CHRIST (Deemed to be University)

Department of Computer Science

Master of Computer Applications

Course: MCA513-1 - Advanced Database Technologies

Exercise No: LAB Exercise – 7

Date of assignment: 07-08-2025   Date of submission: 07.08.2025

Exercise: Demonstration of CRUD operations and Aggregate functions in MongoDB

With respect to your chosen business domain, create a MongoDB database and design the required collections. Each collection should contain a minimum of 5 documents.

Perform the following operations:
1. Create Operations
   - Use insertOne() and insertMany() to add documents to each collection.
2. Read Operations
   - Use find(), findOne(), and appropriate filters to retrieve documents.
3. Apply logical operators:
   - $and, $or, $not, $nor
4. Apply relational operators:
   - $gt, $lt, $eq, $ne, $gte, $lte, $in, $nin
5. Update Operations
   - Use updateOne() and updateMany() to modify fields or nested values in the documents.
6. Delete Operations
   - Use deleteOne() and deleteMany() to remove specific or multiple documents.
7. Aggregation Operations
   - Use aggregation functions and stages wherever applicable: $match, $group, $sum, $avg, $count, $project, $sort, $unwind, $lookup, etc.

Evaluation Scheme: (Total 10 Marks)

Correctness and Demonstration   (5 marks)

Concept Clarity (Viva)   (3 marks)

Initiative & Effort (self-learning)   (2 marks)

General Instruction:

1. Create a Word document and paste all the answers. The file name should be your register number followed by lab No. Example: 2547101_Lab7

2. Upload the answer document in Google Classroom on or before the deadline mentioned.