

Roll No

Thapar Institute of Engineering and Technology (TIET), Patiala
Department of Computer Science & Engineering (CSED)
MST EXAMINATION

B. E. (Third Year): Semester-VI	Course Code: UCS661 Course Name: Database Engineer
March 6, 2023	Monday, Time: 10:30 am to 12:30 pm
Duration: 2.00 Hrs, Max. Marks: 25	Name of Instructor: Dr. Sumana Maiti

Note: Attempt all questions in sequence. Assume any missing data. Please be precise and concise while writing.

Q. 1. Consider the following document in a collection named "student" (3+2)

{_id: 1, name: "Rohit", Marks: [67,78,89,99]}

(a) Write the query to add [57, 85] to the array at the second position of the existing array 'Marks'.

(b) Write the query to sort the elements of the existing array 'Marks' in descending order.

Q.2. (a) State the difference between Mongo Shell and Mongo Compass. (1+1+3)

(b) State the difference between JSON and BSON

(c) Define capped collection with proper example

Q.3. (a) Define CAP theorem and discuss different properties of CAP theorem. (3+2)

(b) Discuss briefly which of the properties of CAP theorem, MongoDB supports and how does it support those properties.

Q.4. (a). Describe briefly what are the requirement of replication in MongoDB (5)

Q.5.(a). Define horizontal scaling. (1+4)

(b) Describe different types of NoSQL database with proper examples.

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