

University of Mumbai

Examination 2020 under cluster __ (Lead College: _____)

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

Program: Computer Engg

Curriculum Scheme: R2016

Examination: TE Semester V

Course Code: CSC502 and Course Name: Database Management System

Time: 2 hour

Max. Marks: 80

Q1.	Choose the correct option for following questions. All the Questions are compulsory and carry equal marks
1.	What do you mean by one to many relationship between Teacher and Class table?
Option A:	One class may have many teachers
Option B:	One teacher can have many classes
Option C:	Many classes may have many teachers
Option D:	Many teachers may have many classes
2.	Which keyword must be used here to rename the field name?
Option A:	From
Option B:	Rename
Option C:	As
Option D:	Join
3.	SELECT * FROM employee WHERE dept_name="Comp Sci"; In the SQL given above there is an error . Identify the error.
Option A:	Dept_name
Option B:	Employee
Option C:	"Comp Sci"
Option D:	From
4.	The way a particular application views the data from the database that the application uses is a_____.
Option A:	Module.
Option B:	Relational model.
Option C:	Schema.
Option D:	Sub schema.
5.	Which one of the following is a set of one or more attributes taken collectively to uniquely identify a record?
Option A:	Candidate key
Option B:	Sub key
Option C:	Super key
Option D:	Foreign key
6.	Let R is a relation schema, R(A, B, C, D) and F = {A → B, B → C, C → A} is the set of functional dependency. Determine the key of relation ?
Option A:	A

Option B:	B
Option C:	C
Option D:	D
7.	When transaction T_i requests a data item currently held by T_j , T_i is allowed to wait only if it has a timestamp smaller than that of T_j (that is, T_i is older than T_j). Otherwise, T_i is rolled back (dies). This is _____.
Option A:	Wait-die
Option B:	Wait-wound
Option C:	Wound-wait
Option D:	Wait
8.	The conceptual model is _____.
Option A:	Dependent on hardware
Option B:	Dependent on software.
Option C:	Dependent on both hardware and software
Option D:	Independent of both hardware and software
9.	The following functional dependencies hold for relation $R(A, B, C)$ and $S(B, D, E)$ $B \rightarrow A$, $A \rightarrow C$, the relation R contains 200 tuples and relation S contains 100 tuples. What is maximum number of tuples possible in natural join R and S ?
Option A:	100
Option B:	200
Option C:	300
Option D:	400
10.	NULL is _____.
Option A:	The same as 0 for integer
Option B:	The same as blank for character
Option C:	The same as 0 for integer and blank for character
Option D:	Not a value
11.	DBMS periodically suspends all processing and synchronizes its files and journals through the use of _____.
Option A:	Checkpoint facility
Option B:	Backup facility
Option C:	Recovery manager
Option D:	Database change log
12.	Which of the following is not a property of transactions?
Option A:	Atomicity
Option B:	Concurrency
Option C:	Isolation
Option D:	Durability
13.	Each modification done in database transaction are first recorded into the _____.
Option A:	Harddrive
Option B:	Log
Option C:	Disk

Option D:	Datamart
14.	Given the basic ER and relational model which of the following is incorrect?
Option A:	An entity can have more than one attribute
Option B:	An attribute of an entity can be composite.
Option C:	In row of a relational table, an attribute have more than one value.
Option D:	In row of a relational table, an attribute can have exactly one value or a NULL value.
15.	If every non-key attribute is functionally dependent on the primary key, the relation will be in _____.
Option A:	First Normal Form
Option B:	Second Normal Form
Option C:	Third Normal Form
Option D:	Fourth Formal Form
16.	A transaction completes its execution is said to be _____.
Option A:	Saved
Option B:	Loaded
Option C:	Rolled
Option D:	Committed
17.	Which of the following protocols ensures conflict serializability and safety from deadlocks?
Option A:	Two-phase locking protocol
Option B:	Time-stamp ordering protocol
Option C:	Graph based protocol
Option D:	Log Based Recovery
18.	In E-R Diagram relationship type is represented by_____.
Option A:	Ellipse
Option B:	Dashed ellipse
Option C:	Rectangle
Option D:	Diamond
19.	A logical description of some portion of database that is required by a user to perform task is called as_____.
Option A:	System View
Option B:	User View
Option C:	Logical View
Option D:	Data View
20.	A data dictionary is a repository that manages _____.
Option A:	Memory
Option B:	Metadata
Option C:	Spell Checker
Option D:	Data Validator

subjective/descriptive questions

Q2 (20 Marks Each)	
A	Solve any Two 5 marks each
i.	Explain Different types of users involved in database.
ii.	Explain TCL commands.
iii.	Explain View Serializability.
B	Solve any One 10 marks each
i.	Explain Database Management System Architecture.
ii.	With Example explain ACID Properties in detail.

Q3. (20 Marks Each)	<i>Please delete the instruction shown in front of every sub question</i>
A	Solve any Two 5 marks each
i.	Describe types of Attributes.
ii.	Explain pitfalls in relational database.
iii.	Explain timestamp ordering protocol.
B	Solve any One 10 marks each
i.	Explain types of Integrity Constraints in detail.
ii.	Explain Types of Normalization.