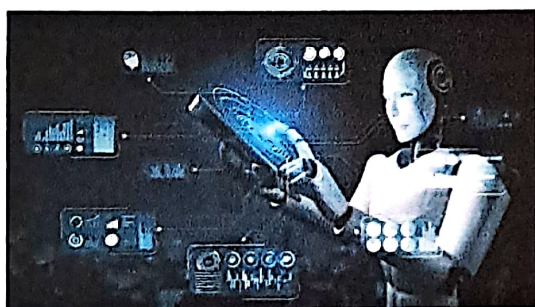


## DEPARTMENT OF MCA

**Organizes Seminar on**

**DBMS Essentials: Transaction Management, Recovery, and NoSQL Databases**

**Date 05.8.2025**



**Students of 2<sup>nd</sup> semester  
MCA**



### Objectives

- Provide foundational knowledge of how database systems manage transactions reliably and efficiently
- Techniques used to recover data after system failures to maintain data integrity.
- Introduce the NoSQL database models and highlight their role in handling big data and scalable applications.



### Outcome

Equip students with practical insights into modern database technologies and their real-world applications.

**Lt Lakshitha H S Murthy**  
Coordinator

**Dr Prathiba V Kalburgi**  
HOD

**Dr Pushpa H**  
Principal

REF: MSRCASC/MCA/25-26/006

Date: 02/08/2025

## CIRCULAR

### DEPARTMENT OF MCA

The department is organizing a seminar series on “**DBMS Essentials: Transaction Management, Recovery, and NoSQL Databases**” on 5th August 2025. The sessions will be presented by the students of 2nd semester MCA, showcasing their understanding and insights into key database management system concepts. The event coordinator for the program is

Dr. Prathiba V Kalburgi.

  
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## Report on Seminar

### DBMS Essentials: Transaction Management, Recovery, and NoSQL Databases

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**Program Date:** 5th August 2025  
**Organized by:** Dr. Prathiba V Kalburgi [HOD]  
**Venue:** MCA Class Room

#### Overview

The Department of Computer Applications organized a seminar on the topics of Database Management Systems (DBMS). This session focused on advanced database concepts, including transaction management, concurrency control, and database recovery. These topics are vital for ensuring the integrity, reliability, and consistency of data in real-world database systems.

#### Topics Covered

1. **Transaction Management:** Introduction to transactions, explaining their properties and states.
2. **Concurrency Control:** Serializability, locking protocols (two-phase locking), and timestamp-based protocols.
3. **Database Recovery:** Log-based recovery techniques like deferred and immediate updates, as well as shadow paging.
4. **NoSQL:** Types of NoSQL databases-Document-based (e.g., MongoDB, CouchDB) Key-Value Stores (e.g., Redis, DynamoDB) Column-family Stores (e.g., Cassandra, HBase) Graph Databases (e.g., Neo4j, ArangoDB)

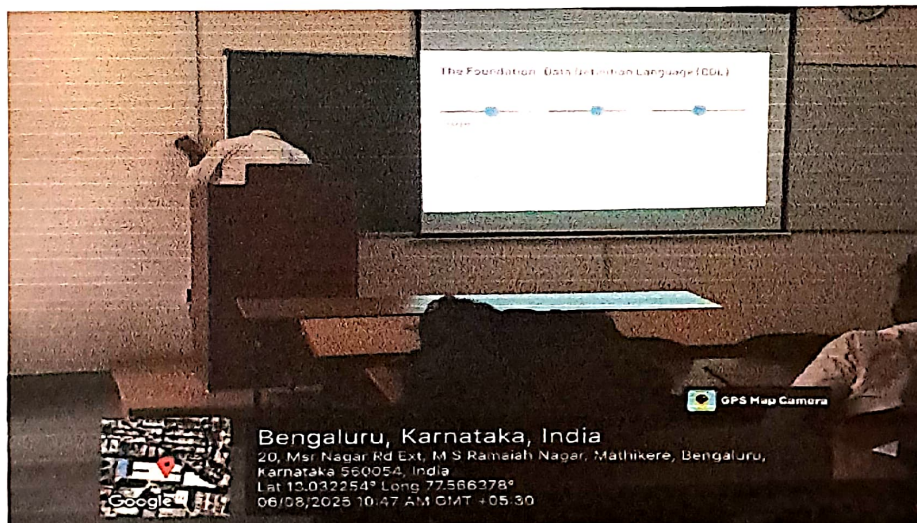
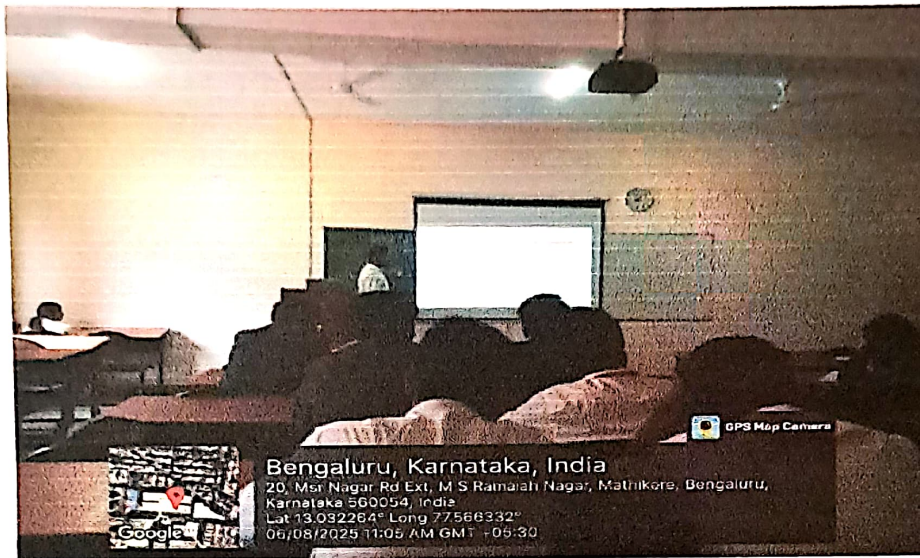
#### Benefits to Students

- Understand and apply the properties of transactions to ensure data integrity.
- Analyse and implement different concurrency control mechanisms to prevent data inconsistencies.
- Learn techniques for database recovery to restore a database to a consistent state after a failure.
- Explore advanced data structures for optimizing query performance.

- Strengthen their theoretical knowledge and practical skills for managing complex database systems in both academic and professional settings.

## Conclusion

The seminar on DBMS provided students with in-depth knowledge of advanced database paradigms. The topics delivered strong theoretical foundations as well as practical problem-solving skills applicable to academic research and industry-level applications.



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# M S Ramaiah College of Arts, Science and Commerce

## Department of MCA

### DBMS Essentials: Transaction Management, Recovery, and NoSQL Databases

#### Students Attendance -5th August 2025

| Sl. No | Regno          | Name                           | Signature                      |
|--------|----------------|--------------------------------|--------------------------------|
| 1      | P18MB24S126001 | Chandana C'S                   | Chandana C'S                   |
| 2      | P18MB24S126002 | M Sabah Farhath                | M Sabah Farhath                |
| 3      | P18MB24S126003 | Aishwarya H S                  | Aishwarya H S                  |
| 4      | P18MB24S126004 | Annapurna J                    | Annapurna J                    |
| 5      | P18MB24S126005 | SHREERAKSHA                    | SHREERAKSHA                    |
| 6      | P18MB24S126006 | Chandana R                     | Chandana R                     |
| 7      | P18MB24S126007 | Pramod M J                     | Pramod M J                     |
| 8      | P18MB24S126008 | Vinay Narasimha Sangam         | V. N. Sangam                   |
| 9      | P18MB24S126009 | Prashanth E                    | Prashanth E                    |
| 10     | P18MB24S126010 | Tarun R                        | Tarun R                        |
| 11     | P18MB24S126011 | Raghavendran A                 | Raghavendran A                 |
| 12     | P18MB24S126012 | Naveen B                       | Naveen B                       |
| 13     | P18MB24S126013 | Dhanush Gowda N                | Dhanush Gowda N                |
| 14     | P18MB24S126014 | Rachana R                      | Rachana R                      |
| 15     | P18MB24S126015 | Lavender Nithisha M            | Lavender Nithisha M            |
| 16     | P18MB24S126016 | Varsha S                       | Varsha S                       |
| 17     | P18MB24S126017 | Shreyash Bhardwaj              | Shreyash Bhardwaj              |
| 18     | P18MB24S126018 | Goutham                        | Goutham                        |
| 19     | P18MB24S126019 | Pavana D Y                     | Pavana D Y                     |
| 20     | P18MB24S126020 | Chandana G                     | Chandana G                     |
| 21     | P18MB24S126021 | Poojitha Shetty J              | Poojitha Shetty J              |
| 22     | P18MB24S126022 | Hari Haran M                   | Hari Haran M                   |
| 23     | P18MB24S126023 | Shubhakar Gowda H S            | Shubhakar Gowda H S            |
| 24     | P18MB24S126024 | Bhagavathi Sharma L S          | Bhagavathi Sharma L S          |
| 25     | P18MB24S126025 | Sanjana H Kurtakoti            | Sanjana H Kurtakoti            |
| 26     | P18MB24S126026 | Chandan S                      | Chandan S                      |
| 27     | P18MB24S126027 | Abdul Rahman                   | Abdul Rahman                   |
| 28     | P18MB24S126028 | Sayid Ahemmed Mazin<br>Maqbool | Sayid Ahemmed Mazin<br>Maqbool |
| 29     | P18MB24S126029 | Goutham Shanubhogar            | Goutham Shanubhogar            |

| Sl. No | Regno          | Name                            | Signature     |
|--------|----------------|---------------------------------|---------------|
| 30     | P18MB24S126030 | S M Hajlali                     |               |
| 31     | P18MB24S126031 | Gavimani R                      |               |
| 32     | P18MB24S126032 | AKASH DUTTA                     | Akash         |
| 33     | P18MB24S126033 | Nikhil C M                      | Nikhil CM     |
| 34     | P18MB24S126034 | Spoorthi Gopalakrishna          |               |
| 35     | P18MB24S126035 | Mahesh Singh Garla              |               |
| 36     | P18MB24S126036 | Harshitha B S                   | Harshitha B S |
| 37     | P18MB24S126038 | Chaitanya V                     | Chaitanya V   |
| 38     | P18MB24S126039 | Harsh Vardhan                   | Harsh V       |
| 39     | P18MB24S126040 | Harshitha S                     | Harshitha S   |
| 40     | P18MB24S126041 | Sanjana S                       |               |
| 41     | P18MB24S126042 | Soujanya S P                    |               |
| 42     | P18MB24S126043 | Manoj N                         | Manoj N       |
| 43     | P18MB24S126044 | C Sai Deepak                    | C-Sai Deepak  |
| 44     | P18MB24S126045 | J Jaswanth                      | J. Jaswanth   |
| 45     | P18MB24S126046 | T Rudrateja                     |               |
| 46     | P18MB24S126047 | Adithya A                       |               |
| 47     | P18MB24S126048 | Shivaram Krishna                |               |
| 48     | P18MB24S126049 | Syed Urbaaz                     |               |
| 49     | P18MB24S126050 | Keshav                          |               |
| 50     | P18MB24S126051 | Ananya K                        |               |
| 51     | P18MB24S126052 | Chandana K C                    | Chandana      |
| 52     | P18MB24S126053 | DEEKSHA                         |               |
| 53     | P18MB24S126054 | T Md Sohail                     |               |
| 54     | P18MB24S126055 | Nandani Kutare                  |               |
| 55     | P18MB24S126056 | Akash Kumar                     |               |
| 56     | P18MB24S126057 | Grishma C D                     |               |
| 57     | P18MB24S126058 | Muhammad Vazil V C              |               |
| 58     | P18MB24S126059 | Suraj Umbrey R                  |               |
| 59     | P18MB24S126060 | Prajwal Shivasharanappa Biradar |               |

  
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