



Course Code	: 2101CS302	Date	: 02-11-2023
Course Name	: Database Management System - II	Duration	: 150 Minutes
		Total Marks	: 70

Instructions:

1. Attempt all the questions.
2. Figures to the right indicates maximum marks.
3. Make suitable assumptions wherever necessary.

- Q.1 (A)** Define User Defined Function with the help of example. **4**
- (B)** Explain trigger with the help of example. **3**

OR

Explain cursor with the help of example.

- (C)** Construct a Store Procedure for the below table. **7**
Student (Rno, Name, Department, City, SPI, Backlog)
1. Student Insert
 2. Student Delete
 3. Create procedure that accept Rno and based on parameter return all the columns as a result set.

OR

Construct a Trigger on employee table (eid, name, salary, dept) that enter a message with eid and name in another table named employee_history when any record is inserted.

- Q.2 (A)** Explain throw with the help of example. **4**
- (B)** Explain different modes of transaction with an example. **3**

OR

Explain ACID property.

- (C)** Explain all error functions in SQL and Handle divide by zero exception with the help of stored procedure. **7**

OR

Explain Save Points in Transactions with an example.

- Q.3 (A)** Explain different types of execution plan. **4**
- (B)** Explain table scan in SQL server. **3**

OR

Explain index scan/seek in SQL server.

- (C)** Explain different ways of query optimization. **7**

OR

Define Index. Explain different types of indexes.

- Q.4 (A)** Classify RDBMS v/s MongoDB. **4**
- (B)** Explain different advantages of NoSQL. **3**

OR

Explain different types of NoSQL.

- (C)** Write a MongoDB query on following database. **7**
Employee (person-name, street, city, salary, department)
Company (company-name, city),
- 1) Display name of all employees.
 - 2) Display city of employee whose name is 'jashu'.
 - 3) Display name and city of all employees who are having salary>50000.
 - 4) Display name and city of all employees who are having salary>50000 and whose department is either 'CE' or 'IT'.

OR

Write a MongoDB query on following database.

Job(job-id, job-title, minimum-salary, maximum-salary)

Employee(emp-no, emp-name, emp-salary, dept-no)

Deposit(acc-no, cust-name, branch-name, amount, account-date)

Borrow(loan-no, cust-name, branch-name, amount)

Department (dept-no, dept-name)

- 1) Display name of employees whose employee number is '001'
- 2) Display name of depositors whose branch name is 'Kalawad Road'.
- 3) Display employee name(s) whose salary is between Rs. 20000 to 30000 and department no is between 5 and 10.
- 4) Update the salary of employee by 10% of their salary who is working in the department no 5.

- Q.5 (A)** Define embedded documents with the help of example. **4**
- (B)** Explain aggregation in MongoDB with the help of example. **3**

OR

Explain Regex in MongoDB with the help of example.

- (C)** Write a MongoDB query on following database. **7**
Student(Name, City, Gender, Age, SPI)
- 1) Display the gender wise students count.
 - 2) Display the city wise, gender wise students count.
 - 3) Display the city wise students count. (Display Rajkot and Surat city's student count).
 - 4) Display the city wise students count. (Display only city whose count is more than 1 and sort them on count in descending order).

OR

Write a MongoDB query on following database.

Student(Name, City, Gender, Age, SPI)

- 1) Display the name of students whose name starts with R or r or J or j.
- 2) Display the name students whose name consist of minimum 4 characters and start with vowels either in upper case or lower case.
- 3) Display the name students whose name ends with character a to j in lower case only.
- 4) Display the name of students whose name starts with R or r and ends with a.
