

University of Mumbai

Examination 2020

Examinations Commencing from 23rd December 2020 to 6th January 2021 and from 7th January 2021 to 20th January 2021

Program: **Computer Engineering**

Curriculum Scheme: Rev2019/2016/2012

Examination: TE Semester V

Course Code: CSC502 and Course Name: DBMS

Time: 2 hour

Max. Marks: 80

Q1.	Choose the correct option for following questions. All the Questions are compulsory and carry equal marks
1.	Which one of the following queries correspond to finding the name and number of employees in each department Emp(eid,dname)
Option A:	Select dname,count(*) from Emp groupby dname
Option B:	Select dname,count(*) from Emp groupby eid
Option C:	Select dname,count(*) from Emp groupby dname,eid
Option D:	Select dname from emp
2.	The process of classifying a class of objects into more specialized subclass is
Option A:	Specialization
Option B:	Classification
Option C:	Instantiation
Option D:	Generalization
3.	What is the meaning of LIKE '?%0%0%'
Option A:	Feature begins with two 0's
Option B:	Feature ends with two 0's
Option C:	Feature begins with two 0's and ends with two 0's
Option D:	Feature has two 0s in it at any position
4.	Which of the following command makes the update performed by the transaction permanent in the database?
Option A:	Rollback
Option B:	Commit
Option C:	Truncate
Option D:	Delete
5.	Consider the relational Schema Weather (city, temperature, humidity, condition) Location(city,Country). Find all cities whose humidity is 89.
Option A:	Select city where humidity = 89
Option B:	Select city from weather where humidity = 89
Option C:	Select humidity = 89 from weather
Option D:	Select city from weather

6.	Blind write is
Option A:	Reading data item without writing
Option B:	Reading data item after writing
Option C:	Writing data item without Reading
Option D:	Reading data item before writing
7.	In two phase locking protocol in growing phase
Option A:	Transaction may release lock but may not obtain
Option B:	Transaction may obtain lock but may not release
Option C:	Transaction may obtain lock as well as may release
Option D:	Transaction may not release a lock and may not obtain
8.	Most of the _____ tables are free of insertion, update, and deletion anomalies.
Option A:	1NF
Option B:	2NF
Option C:	3NF
Option D:	4NF
9.	Primary key is selected from _____ Key.
Option A:	Foreign key
Option B:	Composite key
Option C:	Candidate key
Option D:	Alternate key
10.	When the user modify the database the statement that is executed automatically by the system is called as
Option A:	Recovery
Option B:	Back up
Option C:	Trigger
Option D:	View
11.	When a user wants to remove a particular row or column data from table he should use following command.
Option A:	Drop
Option B:	Truncate
Option C:	Remove
Option D:	Delete
12.	No partial dependency allowed in _____
Option A:	1NF
Option B:	3NF
Option C:	2NF
Option D:	4NF
13.	Deadlocks can be prevented using
Option A:	abort
Option B:	commit
Option C:	Rollback
Option D:	Wound-wait scheme

14.	ACID properties
Option A:	Atomicity, consistency, Inconsistency, Durability
Option B:	Atomicity, consistency, Isolation, Durability
Option C:	Atomicity, consistency, Isolation, Dependability
Option D:	Automatic, consistency, Isolation, Durability
15.	Update made by one transaction is overwritten by other transaction or other user. Is known as
Option A:	Non Repeatable Read
Option B:	Phantom Read
Option C:	Dirty Read
Option D:	Lost Update Problem
16.	TCL commands are _____ ?
Option A:	UPDATE and TRUNCATE
Option B:	SELECT and INSERT
Option C:	GRANT and REVOKE
Option D:	ROLLBACK and SAVEPOINT
17.	An entity set that does not have a primary key is termed a _____
Option A:	Strong Entity
Option B:	Weak Entity
Option C:	Derived Entity
Option D:	Variable Entity
18.	Selection operator in relational database is used to select
Option A:	Column from relation
Option B:	Row from Relation
Option C:	Whole table
Option D:	Domain
19.	Which of the following database user has highest access rights?
Option A:	End user
Option B:	Database designer
Option C:	Database administrators
Option D:	Tool developers
20.	Which is the advantage of database:
Option A:	Prevents minimization of data
Option B:	Restricts authorized access
Option C:	Duplicate data
Option D:	Prevents Data redundancy

Q2 . (20 Marks Each)	
A	Solve any Two 5 marks each
i.	<i>What are the steps to draw ER diagram. Draw an ER diagram for the following application from the manufacturing industry:</i>

	<p><i>Each Supplier has unique name.</i></p> <p><i>More than one supplier can be located in the same city.</i></p> <p><i>Each part has a unique part number.</i></p> <p><i>Each part has a color.</i></p> <p><i>A supplier can supply more than one part.</i></p> <p><i>A part can be supplied by more than one supplier.</i></p> <p><i>A supplier can supply a fixed quantity of each part.</i></p>
ii.	<i>What is Transaction? Explain ACID properties of Transaction.</i>
iii.	Explain following Relational Algebra operations with example: Rename, Union, Project, Select, Cartesian product.
B	Solve any One 10 marks each
i.	<i>What is time stamp based protocol?</i>
ii.	<i>What is Normalization? Explain 1NF, 2NF, 3NF, BCNF with suitable example.</i>

Q3. (20 Marks Each)	
A	Solve any Two 5 marks each
i.	<i>Explain types of Joins with suitable example.</i>
ii.	<i>Explain different types of attributes with suitable example.</i>
iii.	Explain Constraints in SQL.
B	Solve any One 10 marks each
i.	<i>Explain types of users in database system with suitable example and responsibilities of DBA.</i>
ii.	<i>Explain Conflict and View Serializability.</i>