.
```

Query SQL

```
('S101', 'Ravi'),
('S102', 'Sita');
Select * From Student;
CREATE TABLE Course (
    CourseID VARCHAR(10),
    CourseName VARCHAR(50) NOT NULL,
    Faculty VARCHAR(50) NOT NULL
);

INSERT INTO Course (CourseID, CourseName, Faculty) VALUES
('C01', 'DBMS', 'Rao'),
('C02', 'Java', 'Kumar');
Select * from Course;
```

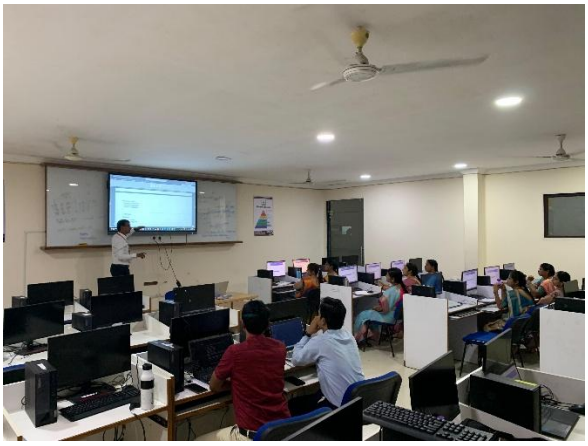
Text to DDL

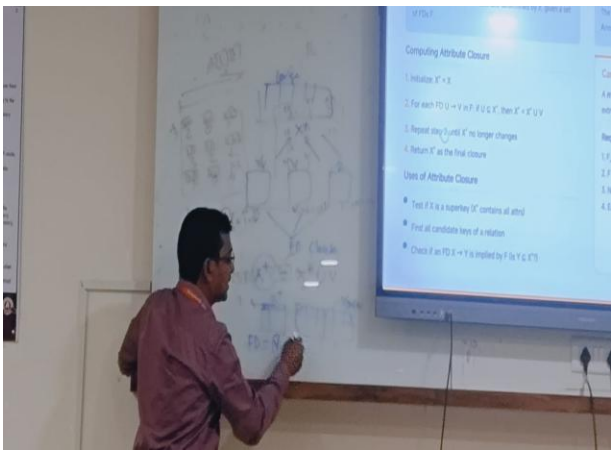
Results

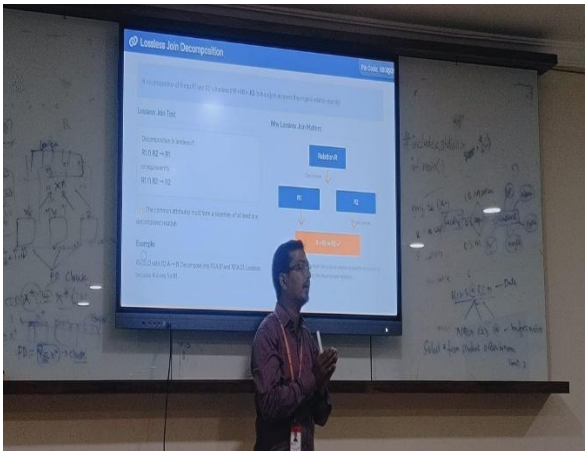
Copy as Markdown

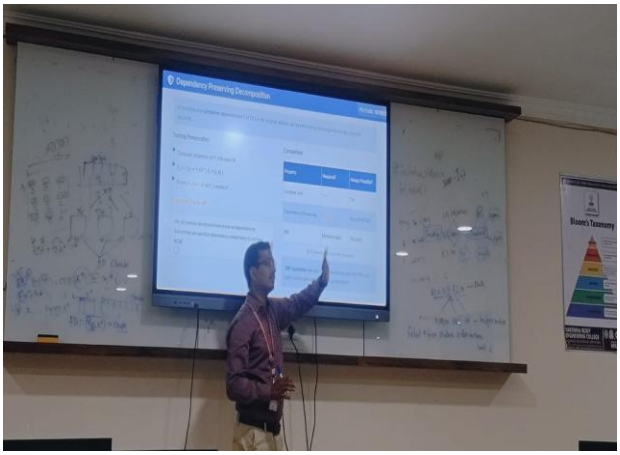
S101	C01
S101	C02
S102	C01

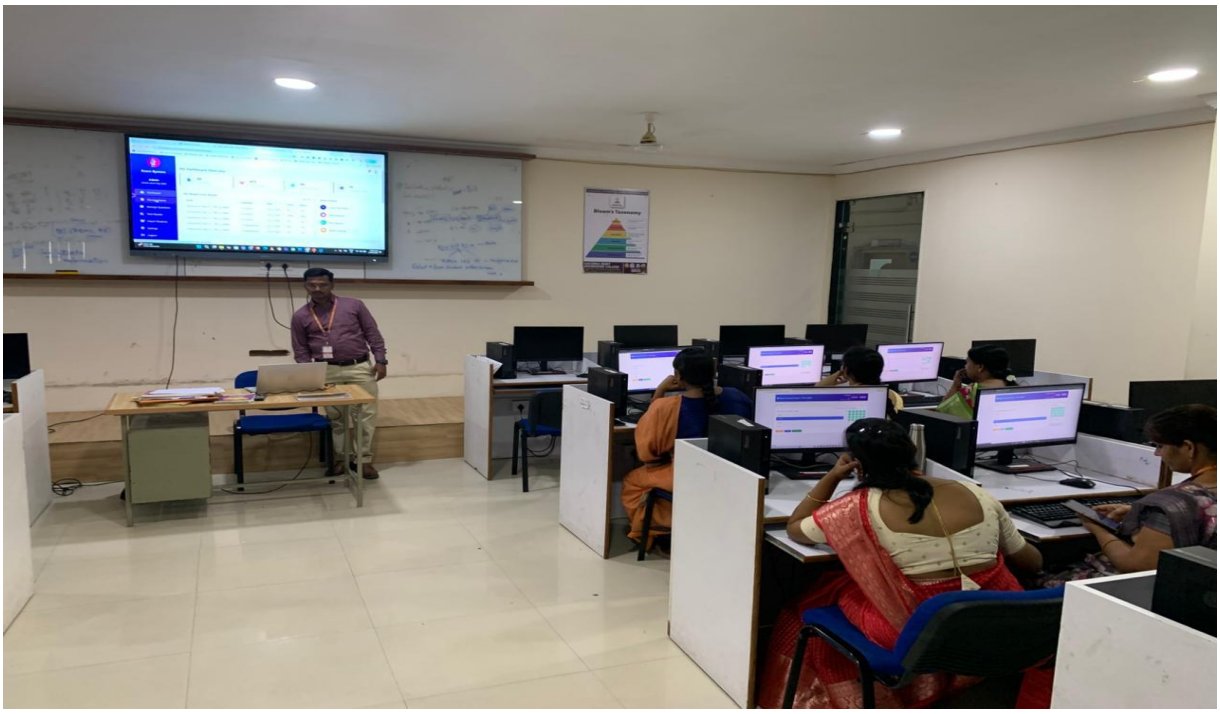
Day-3 Morning Session & After noon Session



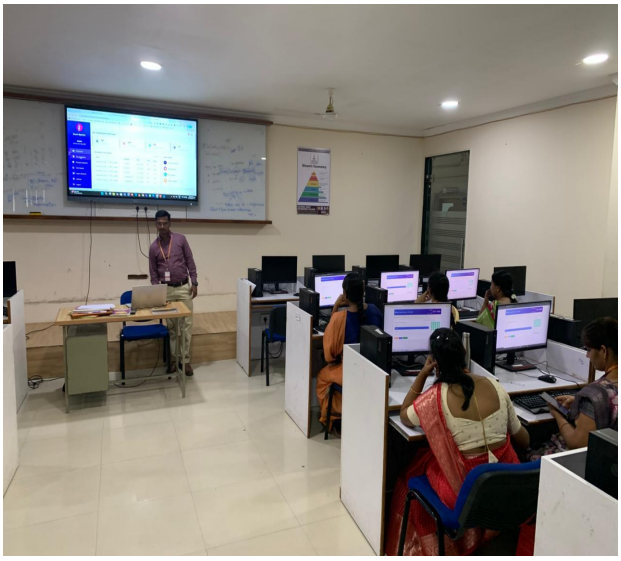


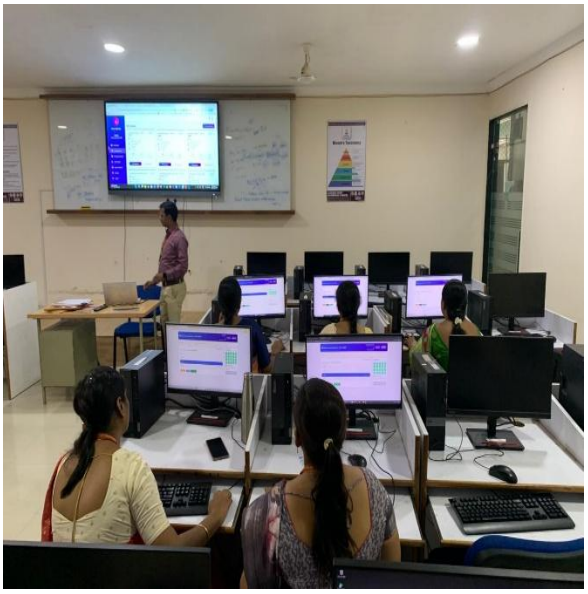


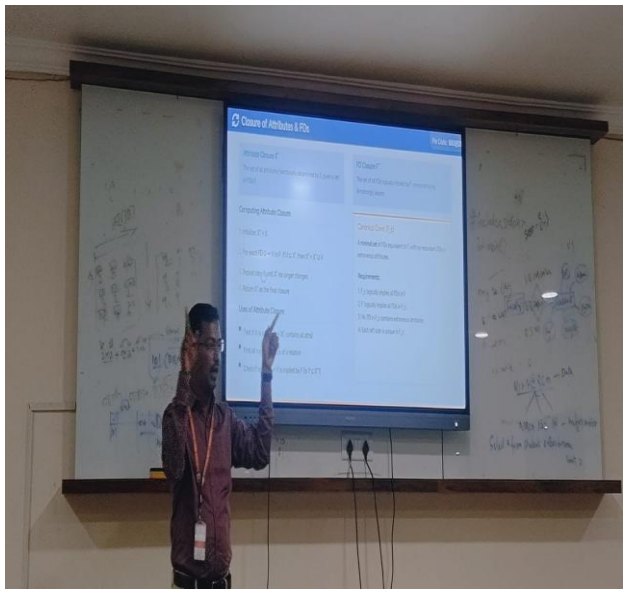




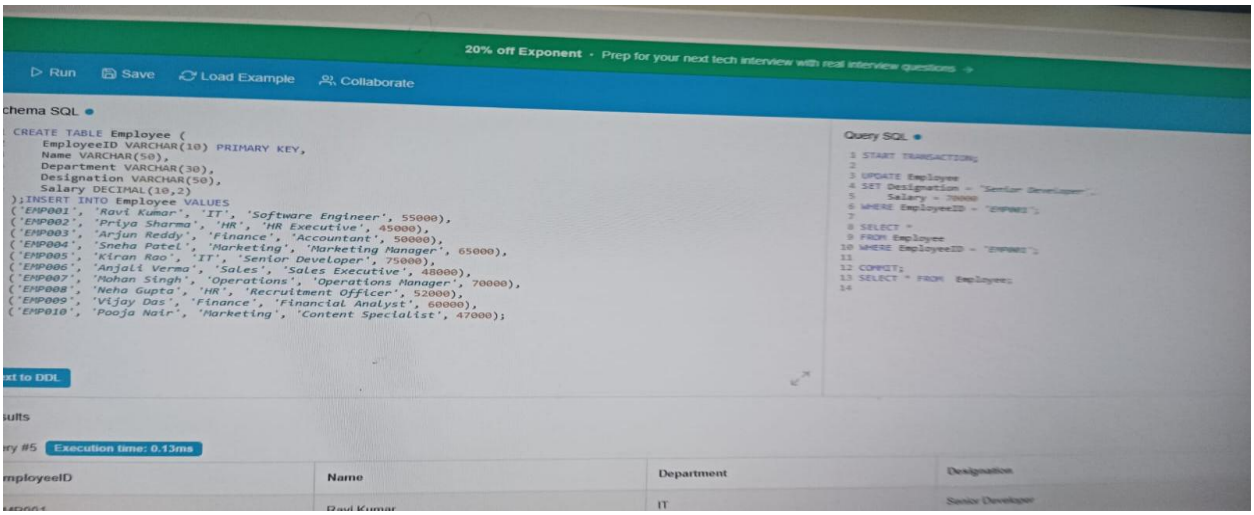
Day-4 Morning Session & After noon Session







Day-5 Morning Session & After noon Session



Day-6 Morning Session & After noon Session

Valedictory Ceremony


NARSIMHA REDDY ENGINEERING COLLEGE
Faculty Readiness Program


NARSIMHA REDDY ENGINEERING COLLEGE
Faculty Readiness Program


NARSIMHA REDDY ENGINEERING COLLEGE
Faculty Readiness Program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CYBER SECURITY


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NRCM
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NARSIMHA REDDY ENGINEERING COLLEGE
CYBER SECURITY

Annexure-VII : Certificates

NARSIMHA REDDY ENGINEERING COLLEGE
An Autonomous Institution| Affiliated to JNTUH | Approved by AICTE
Accredited by NBA & NAAC with 'A' Grade

COURSE CERTIFICATE

CERTIFICATE of PARTICIPATION

This certificate is proudly presented to Dr./Mr./Ms.

Dr.Nidamanuri Srinivasa Rao, **Associate Professor**

has actively participated in and successfully completed the **ONE-WEEK FACULTY READINESS PROGRAM (FRP)** on

"DATABASE MANAGEMENT SYSTEMS"

conducted from 1st June 2026 to 6th June 2026, organized by the Department of Computer Science & Engineering, Narsimha Reddy Engineering College (Autonomous).

Prof. Srinivas, Course Coordinator | Dr. R. Lokanatham, Principal | Dr. A. Mohan, Director

Certificate Number: FRPDBMS101

NARSIMHA REDDY ENGINEERING COLLEGE
An Autonomous Institution| Affiliated to JNTUH | Approved by AICTE
Accredited by NBA & NAAC with 'A' Grade

COURSE CERTIFICATE

CERTIFICATE of PARTICIPATION

This certificate is proudly presented to Dr./Mr./Ms.

Dr Reena Bansal, **Associate Professor**

has actively participated in and successfully completed the **ONE-WEEK FACULTY READINESS PROGRAM (FRP)** on

"DATABASE MANAGEMENT SYSTEMS"

conducted from 1st June 2026 to 6th June 2026, organized by the Department of Computer Science & Engineering, Narsimha Reddy Engineering College (Autonomous).

Prof. Srinivas, Course Coordinator | Dr. R. Lokanatham, Principal | Dr. A. Mohan, Director

Certificate Number: FRPDBMS102

NARSIMHA REDDY ENGINEERING COLLEGE
An Autonomous Institution| Affiliated to JNTUH | Approved by AICTE
Accredited by NBA & NAAC with 'A' Grade

COURSE CERTIFICATE

CERTIFICATE of PARTICIPATION

This certificate is proudly presented to Dr./Mr./Ms.

M Narmadha, **Assistant Professor**

has actively participated in and successfully completed the **ONE-WEEK FACULTY READINESS PROGRAM (FRP)** on

"DATABASE MANAGEMENT SYSTEMS"

conducted from 1st June 2026 to 6th June 2026, organized by the Department of Computer Science & Engineering, Narsimha Reddy Engineering College (Autonomous).

Prof. Srinivas, Course Coordinator | Dr. R. Lokanatham, Principal | Dr. A. Mohan, Director

Certificate Number: FRPDBMS103

NARSIMHA REDDY ENGINEERING COLLEGE
An Autonomous Institution| Affiliated to JNTUH | Approved by AICTE
Accredited by NBA & NAAC with 'A' Grade

COURSE CERTIFICATE

CERTIFICATE of PARTICIPATION

This certificate is proudly presented to Dr./Mr./Ms.

S Raja Shekar, **Assistant Professor**

has actively participated in and successfully completed the **ONE-WEEK FACULTY READINESS PROGRAM (FRP)** on

"DATABASE MANAGEMENT SYSTEMS"

conducted from 1st June 2026 to 6th June 2026, organized by the Department of Computer Science & Engineering, Narsimha Reddy Engineering College (Autonomous).

Prof. Srinivas, Course Coordinator | Dr. R. Lokanatham, Principal | Dr. A. Mohan, Director

Certificate Number: FRPDBMS104

NARSIMHA REDDY ENGINEERING COLLEGE
An Autonomous Institution| Affiliated to JNTUH | Approved by AICTE
Accredited by NBA & NAAC with 'A' Grade

COURSE CERTIFICATE

CERTIFICATE of PARTICIPATION

This certificate is proudly presented to Dr./Mr./Ms.

Palem Naresh, **Assistant Professor**

has actively participated in and successfully completed the **ONE-WEEK FACULTY READINESS PROGRAM (FRP)** on

"DATABASE MANAGEMENT SYSTEMS"

conducted from 1st June 2026 to 6th June 2026, organized by the Department of Computer Science & Engineering, Narsimha Reddy Engineering College (Autonomous).

Prof. Srinivas, Course Coordinator | Dr. R. Lokanatham, Principal | Dr. A. Mohan, Director

Certificate Number: FRPDBMS105

NARSIMHA REDDY ENGINEERING COLLEGE
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Accredited by NBA & NAAC with 'A' Grade

COURSE CERTIFICATE

CERTIFICATE of PARTICIPATION

This certificate is proudly presented to Dr./Mr./Ms.

D Kalpana, **Assistant Professor**

has actively participated in and successfully completed the **ONE-WEEK FACULTY READINESS PROGRAM (FRP)** on

"DATABASE MANAGEMENT SYSTEMS"

conducted from 1st June 2026 to 6th June 2026, organized by the Department of Computer Science & Engineering, Narsimha Reddy Engineering College (Autonomous).

Prof. Srinivas, Course Coordinator | Dr. R. Lokanatham, Principal | Dr. A. Mohan, Director

Certificate Number: FRPDBMS106


NARSIMHA REDDY ENGINEERING COLLEGE
An Autonomous Institution| Affiliated to JNTUH | Approved by AICTE
Accredited by NBA & NAAC with 'A' Grade
CERTIFICATE of PARTICIPATION
DBMS
COURSE CERTIFICATE
This certificate is proudly presented to Dr./Mr./Ms.
Lingampalli Sunanda, Assistant Professor
has actively participated in and successfully completed the
ONE-WEEK FACULTY READINESS PROGRAM (FRP) on
"DATABASE MANAGEMENT SYSTEMS"
conducted from 1st June 2026 to 6th June 2026, organized by the Department of Computer Science & Engineering, Narsimha Reddy Engineering College (Autonomous).
Prof. Srinivas
Course Coordinator
Dr. R. Lokanatham
Principal
Dr. A. Mohan
Director
Certificate Number: FRPDBMS107


NARSIMHA REDDY ENGINEERING COLLEGE
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Accredited by NBA & NAAC with 'A' Grade
CERTIFICATE of PARTICIPATION
DBMS
COURSE CERTIFICATE
This certificate is proudly presented to Dr./Mr./Ms.
Lingampalli Sunanda, Assistant Professor
has actively participated in and successfully completed the
ONE-WEEK FACULTY READINESS PROGRAM (FRP) on
"DATABASE MANAGEMENT SYSTEMS"
conducted from 1st June 2026 to 6th June 2026, organized by the Department of Computer Science & Engineering, Narsimha Reddy Engineering College (Autonomous).
Prof. Srinivas
Course Coordinator
Dr. R. Lokanatham
Principal
Dr. A. Mohan
Director
Certificate Number: FRPDBMS106


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An Autonomous Institution| Affiliated to JNTUH | Approved by AICTE
Accredited by NBA & NAAC with 'A' Grade
CERTIFICATE of PARTICIPATION
DBMS
COURSE CERTIFICATE
This certificate is proudly presented to Dr./Mr./Ms.
G Vijayalakshmi, Assistant Professor
has actively participated in and successfully completed the
ONE-WEEK FACULTY READINESS PROGRAM (FRP) on
"DATABASE MANAGEMENT SYSTEMS"
conducted from 1st June 2026 to 6th June 2026, organized by the Department of Computer Science & Engineering, Narsimha Reddy Engineering College (Autonomous).
Prof. Srinivas
Course Coordinator
Dr. R. Lokanatham
Principal
Dr. A. Mohan
Director
Certificate Number: FRPDBMS109


NARSIMHA REDDY ENGINEERING COLLEGE
An Autonomous Institution| Affiliated to JNTUH | Approved by AICTE
Accredited by NBA & NAAC with 'A' Grade
CERTIFICATE of PARTICIPATION
DBMS
COURSE CERTIFICATE
This certificate is proudly presented to Dr./Mr./Ms.
S L Hemanth Chandra, Assistant Professor
has actively participated in and successfully completed the
ONE-WEEK FACULTY READINESS PROGRAM (FRP) on
"DATABASE MANAGEMENT SYSTEMS"
conducted from 1st June 2026 to 6th June 2026, organized by the Department of Computer Science & Engineering, Narsimha Reddy Engineering College (Autonomous).
Prof. Srinivas
Course Coordinator
Dr. R. Lokanatham
Principal
Dr. A. Mohan
Director
Certificate Number: FRPDBMS1010


NARSIMHA REDDY ENGINEERING COLLEGE
An Autonomous Institution| Affiliated to JNTUH | Approved by AICTE
Accredited by NBA & NAAC with 'A' Grade
CERTIFICATE of PARTICIPATION
DBMS
COURSE CERTIFICATE
This certificate is proudly presented to Dr./Mr./Ms.
N Lavanya, Assistant Professor
has actively participated in and successfully completed the
ONE-WEEK FACULTY READINESS PROGRAM (FRP) on
"DATABASE MANAGEMENT SYSTEMS"
conducted from 1st June 2026 to 6th June 2026, organized by the Department of Computer Science & Engineering, Narsimha Reddy Engineering College (Autonomous).
Prof. Srinivas
Course Coordinator
Dr. R. Lokanatham
Principal
Dr. A. Mohan
Director
Certificate Number: FRPDBMS1011


NARSIMHA REDDY ENGINEERING COLLEGE
An Autonomous Institution| Affiliated to JNTUH | Approved by AICTE
Accredited by NBA & NAAC with 'A' Grade
CERTIFICATE of PARTICIPATION
DBMS
COURSE CERTIFICATE
This certificate is proudly presented to Dr./Mr./Ms.
J Swathi, Assistant Professor
has actively participated in and successfully completed the
ONE-WEEK FACULTY READINESS PROGRAM (FRP) on
"DATABASE MANAGEMENT SYSTEMS"
conducted from 1st June 2026 to 6th June 2026, organized by the Department of Computer Science & Engineering, Narsimha Reddy Engineering College (Autonomous).
Prof. Srinivas
Course Coordinator
Dr. R. Lokanatham
Principal
Dr. A. Mohan
Director
Certificate Number: FRPDBMS1012


NARSIMHA REDDY ENGINEERING COLLEGE
An Autonomous Institution| Affiliated to JNTUH | Approved by AICTE
Accredited by NBA & NAAC with 'A' Grade
CERTIFICATE of PARTICIPATION
DBMS
COURSE CERTIFICATE
This certificate is proudly presented to Dr./Mr./Ms.
Lebaka Lakshmi Reddy, Assistant Professor
has actively participated in and successfully completed the
ONE-WEEK FACULTY READINESS PROGRAM (FRP) on
"DATABASE MANAGEMENT SYSTEMS"
conducted from 1st June 2026 to 6th June 2026, organized by the Department of Computer Science & Engineering, Narsimha Reddy Engineering College (Autonomous).
Prof. Srinivas
Course Coordinator
Dr. R. Lokanatham
Principal
Dr. A. Mohan
Director
Certificate Number: FRPDBMS1014

Annexure-VIII : Press and Social Media Coverage

NARSIMHA REDDY ENGINEERING COLLEGE

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Admissions Open **2026-27**
www.nrcmec.org

For Admissions : **9951688777**

Faculty Readiness Program

June 01 – 06, 2026 | One Week Programme | 09:00 AM – 05:00 PM
Develop · Upskill · Excel

7	6	6
Courses	Days	Departments

IT

Java Programming

Dr. K Anuradha
Dean – Certifications & Skill Development

01.06.2026 → 06.06.2026 | 6 Days

VENUE
IT PARK — 303

Computer Science and Engineering

Flutter UI Design

Dr P Ramesh Babu
Professor, Department of CSE

03.06.2026 → 06.06.2026 | 4 Days

VENUE
IT PARK LAB 303

CSE (AI & ML)

Power - BI

Prof. GVV Prasad
HOD, Department of CSE (AI & ML)

03.06.2026 → 06.06.2026 | 4 Days

VENUE
IT PARK

CSE / IT

Database Management Systems (DBMS)

Prof. D Srinivas
Dean – ICT

01.06.2026 → 06.06.2026 | 6 Days

VENUE
Seminar Hall, MG Block

MECHANICAL ENGINEERING

Fundamentals of AutoCAD

Mr. Daniel Praneeth
Assistant Professor, Department of ME

01.06.2026 → 06.06.2026 | 6 Days

VENUE
AutoCAD Lab, Ground Floor, MT Block

ECE

Electromagnetic Fields, Waves & Transmission Lines

Dr. V Purander Reddy
Head of Department, ECE

01.06.2026 → 02.06.2026 | 2 Days

VENUE
MT-214, Microprocessor & CMOS Design Lab

CSE-CS

C-Programming

Dr. Koteswar Rao
Head of Department, CSE-CS

01.06.2026 → 06.06.2026 | 6 Days

VENUE
TECH PARK — 301A & B

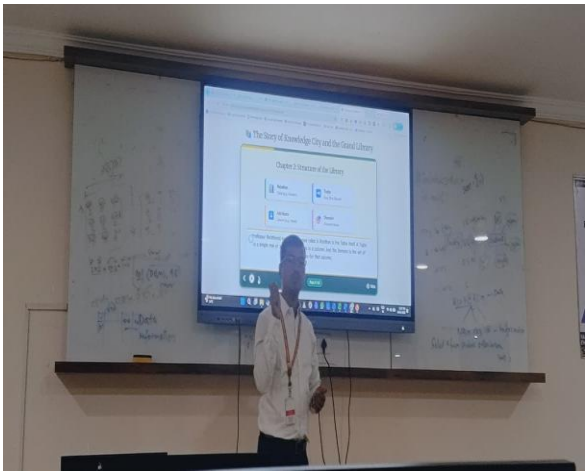
NARSIMHA REDDY ENGINEERING COLLEGE
An Autonomous Institution| Affiliated to JNTUH | Approved by AICTE
Accredited by NBA & NAAC with 'A' Grade

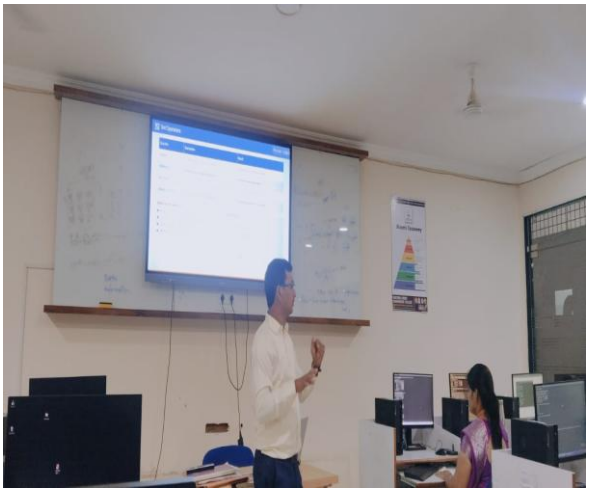
For Admissions
+91 9951688777

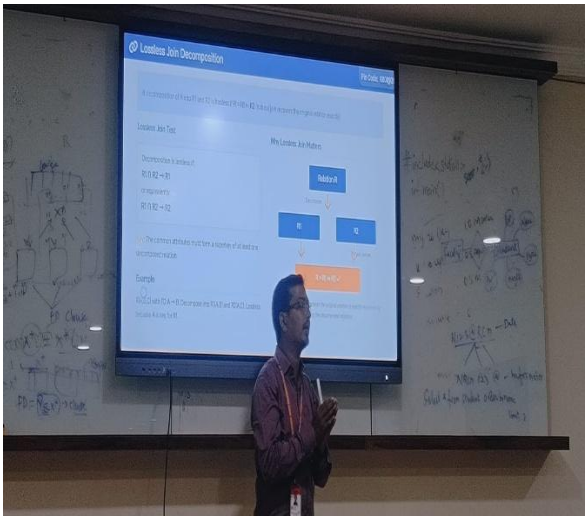
Maisammaguda (V), Kompally,
Secunderabad – 500100,
Telangana, India.

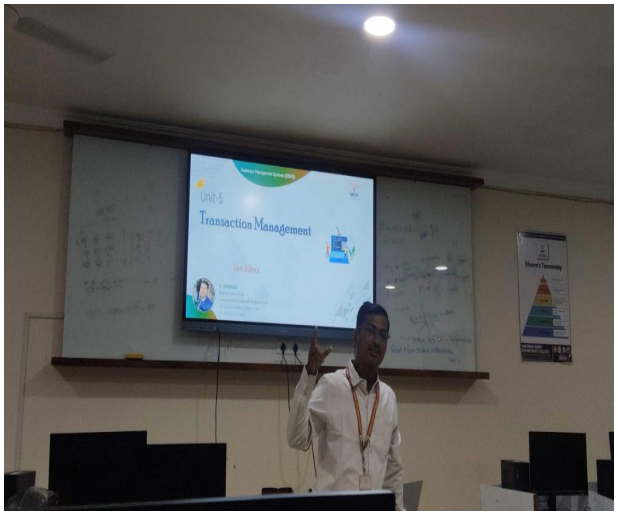
Website
www.nrcmec.org
admissions@nrcmec.org

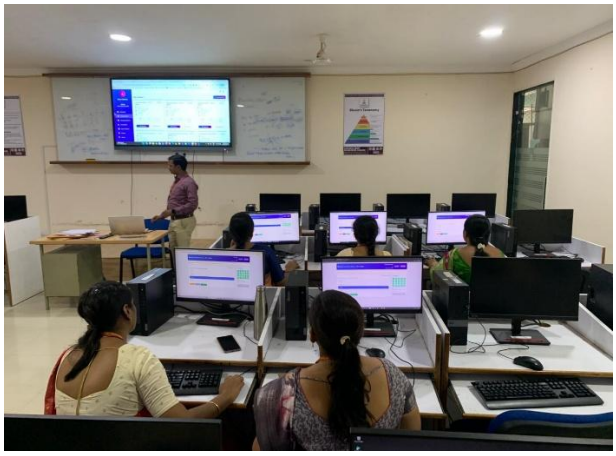
Annexure-IX : Session Presentations











Annexure-X : Assessment Reports

FACULTY READINESS PROGRAM (FRP) ON DATABASE MANAGEMENT SYSTEMS (DBMS)

Congratulations to All Participants!

Date	Assessment Time	Resource Person
02 June 2026	10:31 AM	Prof. D Srinivas, Dean-ICT

RESOURCE PERSON

Prof. D Srinivas

Dean-ICT

ASSESSMENT OVERVIEW

The Day-1 assessment was conducted to evaluate the understanding of DBMS concepts covered during the session. The assessment consisted of **10 objective questions.**

PERFORMANCE HIGHLIGHTS

10 faculty members scored 10/10

(100%)

Overall performance reflects strong understanding and active participation.

Participants from CSE, IT, FME, and CSE-CS departments performed exceptionally well.

TOP PERFORMERS – 100% SCORE (10/10)

Rank	Employee ID	Faculty Name	Department	Score (out of 10)	Percentage	Grade
1	5167	Dr. Nidamanuri Srinivasa Rao	CSE	10/10	100%	A+
2	5235	J. Swathi	CSE	10/10	100%	A+
3	5190	Palem Naresh	IT	10/10	100%	A+
4	1143	S. Raja Shekar	FME	10/10	100%	A+
5	5329	M. Narmadha	CSE	10/10	100%	A+
6	5252	G. Anusha	CSE	10/10	100%	A+
7	5332	L. Lakshmi Reddy	IT	10/10	100%	A+
8	5250	G. Vijayalakshmi	CSE	10/10	100%	A+
9	5248	S. L. Hemanth Chandra	CSE	10/10	100%	A+
10	5274	N. Lavanya	IT	10/10	100%	A+

OTHER HIGH ACHIEVERS

Rank	Employee ID	Faculty Name	Department	Score (out of 10)	Percentage	Grade
11	5177	Lingampalli Sunanda	IT	9/10	90%	A+
12	5293	D. Kalpana	CSE-CS	9/10	90%	A+

CONCLUSION

Overall Performance: The assessment results reflect enthusiastic participation and strong conceptual understanding demonstrated by the faculty members during the Day-1 DBMS session.

Key Takeaway: Participants showed excellent understanding of DBMS concepts and active engagement in the assessment.

Best Wishes: Congratulations to all participants for their outstanding efforts and successful completion of the assessment!

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FACULTY READINESS PROGRAM (FRP) ON DATABASE MANAGEMENT SYSTEMS (DBMS)

ASSESSMENT RESULTS – DAY 2

Date
03 June 2026

Assessment Time
09:30 AM to 10:30 AM

Resource Person
Prof. D. Srinivas

ASSESSMENT OVERVIEW

The Day-2 assessment was conducted to evaluate the understanding of advanced DBMS concepts covered during the session. The assessment consisted of **20 objective questions**.

PERFORMANCE HIGHLIGHTS

13
participants scored 100% (20/20)

(100%)

Excellent performance with high scores, reflecting strong understanding and active engagement.

Participants from CSE, IT, FME, and CSE-CS departments performed exceptionally well.

TOP PERFORMERS – 100% SCORE (20/20)

Rank	Roll Number	Name	Score (out of 20)	Total Questions	Percentage	Grade
1	5167	Dr.Nidamanuri Srinivasa Rao	20	20	100.00%	A+
2	5177	Lingampalli Sunanda	20	20	100.00%	A+
3	5250	G Vijayalakshmi	20	20	100.00%	A+
4	5190	Palem Naresh	20	20	100.00%	A+
5	5274	N Lavanya	20	20	100.00%	A+
6	5329	M Narmadha	20	20	100.00%	A+
7	5235	J Swathi	20	20	100.00%	A+
8	5052	R.Jeevitha	20	20	100.00%	A+
9	5248	S L Hemanth Chandra	20	20	100.00%	A+
10	5293	D Kalpana	20	20	100.00%	A+
11	5252	G Anusha	20	20	100.00%	A+
12	1143	S Raja Shekar	19	20	95.00%	A+
13	5297	Dr Reena Bansal	18	20	90.00%	A+

CONCLUSION

The assessment results reflect the enthusiastic participation and strong conceptual understanding demonstrated by the faculty members during the Day-2 DBMS session. The excellent performance achieved by the participants highlights the effectiveness of the Faculty Readiness Program and establishes a strong foundation for the advanced topics scheduled in the upcoming sessions.

Congratulations to all participants for their remarkable performance and commitment to academic excellence!

FACULTY READINESS PROGRAM (FRP)
ON DATABASE MANAGEMENT SYSTEMS (DBMS)

Congratulations to All Participants!

RESOURCE PERSON

Prof. D Srinivas

Dean-ICT

S.NO	ROLL NUMBER	NAME	SCORE (out of 20)	TOTAL QUESTIONS	PERCENTAGE	GRADE
1	5167	Dr.Nidamanuri Srinivasa Rao	20	20	100.00%	A+
2	5297	Dr Reena Bansal	20	20	100.00%	A+
3	5190	Palem Naresh	20	20	100.00%	A+
4	1143	S Raja Shekar	20	20	100.00%	A+
5	5329	M Narmadha	20	20	100.00%	A+
6	5293	D Kalpana	20	20	100.00%	A+
7	5177	Lingampalli Sunanda	20	20	100.00%	A+
8	5250	G Vijayalakshmi	20	20	100.00%	A+
9	5248	S L Hemanth Chandra	20	20	100.00%	A+
10	5274	N Lavanya	20	20	100.00%	A+
11	5235	J Swathi	19	20	95.00%	A+
—	—	**Average Overall Score**	**19.91**	**20**	**99.55%**	A+

ASSESSMENT DAY 3
04 June 2026

TOTAL PARTICIPANTS
11

ASSESSMENT TIME
09:30 AM to 10:30 AM

FACULTY READINESS PROGRAM (FRP) ON DBMS

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your roots to success...

CONCLUSION

Overall Performance: The assessment results reflect enthusiastic participation and strong conceptual understanding.

Key Takeaway: Participants demonstrated excellent understanding of advanced DBMS concepts.

Best Wishes: Congratulations to all participants for their outstanding efforts and successful completion of the assessment!

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NRCM FRP – DBMS
DAY-4 ASSESSMENT
RESULT REPORT

DBMS

TODAY TEST-4: FRP ON DBMS

RESOURCE PERSON

Dean – ICT

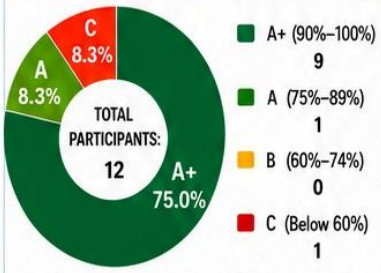
Prof. D Srinivas

Dean – ICT
Narsimha Reddy Engineering College

Resource Person

RANK	ROLL NUMBER	NAME	SCORE (OUT OF 20)	TOTAL QUESTIONS	PERCENTAGE	GRADE
1	5177	Lingampalli Sunanda	20	20	100.00%	A+
2	5250	G Vijayalakshmi	20	20	100.00%	A+
3	5190	Palem Naresh	20	20	100.00%	A+
4	5274	N Lavanya	20	20	100.00%	A+
5	5329	M Narmadha	20	20	100.00%	A+
6	5297	Dr Reena Bansal	20	20	100.00%	A+
7	5235	J Swathi	20	20	100.00%	A+
8	1143	S Raja Shekar	20	20	100.00%	A+
9	5293	D Kalpana	20	20	100.00%	A+
10	5248	S L Hemanth Chandra	19	20	95.00%	A+
11	5167	Dr.Nidamanuri Srinivasa Rao	16	20	80.00%	A
12	5052	R Jeevitha	7	20	35.00%	C

GRADE DISTRIBUTION



ASSESSMENT STATISTICS

- **HIGHEST SCORE** 20/20
- **AVERAGE SCORE** 18.25/20
- **AVERAGE PERCENTAGE** 91.25%
- **PASS PERCENTAGE** 91.67%
- **A+ ACHIEVERS** 75.0% (9 out of 12)

TOP PERFORMERS

1. Lingampalli Sunanda — 20/20 — 100.00%
2. G Vijayalakshmi — 20/20 — 100.00%
3. Palem Naresh — 20/20 — 100.00%

The Test-4 "FRP on DBMS" assessment recorded an excellent performance with a high average score of 18.25/20 (91.25%). Most participants secured top grades, demonstrating a strong understanding of DBMS concepts and effective problem-solving skills. The results reflect consistent learning and active engagement throughout the FRP session. Keep up the great work and continue building strong foundations!

GRADE SCALE

A+	A	B	C
90% – 100% (Excellent)	75% – 89% (Very Good)	60% – 74% (Good)	Below 60% (Needs Improvement)

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UGC AUTONOMOUS INSTITUTION

NRCM FRP – DBMS

DAY-6 ASSESSMENT

RESULT REPORT

DBMS

TODAY TEST-5: FRP ON DBMS

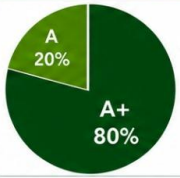
RESOURCE PERSON

Dean – ICT

Prof. D Srinivas
Dean – ICT
Narsimha Reddy Engineering College
Resource Person

Rank	Employee ID	Name	Score (OUT OF 20)	Total Ques (OUT OF 20)	Percentage	Grade
1	5167	Dr.Nidamanuri Srinivasa Rao	20	20	100.00%	A+
2	5293	D Kalpana	20	20	100.00%	A+
3	5177	Lingampalli Sunanda	20	20	100.00%	A+
4	5329	M Narmadha	20	20	100.00%	A+
5	5274	N Lavanya	19	20	95.00%	A+
6	5248	S L Hemanth Chandra	19	20	95.00%	A+
7	5235	J Swathi	18	20	90.00%	A+
8	1143	S Raja Shekar	18	20	90.00%	A+
9	5297	Dr Reena Bansal	17	20	85.00%	A
10	5250	G Vijayalakshmi	15	20	75.00%	A

GRADE DISTRIBUTION



A+ (90%–100%) 8
A (75%–89%) 2

TOP PERFORMERS

1	Dr.Nidamanuri Srinivasa Rao	20/20 (100.00%)
2	D Kalpana	20/20 (100.00%)
3	Lingampalli Sunanda	20/20 (100.00%)

ASSESSMENT STATISTICS

- HIGHEST SCORE: 20/20
- AVERAGE SCORE: 18.40/20
- AVERAGE PERCENTAGE: 92.00%
- PASS PERCENTAGE: 100%
- A+ ACHIEVERS: 80.0% (8 out of 10)

The Test-5 "FRP on DBMS" assessment recorded an excellent performance with a high average score of 18.40/20 (92.00%). All participants secured top grades, demonstrating a strong understanding of DBMS concepts and effective problem-solving skills. The results reflect consistent, the FRP session. Keep up the great work and continue building strong foundations!

GRADE SCALE

A+	A	B	C
90% – 100% (Excellent)	75% – 89% (Very Good)	60% – 74% (Good)	Below 60% (Needs Improvement)

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NRCM FRP – DBMS

GRAND TEST ASSESSMENT

RESULT REPORT

DBMS

GRAND TEST: FRP ON DBMS

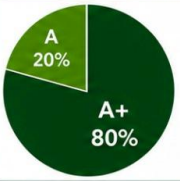
RESOURCE PERSON

Dean – ICT

Prof. D Srinivas
Dean – ICT
Narsimha Reddy Engineering College
Resource Person

Rank	Employee ID	Name	Total Score (Out of 100)
1	5329	M Narmadha	90
2	5274	N Lavanya	89
3	5177	Lingampalli Sunanda	89
4	5293	D Kalpana	89
5	5248	S L Hemanth Chandra	88
6	5235	J Swathi	87
7	1143	S Raja Shekar	87
8	5167	Dr. Nidamanuri Srinivasa Rao	86
9	5250	G Vijayalakshmi	85
10	5297	Dr. Reena Bansal	75
11	5190	Palem Naresh	70
12	5252	G Anusha	30
13	5052	R Jeevitha	27
14	5302	L Lakshmi Reddy	10

GRADE DISTRIBUTION



A+ (90%–100%) 11
A (75%–89%) 3

TOP PERFORMERS

1	M Narmadha	90/100
2	N Lavanya	89/100
3	Lingampalli Sunanda	89/100

ASSESSMENT STATISTICS

- HIGHEST SCORE: 90/100
- AVERAGE SCORE: 70.07/100
- AVERAGE PERCENTAGE: 70.07%
- PASS PERCENTAGE: 100%
- A+ ACHIEVERS: 11 (78.57% of 14)

The Grand Test "FRP on DBMS" assessment recorded an excellent performance with a high average score of 70.07/100 (70.07%). All participants secured top grades, demonstrating a strong understanding of DBMS concepts and effective problem-solving skills. The results reflect consistent hard work and the strong foundation built throughout the FRP sessions!

GRADE SCALE

A+	A	B	C
90% – 100% (Excellent)	75% – 89% (Very Good)	60% – 74% (Good)	Below 60% (Needs Improvement)

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Closing Statement

The Faculty Readiness Program (FRP) on Database Management Systems (DBMS) conducted from 01 June 2026 to 06 June 2026 was successfully completed with active participation from faculty members of the Department of CSE and Information Technology. The program provided a comprehensive understanding of database concepts, SQL programming, relational models, indexing, normalization, transaction management, concurrency control, and recovery systems.

The insightful sessions delivered by **Prof. D. Srinivas, Dean – ICT**, enabled participants to strengthen their conceptual knowledge, practical skills, and teaching methodologies. The interactive discussions, demonstrations, hands-on exercises, and case studies contributed significantly to the overall learning experience.

The Department expresses its sincere gratitude to the Management, Director, Principal, Dean Academics, Resource Person, Organizing Convener, and all participants for their valuable support and cooperation in making this program a grand success.

We are confident that the knowledge and skills acquired during this Faculty Readiness Program will enhance teaching effectiveness, promote research activities, and contribute to academic excellence in the field of Database Management Systems.

Prepared By

(Prof. D. Srinivas)
Dean – ICT
Department of CSE
Narsimha Reddy Engineering College (Autonomous)
Date: 08-06-2026
Place: Hyderabad, Telangana.