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**Presidency University**

**Bengaluru**

**School Of Computer Science and Engineering & Information Science**

**End-Term Examinations, Aug 2024**

**Date**: 07-08-2024

**Time**: 9:30am to 12:30pm m **Max Marks**: 100

**Weightage**: 50%

**Odd Semester**: 2023 - 24

**Course Code**: CSA4006

**Course Name**: Advanced Database Technology

**Programe: MCA**

**Instructions:**

1. *Read the all questions carefully and answer accordingly.*
2. *Do not write any matter on the question paper other than roll number.*

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| **Q.No** | **Questions** | **Marks** | **CO** | **RBT** |
| 1 | 1. What are lock based protocols explain with an example | 4 | CO1 | L1 |
| 1. What is concurrency control Explain with an example | 6 | CO1 | L2 |
| 1. Explain the time stamp based concurrency control with an example | 10 | CO1 | L3 |
| OR | | | | |
| 2 | 1. With an example explain the two-phase locking protocol | 4 | CO1 | L1 |
| 1. What are schedules Explain with examples | 6 | CO1 | L2 |
| 1. Explain the ACID properties with suitable examples | 10 | CO1 | L3 |

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| 3 | 1. What is serializability explain with example conflict and view serializability | 4 | CO2 | L1 |
| 1. Explain the tests for conflict and view serializability | 6 | CO2 | L2 |
| 1. Develop a program to Demonstrate update operator on geo spatial data | 10 | CO2 | L3 |

OR

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| 4 | 1. Differentiate between structured and unstructured data | 4 | CO2 | L1 |
| 1. Develop a program to demonstrate sharding command on Gio Spatial data | 6 | CO2 | L2 |
| 1. Develop a program to demonstrate perform queries involving query and project operator | 10 | CO2 | L3 |

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| 5 | 1. Briefly discuss the advantages of NoSQL | 4 | CO3 | L1 |
| 1. Explain briefly the types of NoSql Databases | 6 | CO3 | L2 |
| 1. Develop a program to demonstrate different aggregate operations on Data Base | 10 | CO3 | L3 |

OR

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| 6 | 1. Define NoSql and briefly discuss the characteristics of NoSql databases | 4 | CO3 | L1 |
| 1. Explain with suitabale examples scale up and scale out in Databases | 6 | CO3 | L2 |
| 1. Develop a program to demonstrate CRUD operations using MongoDb | 10 | CO3 | L3 |

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| 7 | 1. Explain in detail Replication and Fragmentation data distribution methods | 4 | CO4 | L1 |
| 1. With a neat diagram Explain the network infrastructure of the distributed data bases | 6 | CO4 | L2 |
| 1. With a neat diagram explain the features of Distributed data base management system | 10 | CO4 | L3 |

OR

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| 8 | 1. Describe loosely coupled systems in detail with the examples | 4 | CO4 | L1 |
| 1. Explain the features of service oriented Architectures | 6 | CO4 | L2 |
| 1. With a neat diagram explain the distributed Databases | 10 | CO4 | L3 |

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| 9 | 1. With a diagram explain the features of tightly couples systems | 4 | CO1 | L1 |
| b.Explain in detail the types of database parallelism | 6 | CO1 | L2 |
| c.With a neat diagram explain the parallel databases | 10 | CO1 | L3 |

OR

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| 10 | 1. With a diagram explain the shared nothing parallel databases | 4 | CO2 | L1 |
| 1. Compare the distributed databases with the parallel databases | 6 | CO2 | L2 |
| 1. With a neat diagram explain the shared memory parallel databases | 10 | CO2 | L3 |