

University of Mumbai
Examination May 2022

Program: Electronics and Telecommunication Engineering
Curriculum Scheme: Rev2019
Examination: TE Semester VI

Course Code: ECCDLO6014 and Course Name: Database Management System
Time: 2.30 hour
Max. Marks: 80

Q1.	Choose the correct option for following questions. All the Questions are compulsory and carry equal marks
1.	Data independence means
Option A:	Data is defined separately and not included in programs
Option B:	Data and programs are maintained in separate files
Option C:	Is the capacity to change the schema at one level of a database system without having to change the schema at the next higher level
Option D:	Data is defined separately and included in programs
2.	Key to represent relations between tables is called.....
Option A:	Super key
Option B:	Foreign key
Option C:	Primary key
Option D:	Secondary key
3.	A logical schema
Option A:	is the entire database
Option B:	is the standard way of organizing information into accessible parts
Option C:	Describes how data is actually stored on disk.
Option D:	Is the Entire Data base as well as the standard way of organizing information into accessible parts.
4.	E-R model uses this symbol to represent weak entity set?
Option A:	Dotted rectangle
Option B:	Diamond
Option C:	Doubly outlined rectangle
Option D:	Dotted square
5.	_____ refers to the correctness and completeness of the data in a database
Option A:	Data security
Option B:	Data integrity
Option C:	Data constraint
Option D:	Data independence
6.	In SQL, which of the following is not a data manipulation Language commands?
Option A:	DELETE
Option B:	SELECT

Option C:	UPDATE
Option D:	CREATE
7.	A transaction completes its execution is said to be.....
Option A:	Saved
Option B:	Loaded
Option C:	Rolled
Option D:	Committed
8.	A type of query that is placed within a WHERE or HAVING clause of another query called.....
Option A:	Super query
Option B:	Sub query
Option C:	Master query
Option D:	Multi-query
9.	What is ACID properties of Transactions?
Option A:	Atomicity, Consistency, Isolation, Database
Option B:	Atomicity, Consistency, Isolation, Durability
Option C:	Atomicity, Consistency, Inconsistent, Durability
Option D:	Automatically, Consistency, Isolation, Durability
10.	The attribute that can be divided into other attributes is called
Option A:	Simple Attribute
Option B:	Composite Attribute
Option C:	Multi-valued Attribute
Option D:	Derived Attribute

Q2	Solve any Two	10 marks each
i.	What are the constraints in SQL? Explain any two with an example.	
ii.	Explain lock-based concurrency control in transaction management.	
iii.	Explain Need of Normalization and explain 1NF ,2NF,3NF and BCNF	
Q3	Solve any TWO	10 marks each
i.	Consider the following schema for College Library Student (Roll_no , Name , Branch) Book (ISBN, Title, Author, Publisher) Issue (Roll_No , ISBN , Date_of_Issue) Write Sql Queries for the following: I. List the roll number and name of all the student of the IT branch II. Find the name of students who have issued a book published by 'XYZ' publisher III. List the title of books and their authors issued by student "Alice" IV. List title of all the books issued on or before 31st DEC 2019.	

ii.	Short note on: ACID Properties of transaction DBMS
iii.	Draw ER diagram and write relational schema for Hospital management system.

Q4	Solve any Two	10 marks each
i.	Draw and explain Transaction state diagram	
ii.	Explain Joins and types of Joins with suitable example	
iii.	Explain aggregate function along with one example?	