L.J Institute of Engineering and Technology, Ahmedabad.
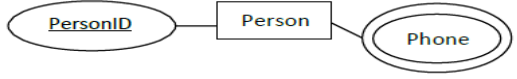## Database Management System (DBMS)
PRACTICE BOOK
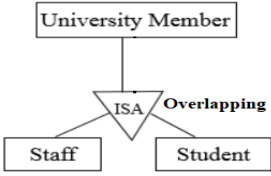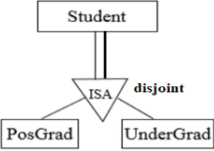
Sr No	Unit Number	Question_Text	MCQ Answer	Marks	Option A	Option B	Option C	Option D
1	1	In traditional file system ,Two files may be combined into a third file if	B	1	They have a row in common	They have a field in common	They have no records with the same value in the common field	Both (b) and (c)
2	1	Data is said to be _____ if same data is copied at many places.	A	1	Redundant	Concurrent	Inconsistent	Controlled
3	1	Which of the following is not an example of DBMS?	D	1	MySQL	Microsoft Acess	IBM DB2	Google
4	1	Which of the following is a feature of DBMS?	D	1	Minimum Duplication and Redundancy of Data	High Level of Security	Mulitple-user Access	All of these
5	1	Which is the type of Data Independence?	C	1	Physical Data Independence	Logical Data Independence	Both A & B	None of these
6	1	Authorization and integrity manager tests the satisfaction of integrity constraints and checks the authority of users to access data.	A	1	TRUE	FALSE		
7	1	_____ means to hide certain details of how data is stored and maintain.	C	1	Data Isolation	Data Integrity	Data Abstraction	None of these
8	1	_____ of abstraction explains how data is actually stored and describes the Data Structure and Access methods used by database.	B	1	Conceptual Level	Physical Level	View Level	None of these
9	1	Which component manages the allocation of space on disk storage and the data structures used to represent information stored on disk?	B	1	Buffer manager	File manager	Transaction manager	Authorization manager
10	1	Which of the following is a component of the DBMS?	D	1	Buffer manager	File manager	Transaction manager	All of these
11	1	Data Manipulation Languages are used for -	D	1	Insert Information into Database	update Information	Delete Information	All of these
12	1	The Statement that requests a retrieval of information from database is called as _____.	B	1	Control Statement	Query	Manipulation Statement	None of these
13	1	Data _____ refers to describing the data description, representing data semantics, and describing the consistency constraints that apply to the data.	C	1	Adding	Modifying	Modeling	Refining
14	1	User who interacts with the system using database query language is called as _____.	A	1	Sophisticated end user	Naïve user	Stand alone users	Casual end users
15	1	Which is the false statement ?	D	1	A Database is ordered collection of data.	A Database is systematic compilation of records in a computer	DBMS manages the database	Data helps in making decisions.

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16	1	What do you mean by Concurrent access?	C	1	Copies of same data does not match with each other	Same data is copied at many places	The access of same data by multiple users at same time	Both A & B
17	1	Data Model is collection of conceptual tools for describing -	D	1	Data	Data schema	Consistency	All of these
18	1	Which of the following is not a Data Model?	A	1	Aggregate Model	Relational Model	ER Model	Hierarchical Model
19	1	Data such as table name, column name, data type, authorized user and user access privileges for any table is called _____ for that table.	D	1	Data Isolation	Data Independence	Data Integrity	Meta data
20	1	Which of the following is not a function of the database?	D	1	Managing stored data	Manipulating data	Security for stored data	Analysing code
21	1	What is information about data called?	C	1	Hyper data	Tera data	Meta data	Relations
22	1	What is a database?	C	1	Organized collection of information that cannot be accessed, updated, and managed	Collection of data or information without organizing	Organized collection of data or information that can be accessed, updated, and managed	Organized collection of data that cannot be updated
23	1	The same information may be duplicated in several places (files). For example, if a student has a double major (say, music and mathematics) the address and telephone number of that student may appear in a file that consists of student records of students in the Music department and in a file that consists of student records of students in the Mathematics department. This redundancy leads to higher storage and access cost. In addition, it may lead to data inconsistency.	A	1	TRUE	FALSE	Partially true	Cannot say any thing
24	1	Implementation of the simple structures at the logical level may involve complex physical-level structures, the user of the logical level does not need to be aware of this complexity. This is referred to as _____.	A	1	physical data independence.	Logical Data Independence	Local Data Independence	None of these
25	1	_____is the ability to modify the conceptual schema without requiring any change in application programs.	B	1	physical data independence.	Logical Data Independence	Local Data Independence	None of these
26	1	Translates DML statements into low level instructions that the query evaluation engine understands.	C	1	Query Evaluation Engine	Integrity Manager	DML Compiler	DDL Interpreter
27	1	Procedural DMLs require a user to specify what data are needed and how to get those data.	A	1	TRUE	FALSE		
28	1	Declarative DMLs (also referred to as nonprocedural DMLs) require a user to specify what data are needed without specifying how to get those data.	A	1	TRUE	FALSE		

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29	1	Database Administrator is responsible for which of the following function?	D	1	Defining Security Constraints	Defining Integrity Constraints	Granting the Data Access	All of these
30	1	The Users who use " easy to use menu" are called _____	B	1	Sophisticated end user	Naïve user	Stand alone users	Casual end users
31	1	Schema Definition is written by _____.	A	1	Database Administrator	Application Programmer	Naïve user	Casual end users
32	1	Farmer goes to ATM Center to withdraw an amount of Rs.300/-. Which type of user farmer is ?	B	1	Sophisticated end user	Unophisticated end user	Application Programmer	Specialized User
33	1	Which of the following is/are functions of the database administrator?	D	1	Schema definition	Access method definition	Backup and Recovery	All of these
34	1	The DDL interpreter interprets DDL statements and records the definition in the _____.	C	1	Video	Audio	Data dectionary	Data set
35	1	_____, which is responsible for fetching data from disk storage into main memory, and deciding what data to cache in main memory.	A	1	Buffer manager	Authorization and integrity manager	Transaction manager	None of these
36	2	Which model describes the structure of a database with the help of a diagram?	B	1	Network Model	Entity-relationship Model	Relational Model	Hierarchical Model
37	2	The partial participation by entity is represented in E-R diagram as _____	D	1	Rectangle	Double rectangle	Double line	None of these
38	2	The total participation by entities is represented in E-R diagram as	B	1	Dashed line	Double line	Double rectangle	Circle
39	2	What is a relationship called when it is maintained between two entities?	B	1	Unary	Binary	Ternary	Quaternary
40	2	Key to represent relationship between tables is called	C	1	Primary key	Secondary Key	Foreign Key	None of the mentioned
41	2	An entity set that does not have sufficient attributes to form a primary key is termed a _____	C	1	Strong entity set	Variant set	Weak entity set	Variable set
42	2	How many table/relation is possible in following image?	C	1	3	1	2	0
43	2	The Relationship sets that involve Three entities is known as _____ Relationship set	C	1	Unary	Binary	Ternary	Many to Many
44	2	If you were collecting and storing information about your music collection, an album would be considered as_____	B	1	Relationship	Entity	Instance	Attribute

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45	2	Which of the following is incorrect about an ER Model.	C	1	An attribute of an Entity can have more than one value.	An attribute of an entity can be composite.	In a row of a relational table an attribute can have more than one value.	In a row of a relational table an attribute can have exactly one value or NULL.
46	2	Double diamond symbol is used for?	C	1	Entity relationship type	Attribute	Weak entity relationship type	Tuple
47	2	The attribute name could be structured as an attribute consisting of first name, middle initial, and last name. This type of attribute is called	B	1	Simple attribute	Composite attribute	Multivalued attribute	Derived attribute
48	2	What does following symbol depict?	C	1	Cardinality limits	Total Generalization	Total participation of entity set in a relationship	Strong Participation
49	2	Degree of a relationship is defined as:	B	1	Number of entities of one entity set related with number of entities in another entity set	Number of entities that participate in relationship	Number of records in relationship set	Number of attributes in entity set
50	2	If Every entity in entity set E participates at least once in relationship set R, then participation of entity set E in relationship set R is?	D	1	Null	Partial	One to many	Total
51	2	Phone_No is Which type of Attribute?	D	1	Composite	Descriptive	Derived	Multivalued
52	2	The descriptive property possessed by each entity set is called as?	C	1	Generalization	Relationship	Attribute	Association
53	2	For a weak entity set to be meaningfull,it must be associated with another entity set called	A	1	Strong entity set	Stronger Entity set	Owner entity set	All of the above
54	2	The attribute AGE is calculated from DATE_OF_BIRTH. The attribute AGE is	D	1	Single valued	Multi valued	Composite	Derived
55	2	_____ is a set of entities of the same type that share the same properties, or attributes.	C	1	Attribute set	Relation set	Entity set	Entity model
56	2	An entity in A is associated with at most one entity in B. An entity in B, however, can be associated with any number (zero or more) of entities in A.	D	1	One-to-many	One-to-one	Many-to-many	Many-to-one
57	2	_____ express the number of entities to which another entity can be associated via a relationship set.	A	1	Mapping Cardinality	Participation Constraints	Entity Set	Relationship
58	2	Attributes of entity A are associated with at most one entity in B, and entity in B is associated with at most one entity in B This is called as	B	1	One to many	One to one	Many to one	Many to many

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59	2	An ER model of a database consists of entity types A and B. These are connected by a relationship R which does not have its own attribute. Under which one of the following conditions, can the relational table for R be merged with that of A?	C	1	Relation R is One to Many and the participation of A in R is total	Relation R is One to Many and the participation of A in R is partial	Relation R is Many to One and the participation of A in R is total	Relation R is Many to One and the participation of A in R is partial
60	2	The similarities between the entity set can be expressed by which of the following features?	B	1	Specialization	Generalization	Uniquation	Inheritance
61	2	Higher level entity sets are designated by the term _____	B	1	Sub class	Super class	Parent class	Root class
62	2	_____ is an abstraction through which relationships are treated as higher level entities	D	1	Creation	Superseding	Attribute separation	Aggregation
63	2	In Which of the following a group of entities is divided into sub-groups based on their characteristics?	D	1	Aggregation	Generlization	Inheritance	Specialization
64	2	_____ splits an entity to form multiple new entities that inherit some feature of the splitting entity	B	1	Generalization	Specialization	both A & B	None of the Above
65	2	_____ will work in Top-down approach and _____ will work in Bottom-up approach .	D	1	Generalization , Specialization	Attribute , Entity	Entity , Attribute	Specialization , Generalization
66	2	_____ of a weak entity set is the set of attributes that distinguishes between all the entities of a weak entity set.	D	1	Primary key	Secondary Key	Foreign Key	Partial Key
67	2	Address is which kind of the attribute ?	A	1	Composite	Single	Simple	Derived
68	2	Following attributes belong to which entity 1.) AccountType 2.)Account_ExpirationDate 3.) No. of users 4.) Video Quality	C	1	Email-ID	Net Banking	Netflix	Paytm
69	2	In a many to one relationship, the primary key of one entity acts as foreign key on which side?	B	1	On the side where single (one) relationship is defined	On the side where many relationship is defined	On both the sides	None of the Above
70	2	Let E1 and E2 be two entities in an E/R diagram with simple single-valued attributes. R1 and R2 are two relationships between E1 and E2, where R1 is one-to-many and R2 is many-to-many. R1 and R2 do not have any attributes of their own. What is the minimum number of tables required to represent this situation in the relational model?	B	1	2	3	4	5
71	2	What is the min and max number of tables required to convert an ER diagram with 2 entities and 1 relationship between them with partial participation constraints of both entities?	C	1	Min 1 and max 2	Min 1 and max 3	Min 2 and max 3	Min 2 and max 2

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72	2	Which of the following statement is False about Weak Entity set?	D	1	Weak Entity can be deleted automatically when their strong entity is deleted	A weak entity set has no primary keys unless attributes of strong entity set on which it dependes are included	Weak entity set avoid data duplication and consequent possible inconsistency caused by duplicating the key of strong entity	Tuples in a Weak entity set are not partitioned according to their relationship with tuples in a strong entity set
73	2	What is the minimum number of relations required to represent the following specialization/generalization?	D	1	4	3	2	1
74	2	What is the minimum number of relations required to represent the following specialization/generalization?	C	1	4	3	2	1
75	2	Construct the ER diagram for company. These entities have the following attributes − Employee - ENO(Primary Key) , Name, SSN, Salary Department - DNO(Primary key), Name, Budget Project - PNO(Primary key), Name, budget, date, hours, status		5				
76	2	A university registrar's office maintains data about the following entities: 1. courses, including number, title, credits, syllabus, and prerequisites; 2. course offerings, including course number, year, semester, section number, instructor(s), timings, and classroom; 3. students, including student-id, name, and program; 4. instructors, including identification number, name, department, and title. Further, the enrollment of students in courses and grades awarded to students in each course they are enrolled for must be appropriately modeled. Construct an E-R diagram for the registrar's office. Document all assumptions that you make about the mapping constraints		5				

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77	2	Consider a university database for the scheduling of classrooms for -final exams. This database could be modeled as the single entity set exam, with attributes course-name, section number, room-number, and time. Alternatively, one or more additional entity sets could be defined, along with relationship sets to replace some of the attributes of the exam entity set, as •course with attributes name, department, and c-number •section with attributes s-number and enrollment, and dependent as a weak entity set on course •room with attributes r-number, capacity, and building Show an E-R diagram illustrating the use of all three additional entity sets listed.		5				
78	2	In academic world, A researcher can either be employed as a professor or a lab assistant. There are three kinds of professors: Assistant, associate, and full professors. The following should be stored: ● For each researcher, his/her name, year of birth, and current position (if any). ● For each institution, its name, country, and inauguration year. ● For each institution, the names of its schools (e.g. School of Law, School of Business, School of Computer Science,. . .). A school belongs to exactly one institution. ● An employment history, including information on all employments (start and end date, position, and what school). ● Information about co-authorships, i.e., which researchers have co-authored a research paper. The titles of common research papers should also be stored. ● For each researcher, information on his/her highest degree (BSc, MSc or PhD), including who was the main supervisor, and at what school. ● For each professor, information on what research projects (title, start date, and end date) he/she is involved in, and the total amount of grant money for which he/she was the main applicant. Draw an ER diagram for the data set described above. Make sure to indicate all cardinality constraints specified above. The ER diagram should not contain redundant entity sets, relationships, or attributes.use relationships whenever appropriate.		5				
79	2	Draw an E-R Diagram for Employee(with payroll) Management System. 1) Show all the possible entities, attributes and relationships. 2) Show possible Cardinalities constraints.		7				

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80	2	Give an ER diagram for a database recording information about teams, players, and their fans, including: 1.For each team, its name, its players, its team captain (one of its players), and the colors of its uniform. 2.For each player, his/her name. 3.For each fan, his/her name, favorite teams, favorite players, and favorite color. 4.Add a relationship Led-by among two players. The intention is that this relationship set consists of tuples (player1, player2) such that player1 played on the team at a time when some other player2 was the team captain. Choose proper cardinalities for all the relationships and state your reason for each choice. Convert your ER diagram to relations and specify primary and foreign keys in each.		5				
81	2	Draw an E R Diagram for a system which generates a marksheet for the student of school.It should contain Student,Teacher and Subject as the entity for the diagram.		5				
82	2	Draw an ER diagram of Company which has the several departments. Each department is associated with number of projects. A Manager controls a particular department. An employee works in only one department but can work on several projects. Show the mapping cardinalities in diagram. Assume suitable attributes for entities.		5				
83	2	Draw ER diagram for university database consisting four entities Student, Department, Class and Faculty. Student has a unique id, the student can enroll for multiple classes and has a most one major. Faculty must belong to department and faculty can teach multiple classes. Each class is taught by only faculty. Every student will get grade for the class he/she has enrolled Also Find out the minimum number of tables required to represent the given ER diagram in relational model.		5				
84	2	Construct E-R diagram of the bank Management System. It provides different kinds of bank accounts and loans. It operates number of branches.		5				
85	2	Draw E–R Diagram for the College Management System.		5				
86	2	Draw E-R diagram for Hospital management system		5				
87	2	Consider a database used to record the marks that students get in different exams of different course offerings.Construct E-R diagram that uses only a binary relationship between students and course-offerings. Make sure that only one relationship exists between a particular student and course-offering pair, yet you can represent the marks that a student gets in different exams of a course offering.		5				
88	2	Construct an E-R diagram for a car-insurance company whose customers own one or more cars each. Each car has associated with it zero to any number ofrecorded accidents.		5				
89	3	Types of SQL Commands are _____	D	1	DDL	DML	DCL	All of the above

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90	3	Which of the following is not a type of SQL statement?	D	1	Data Manipulation Language (DML)	Data Definition Language (DDL)	Data Control Language (DCL)	Data Communication Language (DCL)
91	3	You can add a row using SQL in a database with which of the following?	C	1	ADD	CREATE	INSERT	MAKE
92	3	What default value gets stored in columns of the table?	A	1	NULL	0	1	-1
93	3	From the set of results, in order to remove the duplicate values from a particular column, _____ clause is used within select clause.	B	1	Where	Distinct	Remove	Drop
94	3	Command that is used to add attributes to an existing relation, is said to be	A	1	Alter	Tailor	Modify	Eliminate
95	3	Data manipulation language (DML) includes statements that modify the _____ of a database.	B	1	Structure	Data	User	Size
96	3	Which one is true for taking grant all previous privileges to tables from user?	C	1	Revoke Privileges from user on object;	Grant Privileges to user on object;	Revoke Privileges on object from user;	Grant Privileg on object to user;
97	3	Commands that comes under DDL is/are –	D	1	DROP	CREATE	TRUNCATE	All of the above
98	3	Command that comes under DML is/are –	C	1	ROLLBACK	GRANT	UPDATE	All of the above
99	3	Command that comes under DCL is/are -	C	1	GRANT	REVOKE	Both A. and B.	None of the above
100	3	Which of the following is generally used for performing tasks like creating the structure of the relations, deleting relation?	D	1	DML(Data Manipulation Language)	Query	Relational Schema	DDL(Data Definition Language)
101	3	Which of the following syntax is true for adding a new record in table ?	A	1	INSERT INTO table_name (column1, column2, column3, ...) VALUES (value1, value2, value3, ...);	INSERT INTO (column1, column2, column3, ...) VALUES (value1, value2, value3, ...);	INSERT INTO table_name (column1, column2, column3, ...) (value1, value2, value3, ...);	INSERT IN table_name (column1, column2, column3, ...) VALUES (value1, value2, value3, ...);
102	3	The FROM SQL clause is used to_____?	A	1	specify what table we are selecting or deleting data FROM	specify range for search condition	specify search condition	None of these
103	3	The table records can be retrieved using which command?	B	1	RETRIEVE	SELECT	CREATE	ALTER

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104	3	Which of the following is wrong?	D	1	select * from table_name;	alter table table_name add column_name column_datatype;	alter table table_name rename to new_table_name;	None of these
105	3	Which of the following statement removes database including its related components?	A	1	DROP DATABASE	DELETE DATABASE	REMOVE DATABASE	None of the mentioned
106	3	Which statement would add a column CGPA to a table Student which is already created	A	1	ALTER TABLE Student ADD COLUMN CGPA NUMERIC(3,1);	ALTER TABLE CGPA NUMERIC(3,1);	ALTER TABLE Student (CGPA NUMBER(3,1));	Both A and C
107	3	To delete a particular column in a relation the command used is:	D	1	UPDATE TABLE	TRUNCATE COLUMN	DELETE COLUMN	ALTER , DROP
108	3	Name Type ------------------------------- ---------------- DEPARTMENT_ID INT DEPARTMENT_NAMEVARCHAR2(30) MANAGER_ID INT LOCATION_ID NUMBERIC(5,2) INSERT INTO departments (department_id , department_name , manager_id, location_id)VALUES (100, 'Human Resources', '121', 100.414); How many rows will be inserted by the above statement?	A	1	0	1	2	3
109	3	Write query for the following: employee(id,name,salary,address) (1) To create a table from a table. (2) To add a new column in the table		2				
110	3	Write queries for the following tables: T1 (Empno, Ename , Salary, Designation) ,T2 (Empno, Deptno.) (1) Add a new column Deptname in table T2. (2) Change the designation of Geeta from 'Manager' to 'Senior Manager'.		2				
111	3	Write query for the following: Student_info(college_id,college_name,branch) (1) add a new column for CGPA. (2) change the name of the table from student_info to student_details (3) delete the Student_details Table.		3				

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112	3	We have following relations: Supplier(S#,sname,status,city)　　　　　Parts(P#,pname,color,weight,city) SP(S#,P#,quantity) Answer the following queries in SQL. (1) Delete records in supplier table whose status is 40. (2) Add one field in supplier table.		2				
113	3	Write a query for the following table: Product(pid,pname,cost,rating) 1.To write query for creation of table. 2.To insert 3 tuples minimum in the relation. 3.Add one column for product type in Product table. 4.Create a new table named as customer from Product table. 5.Delete a record for which pid is 2. 6.Update pname='Krish' whose id is 1 and cost is 101.21.		6				
114	3	Write a query for mentioned below operations: 1.To create new user using password. 2.Give all permissions to new user for a specific table. 3.To return back all permission from a new user. 4.Remove that created user from database.		3				
115	3	Write queries for the following tables: T1 (Empno, Ename , Salary, Designation) T2 (Empno, Deptno.) (1) Add a new column deptname in table T2. (2) Change the designation of ename = 'ram' from 'clerk' to 'senior clerk'. (3) Drop the table T1		3				
116	3	Write a Query to create the following table named Member (ID char(6), Name varchar(30), Fee int, DOJ Date) Perform the following tasks: (1) After Creating table add one new column named Email_id of Varchar type with size=12 (2) Modify datatype and size of column named "ID" from char (6) to Number (3) Rename Fee column to new name "Fees" (4) Rename the Table from Member to Member_details (5) Insert minimum 5 records to the given Table (6) Update at least two records (7) Delete the record having ID=101		7				
117	4	Which of the following is the correct syntax for using the AVG() function in PostgreSQL?	A	1	SELECT AVG(column_name) FROM table_name;	SELECT AVG FROM column_name FROM table_name;	SELECT AVG(table_name) FROM column_name;	SELECT AVG(column_name, table_name) FROM table_name;

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118	4	What is the purpose of the MAX function in PostgreSQL?	A	1	Retrieves the highest value from a specified column.	Calculates the average value of a numeric column.	Returns the number of rows in a specified table or view.	Counts the occurrences of a specific value in a column.
119	4	Which is not a numeric/math function in SQL?	D	1	ABS	SQRT	FLOOR	COUNT
120	4	Which function is true in order to display current time and date with timezone.	A	1	CURRENT_TIMESTAMP	CURRENT_TIME	CURRENT_DATE	All of the above
121	4	What will be the output of following Query? select upper('Tom') from NAMES;	B	1	Tom	TOM	tom	None of above
122	4	What is the output value of query given below? SELECT ROUND (3.14659, 2);	A	1	3.15	3.14	3.2	3
123	4	What is the output value of query given below, SELECT SUBSTR ('98752341', 2,5);	B	1	98	87523	987523412	987523415
124	4	What will be the output of following Query? SELECT REPLACE ('How are you','o','2');	D	1	How are you	how are you	H2w are y2w	None of above
125	4	_____ and _____constraints form the core of the PRIMARY KEY constraint.	D	1	NOT NULL , CHECK	CHECK ,UNIQUE	NOT NULL , FOREIGN KEY	NOT NULL , UNIQUE
126	4	To modify the students table and to add a primary key on the student_id Column, Which statement must be used to accomplishes this task? Note: The table is currently empty.	D	1	alter table students add primary key (student_id);	Alter table students add constraint primary key (student_id);	Alter table students add constraint stud_id_pk primary key (student_id);	A&C BOTH
127	4	Which of the following is TRUE about UNIQUE constraint?	D	1	In columns that are subject to the UNIQUE constraint, duplicate values are not allowed.	Unique values will always be present in the column containing the unique constraint.	A single table can have more than one unique constraint, since it can be applied to more than one column.	All of the above
128	4	Purpose of foreign key constraint in SQL Server is _____	A	1	FOREIGN KEY constraints identify and enforce the relationships between tables	A foreign key in one table points to a candidate key in another table	You cannot insert a row with a foreign key value, except NULL, if there is no candidate key with that value	None of the mentioned
129	4	What does the COUNT function in PostgreSQL do?	D	1	Counts the occurrences of a specific value in a column.	Calculates the average value of a numeric column.	Returns the highest value in a column.	find the number of values in the specified column excluding NULL values

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130	4	How can you use the MIN function to retrieve the lowest value from a column?	C	1	MIN(value) WHERE column_name;	MIN(value, column_name);	MIN(column_name);	MIN(column_name) ORDER BY value;
131	4	What is the output value of query given below? SELECT ROUND(3.14159, 2);	C	1	3.141	3.15	3.14	3.2
132	4	Which Statement returns the current date and time both	C	1	SELECT CURRENT_DATE;	SELECT CURRENT_TIME;	SELECT CURRENT_TIMESTAMP;	SELECT DATE;
133	4	The _____ function retrieves subfields such as year or hour from date/time values.	D	1	JUSTIFY	CURRENT_DATE	CURRENT_TIME	EXTRACT
134	4	How to Get a Day of Week From the Current Date?	B	1	SELECT(DOW FROM CURRENTDATE)	SELECT EXTRACT(DOW FROM CURRENT_DATE)	SELECT EXTRACT(CURRENT_DATE FROM DOW)	SELECT EXTRACT(DOW FROM CURRENTDATE)
135	4	What is the output value of query given below . SELECT SUBSTR('123456789', 4,3);	C	1	6789	2345	456	456789
136	4	The union operation automatically _____ unlike the select clause.	D	1	Adds tuples	Eliminates unique tuples	Adds common tuples	Eliminates duplicate
137	4	The intersection operator is used to get the _____ tuples.	B	1	Different	Common	All	Repeating
138	4	What will be the output of following statement? SELECT POWER(2, 2);	B	1	2	4	8	16
139	4	What will be the output of following Query? SELECT TRUNCATE(7.53635, 2);	B	1	7.536	7.53	7.53637	9.53635
140	4	What is the output value of query given below. SELECT INITCAP('database management system');	C	1	Database magement System	Database management system	Database Management System	DATABASE MANAGEMENT SYSTEM
141	4	What will be the output of following Query? SELECT LPAD(UPPER(SUBSTR('Lok Jagruti University', 5, 7)), 10, '*');	D	1	***Jagruti	*******agr	*******AGR	***JAGRUTI
142	4	If we want to retain all duplicates, we must write _____ in place of union.	A	1	Union all	Union some	Intersect all	Intersect some
143	4	Write SQL statement to create following tables using suitable Primary Key, Foreign Key and Check Constraints. Employee(eid, name, dob, age, doj,salary) Payment(pid, pay_date, amount, eid)		3				
144	4	Consider the "sales" table with the following structure: Table: sales Consider the "sales" table. Calculate the following statistics based on the sales data: 1.The average sales value. 2.The minimum sales value. 3.The maximum sales value. 4.The total number of sales records.		4				

Sr No	Unit Number	Question_Text	MCQ Answer	Marks	Option A	Option B	Option C	Option D
145	4	Write SQL statementand output for following: 1. Round 43.6753 to nearest smallest integer. 2. Find out the square root of 3,90,625. 3. Write the floor value and ceil value of 5.2252.		3				
146	4	Write SQL statement for following: 1. How to Get a Day of Week From a Specific TIMESTAMP? 2. Write a query to display current date & age if someone has a birth date 2000-01-01 and the current date is 2017-03-20. 3. Write a query to display current date,time and timestamp.		3				
147	4	Consider the following schema and write postgresql queries for given statements: Employee(E_id ,F_name ,L_name ,email_id) Customer(C_id ,F_name ,L_name ,email_id ,product_purchased) 1) Display the first and last names of all employees who are also customers 2)Display distinct first names of all persons who are either employee or customer or both. 3)Display names of employees who are not customers		3				
148	4	Create the tables Employee & Department with the following constraints and attributes respectively. Department 1. DeptId→ Primary Key 2. Name→ Unique Employee 1. Id → Primary Key 2. Name 3. Salary→ Check Salary more than 22000 4. Insurance_opted→Not null 5. DeptId → Foreign Key		3				
149	4	Consider the following schema and write postgresql queries for given statements: Customer_January (customer_id, first_name, last_name, email_id, product_purchased) Customer_December (customer_id, first_name, last_name, email_id, product_purchased) 1) Find all details of customers who shopped in December and January. 2) Display distinct first_name and last_name of all customers who have either shopped in January or December, or both. 3) Find the details of customers who shopped only in December but not in January.		3				
150	4	Consider following schema and write SQL for given statements. worker (id,firstname,lastname,salary,joining_date,dept) 1. Write an query to fetch firstname from worker table in UPPER case. 2. Replace department of worker from production to sales 3. Display the first three characters of lastname from the table.		3				
151	5	The number of tuples in a relation is known as	D	1	degree	relation	attribute	cardinality
152	5	A relational database consists of a collection of	A	1	Tables	Fields	Records	Keys

Sr No	Unit Number	Question_Text	MCQ Answer	Marks	Option A	Option B	Option C	Option D
153	5	Which of the following is used to denote the selection operation in relational algebra?	B	1	Pi (Greek)	Sigma (Greek)	Lambda (Greek)	Omega (Greek)
154	5	A Set of Possible data value is called _____.	D	1	Attribute	Degree	Tuple	Domain
155	5	The minimal set of attributes that can uniquely identify a tuple is known as a _____.	A	1	Candidate key	Canon key	Super key	Superb key
156	5	The Statement that requests a retrieval of information from database is called as _____	B	1	Control Statement	Query	Manipulation Statement	Both A & B
157	5	Key to represent relationship between tables is called?	C	1	Primary key	Secondary Key	Foreign Key	Alternate Key
158	5	Which of the following is/are procedural query language:	A	1	Relational Algebra	Tuple Relational Calculus	Domain Relational Calculus	Both A,B
159	5	The candidate key other than the primary key is called an _____	A	1	Alternate key	Temporary key	Flash key	Relational key
160	5	Which of the following is used to denote the projection operation in relational algebra?	A	1	Pi (Greek)	Sigma (Greek)	Lambda (Greek)	Omega (Greek)
161	5	_____ is a candidate key choosen by database designer to identify tupples uniquely in a relation.	D	1	Super key	Composite key	Alternate key	Primary Key
162	5	Which of the following are the logical operations in the relational algebra?	A	1	Select,Project	Union,Intersect	Set Difference	all of these
163	5	Which one of the following attribute can be taken as a primary key?	C	1	Name	Street	ID	Department
164	5	What will be the output of following query? Π name (Student) ∩ Π name (Employee)	B	1	Name of person who is either student or employee	Name of student who is also employee	Name of person who is employee but not student	Name of student
165	5	A list of records that satisfies a particular condition is displayed using ___ operation.	A	1	Select	Project	Union	Cross Product
166	5	What will be the output of following query? ∏ author (Books) ∪ ∏ author (Articles)	A	1	Names of the authors who have either written a book or an article or both	Names of the authors who have written a book only	Names of the authors who have written an article only	Name of Book and Article
167	5	If STUD_NO and STUD_PHONE both are candidate keys for relation STUDENT and STU_NO is Primary key then STUD_PHONE will be _____.	D	1	Super key	Foreign Key	Primary key	Alternate key
168	5	Set of tuples is called as_____.	A	1	Relation	Domain	Attribute	Relational Database
169	5	If we want to include attributes from two different relations, which of the following operation is needed?	B	1	Set Difference	Union	Cartesian Product	Projection
170	5	Which of the following is NOT a type of relational operation?	D	1	Select Operator	Projection Operator	Set Difference	Set Updates
171	5	Using the select operation, you can select ___ that satisfy certain criteria.	A	1	Tupples	Entity	Attributes	Operators
172	5	For select operation the _____ appear in the parenthesis after the sigma and the_____ argument appears in the subscript.	D	1	Predicates, relation	Operation, Predicates	Relation,Operation	Relation, Predicates
173	5	From mentioned below operators which are the set operators of relational algebra?	B	1	Projection	Union	Selection	All of above

Sr No	Unit Number	Question_Text	MCQ Answer	Marks	Option A	Option B	Option C	Option D
174	5	Which of the following aspects of data is the concern of a relational database model?	D	1	data manipulation	data integrity	data structure	all of these
175	5	For select operation the _____ appear in the subscript and the _____ argument appears in the paranthesis after the sigma.	A	1	Predicates, relation	Relation, Predicates	Operation, Predicates	Relation, Operation
176	5	The _____ operation, denoted by −, allows us to find tuples that are in one relation but are not in another.	B	1	Union	Set-difference	Difference	Intersection
177	5	Consider the keys given below as Super key of a relation 1. Name , Salary, Eid, 2. Name , Age , Eid 3. Name , Address , Eid, Salary 4. Eid, Age , Balance 5. Eid , Name What is candidate key of this relation?	C	1	Name , Salary, Eid	Name , Age , Eid	Eid , Name	Eid, Age , Balance
178	5	If there are 2 types of tuples, A & B, the ___ operation contains all the tuples that are in B but not in A.	B	1	Union	Set Difference	Cartesian Product	Projection
179	5	The operation of a relation X, produces Y, such that Y contains only selected attributes of X. Such an operation is :	A	1	Projection	Intersection	Union	Set Difference
180	5	Given the relations: employee (name, salary, deptno) and department (deptno, deptname, address) Which of the following queries cannot be expressed using the basic relational algebra operations (U, -, x, π, σ)?	A	1	The sum of all employees' salaries	Department number and department name	All employees of a given department	Name of Employee whose Salary is above 20000
181	5	Consider the relational database given below. Give an expression in the relational algebra to express each of the following statements: Customer(Cust_name, Cust_street, Cust_city) Branch(Branch_name, Branch_city, Assets) Account (Branch_name, Account_number, Balance) Loan(Branch_name, Loan_number, Amount) Depositor(Cust_name, Account_number) Borrower(Cust_name, Loan_number) Player relation (Player Id, Team Id, Country, Age, Runs, Wickets) 1.Find the names of all the customers who have taken a loan from the bank and also have an account at the bank. 2. Find all tuples from player relation for which country is India. 3.Select all the tuples for which runs are greater than or equal to 15000. 4.Select all the players whose runs are greater than or equal to 6000 and age is less than 25. 5.List all the countries in Player relation.		5				

Sr No	Unit Number	Question_Text	MCQ Answer	Marks	Option A	Option B	Option C	Option D
182	5	Solve the queries for the following database using Relational Algebra. branch (branch-name, branch-city, assets) customer (customer-name, customer-street, customer-only) account (account-number, branch-name, balance) loan (loan-number, branch-name, amount) depositor (customer-name, account-number) borrower (customer-name, loan-number) 1)Find all loans of over $1200 2)Find the loan number for each loan of an amount greater than $1200 3)Find the names of all customers who have a loan, an account, or both, from the bank 4)Find the names of all customers who have a loan and an account at bank. 5)Find the names of all customers who have a loan at the Perryridge branch. 6)Find the names of all customers who have a loan at the Perryridge branch but do not have an account at any branch of the bank. 7)Find the names of all customers who have a loan & an account at the Perryridge branch.		7				
183	5	The relational database schema is given below. employee (person-name, street, city) works (person-name, company-name, salary) company (company-name, city) manages (person-name, manager-name) Write the relational algebra expressions for the given queries. 1. Find the names of all employees who work for First Bank Corporation. 2. Find the names and cities of residence of all employees who work for First Bank Corporation. 3. Find the names, street address, and cities of residence of all employees who work for First Bank Corporation and earn more than $10,000 per annum. 4. Find the names of all employees in this database who do not work for First Bank Corporation.		4				
184	5	Solve the queries for the following database schema using Relational Algebra. Customer (C_ID, Name, Address, City, Contact, Gender, Age, Acc_no) Branch (Branch_name, Branch_city) Loan (C_ID, Loan_No, Branch_name, Amount) Account (Acc_No, Balance, Access_Date, Branch_name) i. Display the details of all female customers having age less than 32. ii. Display the name of all branches of 'Ahmedabad' and 'Baroda' city. iii. List out all loans of over 100000 from Vastarpur Branch. iv. Display the name and balance of all customers from 'Surat' city. v. Find the name and address of all male customers who have a loan at Sola Branch.		5				

Sr No	Unit Number	Question_Text	MCQ Answer	Marks	Option A	Option B	Option C	Option D
185	5	Consider the relations City(city_name,state) , Hotel(hname,address) , City_Hotel(hname,city_name,owner) Answer the following queries in relational algebra i) Display all the record of hotel name,city name and owner of the Hotel. ii) List the name of cities which have no Hotel. iii) List the Name of hotels owned by 'Taj Group' iv) List the hname and owner who belongs to Gujarat State. v) Find the name of city Whose state is either Gujarat or Rajasthan or both.		5				
186	5	Suppose there is an bank BOI database which comprises following Relations : BOI (customer_name , I_street , I_city, I_number , I_balance) Employee (E_id , Designation) Write query using relation algebra to find the names of all the customers who have balance greater than 60000 and street is millenaire .		1				
187	5	Consider following relations: User(Id, Name, Age, Gender, OccupationId, CityId) Occupation(OccupationId, OccupationName) City(CityId, CityName) Write queries in relational algebra form: 1) Find name of users whose age is less than 25. 2) Find all details of user who is either female or whose age is not 30 or both. 3) Find Age and Occupation name of all users. 4) Find name and their respective city name of all users. 5) Find id, name and occupation name of all male users.		5				
188	5	Write relational algebra syntax for the given queries using the following database: Employee(eno, ename, salary, designation) Customer (cno, cname, adress, city) 1) Find out name of employees who are also customers. 2) Find out name of person who are employees but not customers 3) Display all names who are either emplyees or customers.		3				
189	5	Consider below schemas for writing relational algebra queries: Reserves(sid,bid,day) Sailors(sid,sname,rating,age) Boats(bid,bname,color) 1. Find name of sailors who have a reserved boat 103. 2. Find the name of sailors who have reserved at least one boat. 3. Find the name of sailors who have reserved a red or green boat.		3				

Sr No	Unit Number	Question_Text	MCQ Answer	Marks	Option A	Option B	Option C	Option D
190	5	Consider the relational database given below. Give an expression in the relational algebra to express each of the following queries: Employee (person-name, street, city) , Works (person-name, company-name, salary) Company (company-name, city) , Manages (person-name, manager-name) 1) Find the names of all employees in this database who live in the same city as the company for which they work. 2) Find the names, street address, and cities of residence of all employees who work for HCL and earn more than $10,000 per annum.		2				
191	5	Consider the following relational database, where the primary keys are underlined. Give an expression in the relational algebra to express each of the following queries: employee (ssn, name, dno, salary, hobby, gender) department (dno, dname, budget, location, mgrssn) works_on (ssn, pno) project (pno, pname, budget, location, goal) 1. List all pairs of employee names and the project numbers they work on. 2. List out department number, department name and department budget. 3. List all projects that Raj Yadav works on by project name. 4. List the names of employees who supervise themselves.		4				
192	5	Write Relational algebra statement for following. Student(Enrno, name, courseId, emailId, cellno) Course(courseId, course_nm, duration) 1) Find out list of students who have enrolled in "computer" course. 2) List name of all courses with their duration. 3) List emailId and cellno of all mechanical engineering students.		3				
193	5	Let R1 (A, B, C) and R2 (D, E) be two relation schema, where the primary keys are shown underlined, and let C be a foreign key in R1 referring to R2. Suppose there is no violation of the above referential integrity constraint in the corresponding relation instances r1 and r2. write relational algebra expressions that would necessarily produce an empty relation.		1				

Sr No	Unit Number	Question_Text	MCQ Answer	Marks	Option A	Option B	Option C	Option D
194	5	Consider the following schema for products: Product(maker, model, type) PC(model, speed, ram, hd, price) Laptop(model, speed, ram, hd, screen, price) Printer(model, color, type, price) Write relational algebra queries to answer the following questions: 1. What PC models have a speed of at least 3.00? 2. Which manufacturers make laptops with a hard disk of at least 100GB? 3. Find the model number and price of all products (of any type) made by manufacturer B. 4. Find the model numbers of all color laser printers. 5. Find those manufacturers that sell Laptops, but not PC's.		5				
195	5	Consider following schema : Instructor(I_id , I_name , I_dept , I_salary) Course(C_id , C_name ,C_sem , C_year) Teaches(I_id , C_id) Write query using relation algebra to find the name of instructor along with the name of course they teach.		1				
196	5	Consider both relation given below are compatible relation. Employee (Name , Eid , Address , Age) Customer (Name , Cid , Address ,Age) Write query using relation algebra to find the name and age of all who is either employee or customer or both.		1				
197	6	A functional dependency is denoted by …..... symbol	C	1	&	*	→	%
198	6	There are two functional dependencies with the same set of attributes on the left side of the arrow: A→BC, A→B This can be combined as	A	1	A→BC	A→B	B→C	None of the mentioned
199	6	If F is a set of functional dependencies, then the closure of F is denoted by?	A	1	F+	Fo	F	F*
200	6	If B is an attribute and A→B, Then B is said to be _____ by A.	B	1	Logically implied	Functionally determined	Logically determined	Functionally implied
201	6	If A→BC then A→B and _____is decomposition rule.	A	1	A→C	B→A	C→A	B→C
202	6	If A → B and BC → D then ___.	C	1	AB → D	D → AB	AC → D	D → AC
203	6	If ___, then A -> B has trivial functional dependency.	A	1	B is a subset of A	A is a subset of B	A is a subset of A'	B is a subset of B'
204	6	What is the candidate key in the relation R(eid,name,age,gender ,marks) consider given functional dependencies name→eid , name→marks , name→gender,age	B	1	eid , marks	name	eid , gender	age
205	6	Empdt1(empcode, name, street, city, state,pincode). For any pincode, there is only one city and state. Also, for given street, city and state, there is just one pincode. In normalization terms, empdt1 is a relation in	B	1	1 NF only	2 NF and hence also in 1 NF	3NF and hence also in 2NF and 1NF	BCNF and hence also in 3NF, 2NF and 1NF View Answer

Sr No	Unit Number	Question_Text	MCQ Answer	Marks	Option A	Option B	Option C	Option D
206	6	A relation is in 2NF when it is in 1 NF and _____	C	1	No Transitivity	Partial functional dependencies	No partial functional dependencies	None of these
207	6	In which normal form conversion of composite attribute to individual attribute happens,	A	1	First NF	Second NF	Third NF	None of these
208	6	Normalization is used to design _____	D	1	Join dependencies	Multi-valued dependencies	Cyclic dependencies	Relational database
209	6	A functional dependency is a relationship between or among _____	D	1	Tables	Rows	Relations	Attributes
210	6	Which of the following is not Armstrong's Axiom?	C	1	Reflexivity rule	Transitivity rule	None of these	Augmentation rule
211	6	We can use the rules to find logically implied functional dependencies. This collection of rules is called	B	1	Axioms	Armstrong's axioms	Armstrong	Closure
212	6	Which of the following is a trivial functional dependency?	B	1	A->A	A->B, if B is a subset of A	B->B	All of these
213	6	For a relation R(X, Y, Z, W) with primary key(X, Y) a functional dependency XY→Z is said to be _____.	A	1	Full Dependency	Partial Dependency	Trivial Dependency	None of these
214	6	If K → L then ___ → LM.	A	1	KM	L	KL	NONE
215	6	If a functional dependency is reflexive, Y is a subset of X and X is the set of attributes, then	C	1	Y→X holds	XY→Z holds	X→Y holds	None of these
216	6	If B is determined by A, then ___ is determined by BC regardless of C in the augmentation rule.	B	1	AB	AC	A	C
217	6	If A determines B, and BC determines D, then AC determines D according to the ___ Rule.	D	1	Pseudo Decomposition Rule	Transitive Rule	Pseudo Rule	Pseudo Transitive Rule
218	6	There is a relationship AC →B, A →D, and D→B. Here A is alone capable of determining B, which means B is _____ dependent on AC	A	1	Partially	Fully	Medium	Short
219	6	Functional dependency which also known as a nontrivial dependency occurs when A →B holds true where _____	C	1	A is a subset of B	B is a subset of A	B is not a subset of A	None of these
220	6	If A→B, A→ C then which of the following is true?	D	1	A→BC	A→B	A→C	All of the mentioned
221	6	In a schema with attributes A, B, C, D and E following set of functional dependencies are given {A → B, A → C, CD → E, B → D, E → A} Which of the following functional dependencies is NOT implied by the above set?	B	1	CD → AC	BD → CD	BC → CD	AC → BC
222	6	AB→CD, AF→D, DE→F, C→G , F→E, G→A Which one of the following options is false?	C	1	CF+ = {ACDEFG}	BG+ = {ABCDG}	AF+ = {ACDEFG}	None of the above
223	6	Given relation R with attributes A,B, C,D and set of FDs as B → A , AD → C , C → ABD . Canonical cover for given FDs	C	1	{B → E , C → BD, AD → C}	{B → AF , C → BD, AD → C}	{B → A , C → BD, AD → C}	None of there
224	6	Functional Dependencies are the types of constraints that are based on_____	A	1	Key	Key revisited	Superset key	None of the mentioned

Sr No	Unit Number	Question_Text	MCQ Answer	Marks	Option A	Option B	Option C	Option D
225	6	Third Normal Form is _____	A	1	2NF and no transitive dependencies	2NF or no transitive dependencies	BCNF or no transitive dependencies	None of these
226	6	F = {CH → G, A → BC, B → CFH, E → A, F → EG} is a set of functional dependencies The relation R is	A	1	in 1NF, but not in 2NF.	in BCNF	in 3NF, but not in BCNF.	in 2NF, but not in 3NF.
227	6	Which normal form is considered adequate for normal relational database design?	B	1	1NF	3 NF	2 NF	4 NF
228	6	Every BCNF is in	D	1	1 NF	2 NF	3 NF	All of the above
229	6	A table has fields F1, F2, F3, F4, and F5, with the following functional dependencies: F1→F3 , F2→F4 , (F1,F2)→F5 in terms of normalization, this table is in	D	1	3 NF	2 NF	4 NF	1`NF
230	6	Which of the following is TRUE?	B	1	Every relation in 2NF is also in BCNF	Every relation in BCNF is also in 3NF	No relation can be in both BCNF and 3NF	A relation R is in 3NF if every non-prime attribute of R is fully functionally dependent on every key of R
231	6	For a database relation R(a,b,c,d), where the domains a, b, c, d include only atomic values, only the following functional dependencies and those that can be inferred from them hold: { a → c, b → d } This relation is	A	1	in first normal form but not in second normal form	in second normal form but not in first normal form	in third normal form	None of the above
232	6	Match the following Condition Normal form a) No Partial dependencies 1) First normal form b) No transitive dependencies 2) Second normal form c) Atomic value 3) Third normal form	B	1	a-1 , b-2 , c-3	a -2, b-3 , c-1	a-3 , b-1 , c-2	a-1 , b-3 , c-2
233	6	"The relation employee(ID,name,street,Credit,street,city,salary) is decomposed into employee1 (ID, name) employee2 (name, street, city, salary) This type of decomposition is called"	B	1	Lossless decomposition	Lossy decomposition	Both A and B	None of these
234	6	"The relation Account_Branch(Ano, Balance, Bname, Baddress) is decomposed into Account (Ano, Balance, Bname) Branch(Bname, Baddress) This type of decomposition is called"	A	1	Lossless decomposition	Lossy decomposition	Both A and B	None of these
235	6	Find Closure set of Attribute for a given relation R has following attribute EFGHIJKLMN, FD: {EF→G, F→IJ, EH→KL, K→M, L→N}, (EFH)+=?	A	1	EFGHIJKLMN	EFGHIJKLM	EFGH	EFIJ
236	6	What is the Candidate Key for given FDs? FD: {EF→G, F→IJ, EH→KL, K→M, L→N}	B	1	{GI}	{EFH}	{EH}	{IJ}

Sr No	Unit Number	Question_Text	MCQ Answer	Marks	Option A	Option B	Option C	Option D
237	6	Match the following Condition Normal form a) No Partial dependencies 1) First normal form b) No transitive dependencies 2) Second normal form c) Atomic value 3) Third normal form	A	1	a -2, b-3, c-1	a -2, b-1, c-3	a-1, b-3, c-2	None of above
238	6	Find Closure set of Attribute for the following: R(A,B,C,D,E,F), FD: AB $\rightarrow$ C, BC $\rightarrow$ AD, D $\rightarrow$ E, CF $\rightarrow$ B, (AB)+=?	A	1	ABCDE	ABC	AB	ABCDEF
239	6	What is the Candidate Key for given FDs? FD : {EF$\rightarrow$G ,F$\rightarrow$IJ , EH$\rightarrow$KL , K$\rightarrow$M, L$\rightarrow$N}	B	1	{GI}	{EFH}	{KL}	{IJ}
240	6	Suppose relation R(A,B,C,D,E) has the following functional dependencies: A $\rightarrow$B ,B $\rightarrow$ C, BC$\rightarrow$ A, A $\rightarrow$ D, E $\rightarrow$ A, D $\rightarrow$ E. Which of the following is not a key?	B	1	A	B,C	E	D
241	6	Relation R has six attribute ABCDEF. F = { A $\rightarrow$ BC, B $\rightarrow$ CE, E $\rightarrow$ A, F $\rightarrow$ E} is a set of functional dependencies.How many candidate keys does the relation R have?	A	1	1	2	4	None of these
242	6	Relation R has following attribute ABCDEF. F = { A $\rightarrow$ B, B $\rightarrow$ CE, E $\rightarrow$ A, F $\rightarrow$ E} is a set of functional dependencies. Which one is candidate key?	B	1	D	DF	A	AF
243	6	For a given relation R has following attribute EFGHIJKLMN. What are prime attribute? FD : {EF$\rightarrow$G ,F$\rightarrow$IJ , EH$\rightarrow$KL , K$\rightarrow$M, L$\rightarrow$N}	A	1	E,F,H	G,I	K,L	I,J
244	6	Consider the following functional dependencies in a database. Date_of_Birth$\rightarrow$Age Age$\rightarrow$Eligibility Name$\rightarrow$Roll_number Roll_number$\rightarrow$Name Course_number$\rightarrow$Course_name Course_number$\rightarrow$Instructor (Roll_number, Course_number)$\rightarrow$Grade The relation (Roll_number, Name, Date_of_birth, Age) is	D	1	in second normal form but not in third normal form	in third normal form but not in BCNF	in BCNF	None of these
245	6	S1: Every table with two single-valued attributes is in 1NF, 2NF, 3NF and BCNF. S2: AB$\rightarrow$C, D$\rightarrow$E, E$\rightarrow$C is a minimal cover for the set of functional dependencies AB$\rightarrow$C, D$\rightarrow$E, AB$\rightarrow$E, E$\rightarrow$C. Which one of the following is CORRECT?	D	1	Both S1 and S2 are FALSE.	S1 is FALSE and S2 is TRUE.	Both S1 and S2 are TRUE.	S1 is TRUE and S2 is FALSE.
246	6	Relation R has eight attribute ABCEFGH. F = {CH $\rightarrow$ G, A $\rightarrow$ BC, B $\rightarrow$ CFH, E $\rightarrow$ A, F $\rightarrow$ EG} is a set of functional dependencies.How many candidate keys does the relation R have?	C	1	3	6	4	None of these
247	6	Prove the union rule: If X $\rightarrow$ Y and X$\rightarrow$ Z then X $\rightarrow$ YZ Using only reflexivity, augmentation and transitivity.		2				
248	6	Compute the closure of R (A, B, C, D, E) with the following set of functional dependencies A $\rightarrow$ BC , CD $\rightarrow$ E ,B $\rightarrow$ D E $\rightarrow$ A List the candidate keys of R.		3				
249	6	Given relation R with attributes A,B, C,D,E,F and set of FDs as A $\rightarrow$ BC, E $\rightarrow$ CF, B$\rightarrow$E and CD$\rightarrow$ EF. Find out closure {A, B}+, {C,D}+ of the set of attributes.		3				

Sr No	Unit Number	Question_Text	MCQ Answer	Marks	Option A	Option B	Option C	Option D
250	6	Relation R(ABCD) Functional dependency FD: (A → B, B → C, C → D} Find one candidate key.		1				
251	6	For relation R(ABCD) Find the Irreducible set of FD from given FD. FD: {A→B, C→B, D→ABC, AC→D}		3				
252	6	Identify the anomalies which affect the storing and retrieving data in relation school data and write down the solution for identified anomalies. Sample data for schooldata relation: | sid	sname	cid	cname	fid	fname	salary
---	---	---	---	---	---	---
1	ram	c1	dbms	f1	john	35000
2	ravi	c2	ds	f2	hena	55000
3	riya	c1	dbms	f1	john	35000
4	raj	c1	dbms	f1	john	35000			3				
253	6	Consider a relation R with five attribute A,B,C,D,E having following dependencies : A → B, BC→ E and ED→A a)List all Keys for R b) In which normal form table is, justify your answer.		4				
254	6	Consider table R(A,B,C,D,E) with FDs as A → B, BC→E and ED→ A. Relation is in which normal form? Justify your answer		3				
255	6	Compute the closure of the following set F of functional dependencies for relation schema R = (ABCDE),F = {A → C, E → D, B → C} List the candidate keys for R. The relation R is in which normal form?		4				
256	6	Convert following relation in 3NF. (Consider already in 2NF) Account_Branch(acc_no, balance, branch_name, branch_city) With following dependencies: acc_no → balance, branch_name, branch_city branch_name → branch_city		2				
257	6	The following functional dependencies hold true for the relational scheme R (rollno , name , voterid , age) FDS={rollno→ name , rollno→ voterid , voterid → age , voterid r→ rollno } Find the highest normal form of the given functional dependencies , check only upto BCNF.		2				
258	6	Given a relation R (P, Q, R, S, T, U, V, W) and Functional Dependency set FD = {PQ → R, P → ST, Q → U, and U → VW}, determine given R is in which normal form?		4				
259	6	Compute the closure of the following set of functional dependencies for relation schema R = (ABCDE),F = {A → C, E → D, B → C} List the candidate keys for R.		4				
260	6	Suppose a relational schema R(A,B,C,D,E,F), and set of functional dependency as following: F:{ AB → C, DC → AE, E → F }.Find the total no of candidate keys for a given relation.		2				

Sr No	Unit Number	Question_Text	MCQ Answer	Marks	Option A	Option B	Option C	Option D
261	6	Given relation R with attributes (P, Q, R, S, T, U) and set of FDs are: {PQ → R , R → ST , T → U, S → P, R → Q }. Find all the possible candidate keys.		3				
262	6	Suppose a relational schema R(P, Q, R, S), and set of functional dependency as following F : { P→ QR , Q →R, P→ Q , PQ →R } Find the canonical cover Fc .		5				
263	6	Suppose a relational schema R(w, x, y, z), and set of functional dependency as following F : { x → w, wz → xy, y → wxz } Find the canonical cover Fc		3				
264	6	The following functional dependencies hold true for the relational scheme R (A , B , X , Y) X → A AB → XY Y → AXB Find the canonical cover for the given functional dependencies.		5				
265	6	Prove the statement "Every relation which is in BCNF is in 3NF but the converse is not true"		4				
266	6	Consider a relation R(A,B,C,D,E,F,G,H) with FDs as AB → C, A→DE and B→F ,F→GH, where candidate key is AB. Find given relation is in which normal form? Justify your answer.		2				
267	6	Normalize the relation customer to solve the problems of multivalued attributes and composite attributes and redundancy. Sample data for customer relation: 	cid	name	address	contactno
---	---	---	---
C01	riya	Amul Aaavas, Baroda	9899556688, 9988445512
C02	hena	Birla Gruh,Anand	9977556688
C03	piya	Om park,surat	9722556385, 7855663321			3				
268	6	Study the relation given below and convert it into 2NF. 	Order_no	Order_date	Item_details		
---	---	---	---	---
		Item_code	Quantity	Price/Unit
1456	26-Dec-2021	3687	52	50.4
		4627	38	60.00
		3214	20	20.00
1886	04-Mar-2021	4629	45	20.25
		4627	30	60.20
1788	04-Apr-2021	4627	40	60.20			4				

Sr No	Unit Number	Question_Text	MCQ Answer	Marks	Option A	Option B	Option C	Option D
269	6	Write down the criteria for a relation to be in 3NF. Consider the given Relation and normalize it into 3 Normal Form. **EID / ENAME / EMP_ZIP / EMP_STATE / EMP_CITY** 1 / Harry / 201010 / UP / Noida 2 / Stephan / 02228 / US / Boston 3 / Lan / 60007 / US / Chicago 4 / Katharine / 06389 / UK / Norwich 5 / John / 462007 / MP / Bhopal		2				
270	6	Normalize below given relation upto 2NF. StudId / Student Name / City / Pincode / ProjectId / Project Name / Course / Content S101 / Ajay / Surat / 326201 / P101 / Health / Prog. / C++,Java,C S102 / Vijay / Pune / 325456 / P102 / Social / WEB / HTML, PHP,ASP		4				
271	6	Consider the relation R(A,B,C) for functional dependency set (A→B and B→C) which is decomposed into two relations R1(A,C) and R2(B,C). Check this decomposition is dependency preserving or not.		4				
272	7	Which of the following statements contains an error?	D	1	Select * from emp where empid = 10003;	Select empid from emp where empid = 10006;	Select empid from emp;	Select empid where empid = 1009 and lastname = 'GELLER';
273	7	Which logical operator in PostgreSQL negates a condition and returns true if the condition is false?	C	1	AND	OR	NOT	JOIN
274	7	What does the pattern 'j%' in the expression FirstName LIKE 'j%' represent?	A	1	Records whose FirstName starts with 'j'	Records whose FirstName contains 'j' or 'J' at any position	Records whose FirstName ends with 'j' or 'J'	Records whose FirstName is not 'j' or 'J'
275	7	If you don't specify ASC or DESC after a SQL ORDER BY clause, the following is used by default _____	A	1	ASC	DESC	There is no default value	None of the mentioned
276	7	The ORDER BY clause in PostgreSQL is used to:	C	1	Filter rows based on specific conditions.	Group rows based on one or more columns.	Sort the result set based on one or more columns.	Specify the order of columns in the result set.

Sr No	Unit Number	Question_Text	MCQ Answer	Marks	Option A	Option B	Option C	Option D
277	7	With SQL, how can you return all the records from a table named "Persons" sorted descending by "FirstName"?	D	1	SELECT * FROM Persons SORT BY 'FirstName' DESC	SELECT * FROM Persons ORDER FirstName DESC	SELECT * FROM Persons SORT 'FirstName' DESC	SELECT * FROM Persons ORDER BY FirstName DESC
278	7	What is the significance of "ORDER BY" in the following PostgreSQL statement? SELECT emp_id, fname, lname FROM person ORDER BY emp_id;	A	1	Data of emp_id will be sorted in ascending order	Data of emp_id will be sorted in descending order	Data will not be sorted	None of these
279	7	Which clause should be used when we can not use aggregate function with WHERE?	B	1	WHERE	HAVING	RESTRICT	GROUP BY
280	7	We can test for the nonexistence of tuples in a subquery by using the _____ .	B	1	Not exist	Not exists	Exist	Exists
281	7	Which of the following statements are TRUE regarding subqueries?	D	1	A subquery can retrieve zero or more rows	A subquery can appear on either side of a comparison operator	None of the above	Both A and B
282	7	Which of the following operators cannot be used in a sub-query?	A	1	NOR	<	>	<>
283	7	What happens if a subquery used in where clause returns no rows in PostgreSQL?	D	1	An error is thrown.	The main query continues execution without considering the subquery.	The main query returns NULL as the result.	The main query returns an empty result set.
284	7	What is the purpose of a correlated subquery in PostgreSQL?	D	1	To just insert the data into the table	To join specifically two tables	To only update data from table to other table	To perform filtering based on values from the outer query.
285	7	Student (sid, sch roll no, sname, saddress) School (sch id, sch name, sch address, sch phone) Enrol(sch id ,sch roll no, erollno, examname) ExmResult(erollno, examname, marks) What does the following SQL query output? SELECT sch name, COUNT (*) FROM School , Enrol , ExmResult WHERE sch id = school.sch id AND Enrol.examname = ExmResult.examname AND Enrol.erollno = exmResult.erollno AND marks = 100 AND sch id IN (SELECT sch id FROM student GROUP BY sch id HAVING COUNT (*) > 200)	D	1	For each school with more than 200 students appearing in exams, the name of the school and the number of 100s scored by its students	For each school with more than 200 students in it, the name of the school and the number of 100s scored by its students	For each school with more than 200 students in it, the name of the school and the number of its students scoring 100 in at least one exam	Nothing, the query has an error

Sr No	Unit Number	Question_Text	MCQ Answer	Marks	Option A	Option B	Option C	Option D
286	7	Which is true for ANY and ALL keyword in PostgreSQL?	C	1	ANY and ALL operators are used with WHERE or HAVING.	ANY and ALL operate on subqueries that return multiple values.	Both A. and B.	None of mentioned
287	7	Syntax for creating views is _____	A	1	CREATE VIEW View_name AS SELECT	CREATE VIEW AS UPDATE	DROP VIEW AS SELECT	CREATE VIEW AS UPDATE
288	7	Which of the following command makes the updates performed by the transaction permanent in the database?	B	1	ROLLBACK	COMMIT	TRUNCATE	DELETE
289	7	What command tells PostgreSQL that all of the changes you made to a database should become permanent?	C	1	Apply	Execute	Commit	Send
290	7	What is the purpose of the INNER JOIN in the given query?	B	1	To filter rows based on specific conditions.	To combine rows from table1 and table2 based on a matching column.	To sort the result set based on a specified column.	To group all row from both table
291	7	Group by - Having clause is placed before _____ clause and after _____ clause in SQL statement. (Select option with correct sequence to fill blanks.)	A	1	Order By, Where	Where, Order By	From, Where	Where, From
292	7	What is a correlated sub-query?	B	1	An independent query that uses the correlation name of another independent query.	A sub-query that uses the correlation name of an outer query	A sub-query that substitutes the names of the outer query	A sub-query that does not depend on its outer query's correlation names
293	7	Which statement is used to modify the definition of an existing view in PostgreSQL?	A	1	ALTER VIEW	UPDATE VIEW	MODIFY VIEW	RENAME VIEW
294	7	Which TCL command undo all the updates performed by thePostgre SQL in the transaction?	A	1	ROLLBACK	COMMIT	TRUNCATE	DELETE
295	7	Consider the following student relation: Student(name,rollno,marks,percentage,address,dob) Create an view from relation Student with fields name,rollno,percentage		1				
296	7	We have following relations EMP(EmpID,Empname,DepID,salary) DEP(DepID,DepName) 1) List all details of Employees whose salary is same as FORD or SMITH in desc order of Salary. 2) Find out the empid,empname and depname having same depid.		2				

Sr No	Unit Number	Question_Text	MCQ Answer	Marks	Option A	Option B	Option C	Option D
297	7	Write queries for the following. Customer (C_ID, F_Name, Last_name, Age, City) Account (ACC_No, Acc_type, C_ID,Balance) (1) Create a view Saving_account which contains the ACC_No, C_ID, Balance of saving account . (2) Display the name of Customer in descending order whose have saving account and City starts with 'A' .		2				
298	7	We have following relations EMP(EmpID,Empname,DepID,salary) DEP(DepID,DepName) 1) List the employees details whose jobs are same as ALLEN. 2) Find the employees details who are not working in sales Department.		2				
299	7	We have following relations worker(id,name,depid,salary,deptno) 1) List the worker details in dept 20 whose salary is greater than the average salary of dept 10 employees.		2				
300	7	we have following relations: employees(emp_id,name,dept_id) salaries (emp_id,salary) 1) Find out the names of employees who belong to the same department as Mark and salary greater than 50,000. 2) Find out names of employees whose salaries are greater than 50,000. 3) Retrieve the names of employees who have higher salary then John		3				
301	7	We have following relation movie_streaming(id,date,movie,director,number_of_streams) 1) Find the total number of streams by date. 2) Find the total number of streams by date and director. 3) Find the total number of streams by date and director. Show only dates with a total number of streams above 740.		3				
302	7	Write query for the following. employee(id,name,salary,address) department(d_id,d_name,id) (1) Create a view department_details of department table. (2) To join two existing tables using inner join. (3) To drop a view.		3				
303	7	Write queries for the following tables: T1 (Empno, Ename , Salary, Designation) T2 (Empno, Deptno.) (1) Display the Deptno in which Employee Seeta is working. (2) Display Empno, Ename, Deptno.		2				
304	7	Consider following schema and write SQL for given statements. worker (id,firstname,lastname,salary,joining_date,dept) bonus(id,bonus_date,amount) 1. Find firstname and lastname of worker whose amount is greater than 2400. 2. List out salary of worker with id who got bonus.		2				

Sr No	Unit Number	Question_Text	MCQ Answer	Marks	Option A	Option B	Option C	Option D
305	7	Write queries for the following. Employee (EID, Name, Age, Salary) Department (DID, D_Name, EID,Country) (1) Create a view Emp_India which contains the name, age and salary of Indian employees. (2) Display the name of employee in descending order whose Country starts with 'I'.		2				
306	7	We have following relations: employees(emp_id, first_name, last_name, email, salary, dept_id) departments(dept_id, dept_name, location_id) (1) Find the employee who is getting second highest salary. (2) Display all the employee name along with department name who are working neither in 'Marketing' Department nor earns more than 75000.		2				
307	7	we have following relations: Supplier(S#,sname,status,city) Parts(P#,pname,color,weight,city) SP(S#,P#,quantity) Answer the following queries. (1) Find s# of supplier who supplies 'red' part. (2) Count number of supplier who supplies 'red' part. (3) Sort the supplier table by sname?		3				
308	7	Consider following schema and write SQL for given statements. Student (RollNo, Name, DeptCode, City) Department (DeptCode, DeptName) Result (RollNo, Semester, SPI) 1. List out the RollNo, Name along with SPI of Student. 2. Display student name who got highest SPI in semester 1. 3. Display the list of students whose DeptCode is 5, 6,7,10.		3				
309	7	we have following relations: employees(emp_id, name, dept_id, city, DOJ) salaries (emp_id, salary) 1) Find out the names of employees who belong to the same department as John. 2) Find out names of employees whose salaries are greater than average salary. 3) Retrieve the names of employees who have corresponding entries of the salary.		3				
310	7	we have following relations: employees(employee_id,first_name,last_name,email,salary,department_id) departments(department_id,department_name,location_id) (1) Find the employees who have the highest salary. (2) Display all the employee name along with department name who are working neither in 'HR' Department nor earns more than 50000.		2				

Sr No	Unit Number	Question_Text	MCQ Answer	Marks	Option A	Option B	Option C	Option D
311	7	We have following relation orders(order_id,customer_id,order_date,amount) 1) Find out the number of orders for each customer by customer_id. 2) Find out the total amount by order_id and order_date. 3) Find out the number of orders for each customer by customer_id. Show only customer_id with number of orders above 5.		3				
312	7	We have following relation EMP(empo,ename,jobtitle,manager_no,hiredate,salary,deptno) DEPT (deptno, dname,location) 1) Find employees whose name start with letter A or letter a. 2) Find the employees who are working in smith's department. 3) Display employees who are getting maximum salary in each department.		3				
313	7	Consider following relations Instructor(id, name, dept_name,salary) Teaches (id,course_id,sec_id,sem(even/odd),year) 1) Find the number of instructors who teach a course in even semester of 2016. 2) List the instructors who ar not teaching in CE Department.		2				
314	7	we have following relations EMP(empno, ename, jobtitle, manager, hiredate, salary, deptno) DEPT(deptno, dname,location) Answer the following queries . 1) Find the Employees who get salary more than Chris salary. 2) Display department number along with the number of employees which belongs to that department number.		2				
315	7	Consider following schema and write SQL for given statements. title (id,designation,DOJ) bonus(id,bonus_date,amount) 1. List out bonus id whose designation is MANAGER . 2. List out id's whose bonus amount at most 4000 and designation is admin .		2				
316	7	Consider the relation Database. Person(SSN, name, city) Car(license_no, year, model, SSN) Accident(drive_no, SSN, license_no, accidentyear, damage_amt) 1) Find the name of driver who did not have an accident in 'Delhi'. 2) Find the cars sold in 2006 and whose owner are from vadodara. 3) How many different models of car are used by Mr.abc.		3				

Sr No	Unit Number	Question_Text	MCQ Answer	Marks	Option A	Option B	Option C	Option D
317	7	For given relation: Employee(eid, ename, address,deptname ,salary) Project(eid, pid, pname, location) (1) Display name and salary of employee who is taking maximum salary. (2) Display highest salary department wise and name of employee who is taking that salary. (3) Find details of employee who works on a pid equal to 10.		3				
318	7	Write queries for the following. Student_Result (Roll_No, Enrollment_No , Name, Div, Branch, Mentor , DBMS , DS , JAVA_II , MATHS_II , FEE) (1) Display branchwise count of student in descending order. (2) Display the roll no, name and mentor of student who got less than 9 marks in any subject. (3) Display the branchwise maximum total marks of all subject.		3				
319	8	Collection of operations that form a single logical unit of work are called _____	A	1	Transactions	Units	Network	Views
320	8	A transaction completes its execution is said to be _____.	D	1	Saved	Loaded	Rolled	Committed
321	8	The property of a transaction that persists all the crashes is called _____.	B	1	Atomicity	Durability	Isolation	Consistency
322	8	A schedule is serialized if it is equivalent to a _____ schedule.	B	1	Non-serial	serial	View	None of the mentioned
323	8	To synchronize the concurrent accessing of database items, we use :	C	1	Transactions	States	Locks	Tables
324	8	The most widely used structure for recording database modification is called as _____	D	1	List	Queue	Stack	Log
325	8	The value of the data item prior to the write is called as _____	C	1	Transaction identifier	Data-item identifier	Old value	New value
326	8	Database locking concept is used to solve the problem of:	D	1	Lost Update	Uncommitted Dependency	Inconsistent Data	All of the above
327	8	If a transaction has obtained a _____ lock, it can read but cannot write on the item	A	1	Shared mode	Exclusive mode	Read only mode	Write only mode
328	8	If a transaction has obtained a _____ lock, it can both read and write on the item	B	1	Shared mode	Exclusive mode	Read only mode	Write only mode
329	8	The two phase locking protocol consists which of the following phases?	C	1	Growing phase	Shrinking phase	Both Growing and Shrinking Phase	None of the mentioned
330	8	A transaction may not always complete its execution successfully. Such a transaction is termed as _____.	A	1	Aborted	Switched	Closed	All of the mentioned
331	8	Which of the following is not a state in transaction?	B	1	Active	Closed	Aborted	Partially committed
332	8	With regards to transaction processing, any DBMS should be capable of:	D	1	Ensuring that transactions are free from interference from other users.	Parts of a transaction are not lost due to a failure.	Transactions do not make the database inconsistent.	All of the above.

Sr No	Unit Number	Question_Text	MCQ Answer	Marks	Option A	Option B	Option C	Option D
333	8	If the state of the database no longer reflects a real state of the world that the database is supposed to capture, then such a state is called _____.	D	1	Consistent state	Parallel state	Atomic state	Inconsistent state
334	8	Consider the given two scenarios: (1) money is transferred from account-A to account-B and (2)money is debited from account-A . Which of the following forms a transaction?	C	1	Only 1	Only 2	Both 1 and 2 individually	None of the mentioned
335	8	What is ACID properties of Transaction?	B	1	Atomicity, Consistency, Isolation, Database	Atomicity, Consistency, Isolation, Durability	Atomicity, Concurrency, Isolation, Durability	Automatically, Concurrency, Isolation, Durability
336	8	Which of the following systems is responsible for ensuring durability?	D	1	Concurrency control system	Atomic system	Compiler system	Recovery system
337	8	A transaction enters the failed state after the system determines that the transaction can no longer proceed with its normal execution. Such a transaction must be rolled back. Then it enters the _____ state.	C	1	Active	Partially committed	Aborted	Inactive
338	8	Which of the following systems is responsible for ensuring isolation?	A	1	Concurrency control system	Atomic system	Compiler system	Recovery system

339	8	Consider the given schedules S1,S2,S3 given above . Which schedules are following two phase locking protocol(2PL)?
		
		 Schedule-S1
		 lock-X(B);
		 read(B);
		 B := B − 50;
		 write(B);
		 unlock(B);
		 lock-X(A);
		 read(A);
		 A := A + 50;
		 write(A);
		 unlock(A)
		
		 Schedule-S2
		 lock-X(B);
		 read(B);
		 B := B − 50;
		 write(B);
		 lock-X(A);
		 read(A);
		 A := A + 50;
		 write(A);
		 unlock(B);
		 unlock(A)
		
		 Schedule-S3
		 lock-X(A);
		 read(A);
		 A := A − 50;
		 write(A);
		 unlock(A);
		 lock-X(C);
		 read(C);
		 C := C + 50;
		 write(C);
		 unlock(C)
			D	1	Schedules S1 ,S2,S3 all are following 2PL.	Schedules S1 ,S2,S3 all are not following 2PL.	Schedules S1 ,S2 both are following 2PL .	Schedule S2 is following 2PL.

340	8	Which of the following statements is true for the following schedules: I) r1(A); w1(B); r2(B): w2(C); r3(C); w3(A); II) w3(A); r1(A); w1(B); r2(B): w2(C); r3(C);	D	1	I is conflict serializable	I is not conflict serializable	II is not conflict serializable	Both A and C
341	8	When one transaction nullifies the updates of another transaction, it is called:	B	1	Inconsistent retrievals	Lost Update	Dirty Read	None of the mentioned
342	8	Identify problem from given schedule S1: Ti : Read(A), Write(A), Abort Tj : Read(A), Commit S1	A	1	Dirty Read	Lost Update	Inconsistent retrievals	Unrepeatable Read

Sr No	Unit Number	Question_Text	MCQ Answer	Marks	Option A	Option B	Option C	Option D
343	8	Reading the data written by an uncommitted transaction is called _____.	B	1	Lost Update	Dirty Read	Unrepeatable Read	None of the mentioned
344	8	If the database modifications occur while the transaction is still active, the transaction is said to use the _____ modification technique	B	1	Deferred	Immediate	Log	None of the mentioned
345	8	Suppose a database system crashes again while recovering from a previous crash. Assume checkpointing is not done by the database either during the transactions or during recovery. Which of the following statements is/are correct?	C	1	The same undo and redo list will be used while recovering again	The system cannot recover any further	The database will become inconsistent	System will crash
346	8	We say that a transaction has been _____ when its commit log record has been output to stable storage.	C	1	Locked	Completed	Committed	Released
347	8	I and J are _____ if they are operations by different transactions on the same data item, and at least one of them is a write operation.	B	1	Overwriting	Conflicting	Overwriting	Durable
348	8	In which type of two phase locking protocol there no shrinking phase	C	1	2 phase locking protocol	Strict 2 phase locking protocol	Rigorous 2 phase locking protocol	Locking protocol
349	8	If a transaction may release locks but may not obtain any locks, it is said to be in _____ phase	B	1	Growing phase	Shrinking phase	Deadlock phase	Starved phase
350	8	Consider a simple checkpointing protocol and the following set of operations in the log. <T4,start>; <T4, y, 2, 3>; <T1,start>; <T4,commit>; <T1, z, 5, 7>; (checkpoint); <T2,start>; <T2, x, 1, 9>; <T2,commit>; <T3,start>; <T3, z, 7, 2>; If a crash happens now and the system tries to recover using both undo and redo operations, what are the contents of the undo list and the redo list?	A	1	Undo: T3, T1; Redo: T2	Undo: T3, T1; Redo: T2, T4	Undo: none; Redo: T2, T4, T3;	T1Undo: T3, T1, T4; Redo: T2
351	8	Which of the following protocols requires transactions to hold all locks until after the transaction has committed?	C	1	2 phase locking protocol	Starvation	Rigorous 2 phase locking protocol	Growing phase
352	8	If a transaction can be granted a lock on an item immediately in spite of the presence of another mode, then the two modes are said to be _____.	B	1	Concurrent	Compatible	Deadlock	Lock point
353	8	Consider the given scenario and label the problem in it: (1) T1 reads the value of X (= 10 say). (2) T2 reads the value of X (= 10). (3) T1 updates the value of X (from 10 to 15 say) in the buffer. (4) T2 again reads the value of X (but = 15).	C	1	Repeatable Read	Lost Update	Unrepeatable Read	Consistence

Sr No	Unit Number	Question_Text	MCQ Answer	Marks	Option A	Option B	Option C	Option D
354	8	Suppose system is using immediate database modification with checkpoint to maintain log for recovery from system crash. Following is snapshot of log: <t1, start> <t1, a, 100, 90> <t3, start> <t3, b, 400, 500> <t1, commit> <t3, abort> <checkpoint> <t4, start> <t4, C, 50, 500> <t2, start> <t2, D, 70, 80> <t4, commit> System Crash What actions will be taken by recovery manager to recover from system crash?	B	1	Redo – t1, t3, t4 Undo – t2	Ignore – t1,t3 Redo – t4 Undo- t2	Redo – t2	Ignore – t1,t3, t4
355	8	Which of the following occurs when one transaction reads a changed record that has not been committed to the database?	A	1	Dirty read	Consistent read	Lost Update	repeatable read
356	8	If a schedule S can be transformed into a schedule S' by a series of swaps of non-conflicting instructions, then S and S' are:	C	1	Non conflict equivalent	Atomic equivalent	Conflict equivalent	Isolation equivalent
357	8	When the transaction finishes the final statement, in which state the transaction enters into?	C	1	Active state	Committed state	Partially committed state	Abort state
358	8	Which of the following is an atomic sequence of database actions?	A	1	Transaction	Concurrency	Relations	All of the mentioned
359	8	_____ means that the data used during the execution of a transaction cannot be used by a second transaction until the first one is completed.	C	1	Consistency	Durability	Isolation	Atomicity
360	8	Which of the given property of transaction ensures that, The database system must take special actions to ensure that transactions operate properly without interference from concurrently executing database statements?	C	1	Atomicity	Durability	Isolation	Consistency
361	8	Execution of transaction in isolation preserves the _____ of a database.	C	1	Atomicity	Durability	Consistency	All of the mentioned
362	8	I and J are _____ if they are operations by different transactions on the same data item, and at least one of them is a write operation.	A	1	Conflicting	Overwriting	Isolated	Durable
363	8	A _____of the transactions can be obtained by finding a linear order consistent with the partial order of the precedence graph	A	1	Serializability order	Direction graph	Precedence graph	Scheduling scheme
364	8	When using Lock based protocol, each transaction must obtain a ___ on the data before it can read or write it.	C	1	Grant	Recovery	Lock	Request

Sr No	Unit Number	Question_Text	MCQ Answer	Marks	Option A	Option B	Option C	Option D
365	8	Consider the given log record. <T1 Start> <T1, A, 100, 200> <T1 Commit> Checkpoint1 <T2 Start> <T2, X,100,50> <T2 Abort> <T3 Start> <T3,Y,200,250> <T3,Z,500,450> System Failure What will be the value of X,Y and Z after recovery procedure is executed in case of immediate Database Modification technique is used for maintaining a log?	B	1	X=10, Y=200, Z=500	X=100, Y=200, Z=500	X=100, Y=200, Z=50	X=50, Y=200, Z=500
366	8	"Consider the following log sequence of two transactions on a bank accounts. Consider initial balance of account A is 2000, B is 3000, C is 4000. Consider the log given below system is using deferred database modification. 1) <T1 start > 2) <T1 , A , 2500 > 3) <T1 , B , 2500 > 4) <T1 commit > 5) < T2 start > 6) < T2 , A , 2750 > 7) < T2 , B , 2250 > 8) < T2 , C , 3500 > 9) <T2 commit > Suppose the database system crashes just before log record 9 is written. When the system is restarted, which one statement is true of the recovery procedure?	B	1	A=250 , B=250, C=400	A=2500 , B=2500, C=4000	A=2000 , B=2250, C=4000	A=2750 , B=2250, C=4000
367	8	Consider the following transaction with data items P and Q initialized to zero: T1 : read (P) read(Q) if P = 0 then Q : = Q + 1; write (Q) ; T2 : read (Q) ; read (P) ; if Q = 0 then P : = P + 1 ; write (P) ; Any non-serial interleaving of T1 and T2 for concurrent execution leads to ___.	C	1	A schedule which is both conflict serializable and View Serializable	Starvation	A schedule that is not conflict serializable	A schedule for which a precedence graph doesn't contain a cycle.

Sr No	Unit Number	Question_Text	MCQ Answer	Marks	Option A	Option B	Option C	Option D
368	8	Consider the following transaction involving two bank accounts x and y. read (x); x := x – 50 ; write (x) ; read (y) ; y:= y + 50 ; write (y) The constraint that the sum of the accounts x and y should remain constant is that of _____.	B	1	Atomicity	Consistency	Isolation	Durability
369	8	Let ri(z) and wi(z) denote read and write operations respectively on a data item z by a transaction Ti. Consider the following two schedules. S1 : r1(x) r1(y) r2(x) r2(y) w2(y) w1(x) S2 : r1(x) r2(x) r2(y) w2(y) r1(y) w1(x) Which one of the following options is correct?	B	1	S1 is conflict serializable and S2 is not conflict serializable	S1 is not conflict serializable and S2 is conflict serializable	Both S1 and S2 are conflict serializable	Neither S1 nor S2 is conflict serializable
370	8	Consider the following log sequence of two transactions on a bank account, with initial balance 12000, that transfer 2000 to a mortgage payment and then apply a 5% interest. 1) T1 start 2) T1 B old =12000 new =10000 3) T1 M old =0 new =2000 4) T1 commit 5) T2 start 6) T2 B old =10000 new =10500 7) T2 commit Suppose the database system crashes just before log record 7 is written. When the system is restarted, which one statement is true of the recovery procedure?	B	1	We must redo log record 6 to set B to 10500	We must undo log record 6 to set B to 10000 and then redo log records 2 and 3	We need not redo log records 2 and 3 because transaction T1 has committed	We can apply redo and undo operations in arbitrary order because they are idempotent
371	8	consider the schedule S given below. S: R1(X), W2(X), W1(X) Which of the following statement is correct?	C	1	S is view-serializable but not conflict-serializable.	S is conflict serializable but not view serializable.	S is neither view nor conflict serializable.	S is both view and conflict serializable.
372	8	Which of the following refers to a property of computer to run several operations simultaneously and possible as computers await response of each other	B	1	Deadlock	Concurrency	Backup	Recovery
373	8	Check whether given schedule is conflict serializable or not : R1(A);R3(A);W1(A);R2(A);W3(A).		2				
374	8	Consider the following three schedules having three transactions (indicated by the subscript) using read and write on a data item x, denoted by r(x) and w(x) respectively. Using the precedence graph test which schedule is/are conflict serializable. S1: R2(x); R1(x); W2(x); R3(x); W1(x) S2: R3(x); R2(x); R1(x); W2(x); W1(x) S3: R2(x); W2(x); R3(x); R1(x); W1(x)		2				
375	8	Consider below given schedule to draw the precedence Graph for it and also write the order of execution of the transaction. S12: r2(x); w2(x); r3(x); r1(x); w1(x)		2				
376	8	Test Serializability for the following schedule and also draw the precedence graph: r3(X);r2(X);w3(X);r1(X);w1(X) Conclude that the given Schedule is Serializable or not?		3				

Sr No	Unit Number	Question_Text	MCQ Answer	Marks	Option A	Option B	Option C	Option D
377	8	Consider below given schedule and check whether the given schedule is serializable or not using precedence graph. T1 T2 T3 T4 R(X) W(X) W(X) W(Y) R(Z) R(X) R(Y)		3				
378	8	Consider a database with objects X and Y and assume that there are two transactions T1 and T 2. Transaction T 1 reads objects X and Y and then writes object X. Transaction T 2 reads objects X and Y and then writes objects X and Y. 1. Give an example schedule with actions of transactions T1 and T 2 on objects X and Y that results in a write-read conflict. 2. Give an example schedule with actions of transactions T1 and T 2 on objects X and Y that results in a read-write conflict. 3. Give an example schedule with actions of transactions T1 and T 2 on objects X and Y that results in a write-write conflict.		5				
379	8	Test Serializability for the following schedule: r1(X);r3(X);w1(X);r2(X);w3(X) Conclude that the given Schedule is Serializable or not.		5				
380	8	Check whether the given schedule S is conflict serializable or not- T1 T2 T3 T4 R(X) W(X) Commit W(X) Commit W(Y) R(Z) Commit R(X) R(Y) Commit		2				
381	8	Check whether the given schedule S is view serializable or not. If yes, then give the serial schedule. T1 T2 T3 R (A) W (A) R (A) W (A) W (A)		3				

Sr No	Unit Number	Question_Text	MCQ Answer	Marks	Option A	Option B	Option C	Option D
382	8	Consider the following schedule. Find given schedule is conflict serializable or not . T1: Read(A), Read(B), Write(A) T2: Read(A), Read(B), Write(B) T3: Read(B), Write(B)		3				
383	9	Which of the following is used to input the entry and give the result in a variable in a procedure?	D	1	Put and get	Get and put	Out and In	In and out
384	9	Temporary stored procedures are stored in _____ database.	D	1	Master	Model	User specific	Temp
385	9	Triggers are supported in	D	1	Delete	Update	Views	All of these
386	9	Which of the following is an PostgreSQL-supported trigger?	D	1	BEFORE	INSTEAD OF	AFTER	All of these
387	9	The _____ clause specifies the table name on which the trigger is to be attached.	B	1	For	On	None	In
388	9	In order to remove a PL/pgSQL function, which statement is used?	D	1	REMOVE FUNCTION	DELETE FUNCTION	ERASE FUNCTION	DROP FUNCTION
389	9	In PL/pgSQL, which of the following describes the proper structure of an IF statement when dealing with multiple conditions?	D	1	Using IF...ELSE statements for each condition separately.	Using a single IF statement with multiple THEN clauses.	Using nested IF statements within each other.	Using ELSIF and ELSE clauses to handle multiple conditions in a single IF statement.
390	9	Which of the followings are types of triggers?	C	1	Define, Create	Drop, Comment	Insert, Update, Delete	All of these
391	9	Triggers _____ enabled or disabled	A	1	Can be	Cannot be	Ought to be	Always
392	9	The format for statements in PL/pgSQL block is	A	1	Begin ……. end	Begin atomic……. end	Begin ……. repeat	Both Begin ……. end and Begin atomic……. end
393	9	A _____ is a special kind of a store procedure that executes in response to certain action on the table like insertion, deletion or updation of data.	B	1	Procedures	Triggers	Functions	None of these
394	9	Which loop construct is used in PL/pgSQL for iterating over a range of values?	B	1	WHILE loop	FOR loop	DO loop	LOOP loop
395	9	What is the symbol for assignment operator in PL/pgSQL?	C	1	= =	=	:=	_=
396	9	What is the symbol for the operator used to compare equality between two variables in PL/pgSQL?	B	1	= =	=	:=	_=
397	9	An PL/pgSQL _____ refers to a program that retrieves and processes one row at a time, based on the results of the SQL statement.	A	1	Cursor	Function	Procedure	View
398	9	In PL/pgSQL, which of the following describes the purpose of a cursor?	D	1	To update data in a table	To define a stored procedure	To control the flow of execution in a loop	To retrieve and process a set of rows from a query result
399	9	PL/pgSQL function must contain a –	C	1	Follow Statement	GOTO statement	Returns Statement	Return Statement

Sr No	Unit Number	Question_Text	MCQ Answer	Marks	Option A	Option B	Option C	Option D
400	9	The _____ loop tests the condition before executing the statements, the _____ loop is sometimes referred to as a pretest loop.	C	1	for, for	while, while	Both A and B	None of these
401	9	A stored procedure in PL/pgSQL is a_____	B	1	Block of functions	Group of Transact-SQL statements compiled into a single execution plan.	Group of distinct SQL statements.	None of these

402	9	What is the output of the following PL/pgSQL block?
		CREATE OR REPLACE FUNCTION fx(x int, y int)
		returns int
		as $$
		DECLARE
		 z int;
		BEGIN
		 IF x > 2*y THEN
		 z:= x;
		 ELSE
		 z:= 2*y;
		 END IF;
		 RETURN z;
		END;
		$$
		LANGUAGE PLPGSQL;
		SELECT fx(23,47)
			A	1	94	23	47	Syntax error

403	9	How triggers are functioning?	B	1	Triggers generated after a particular operation	Triggers run after an insert, update or delete on a table	Triggers run after an insert, views, update or delete on a table	All of these
404	9	What is the difference between a PL/pgSQL function and a PL/pgSQL Procedure?	D	1	There is no difference	A procedure can return more than one value whereas a function can return only one value	A function can be called through an SQL SELECT statement but a procedure cannot.	Both B and C
405	9	Which of the following PL/pgSQL cursors is automatically created?	A	1	Implicit	Explicit	Exaggerate	Oversplit
406	9	Which of the following is/are cursor/s in PL/pgSQL?	D	1	FOUND	ROW_COUNT	NOTFOUND	All of the mentioned
407	9	Which cursor statement is used to place the content of the current row into variables?	A	1	fetch	get	open	close

Sr No	Unit Number	Question_Text	MCQ Answer	Marks	Option A	Option B	Option C	Option D
408	9	Which of the following statement/s is/are correct?	D	1	%TYPE: This declaration is used for the purpose of anchoring by providing the data type of any variable, column, or constant.	%ROWTYPE: This is used for declaring a variable that has the same data type and size as that of a row in the table.	None of them	Both A and B

409	9	What will be the output of following PL/pgSQL block?
		DO $$
		DECLARE
		  a INTEGER := 100;
		BEGIN
		  IF a = 50;
		    RAISE NOTICE 'Value of a is 10';
		  ELSIF a = 75 THEN
		    RAISE NOTICE 'Value of a is 20';
		  ELSE
		    RAISE NOTICE 'None of the values is matching';
		  END IF;
		
		  RAISE NOTICE 'Exact value of a is: %', a;
		END;
		$$;
			D	1	It will print 'values of a is 10'	It will print 'values of a is 20'	It will print 'values of a is 100'	It has syntax error

410	9	In the PL/pg SQL Cursor, which attribute is TRUE when a cursor has some remaining rows to fetch, and FALSE when a cursor has no rows left to fetch?	B	1	ROW_COUNT	FOUND	NOTFOUND	ISOPEN
411	9	Which of the following attributes of cursor is used to determine whether a cursor contains tuples after the execution of a FETCH statement.?	A	1	FOUND	NOTFOUND	ISCLOSE	ISOPEN
412	9	The statement that is executed automatically by the system as a side effect of the modification of the database is	D	1	Backup	Procedure	Assertion	Trigger

413	9	What is wrong in the following PL/pgSQL block?
		Do $$
		DECLARE
		 x int := 1;
		BEGIN
		 LOOP
		 x := x + 1;
		 IF x > 10 THEN
		 exit;
		 END IF;
		 Raise notice 'After Exit x is:%', x;
		END;
		$$
			B	1	IF statement not required	Syntax Error	END IF statement not required	There is nothing wrong

Sr No	Unit Number	Question_Text	MCQ Answer	Marks	Option A	Option B	Option C	Option D
414	9	The correct syntax to declare PL/pgSQL variable is –	C	1	variable_name initial_value:= datatype	variable_name datatype >= initial_value	variable_name datatype := initial_value	variable_name := initial_value
415	9	Write PL/pgSQL code block to increment the employee's salary by 1000 whose employee_id is 102 from Schema emp1 (eid, salary). Assume suitable data entry in emp1.		5				

416	9	What is the output of the following PL/pgSQL block?
		
		do $$
		DECLARE
		  a int:= 100;
		  b int:= 200;
		BEGIN
		  IF a=100 THEN
		    IF b<>200 THEN
		      Raise notice 'value is:%' ,b;
		    END IF;
		  END IF;
		  Raise notice 'value is:%' ,a;
		END;
		$$
			A	1	100	200	300	400

417	9	What will be the output ?
		CREATE PROCEDURE squareNum(x INOUT int) AS $$
		DECLARE
		  a int;
		BEGIN
		  x := x * x;
		END;
		$$ LANGUAGE plpgsql;
		
		DO $$
		DECLARE
		  a int;
		BEGIN
		  a := 5;
		  CALL squareNum(a);
		  RAISE NOTICE 'Result: %', a;
		END;
		$$;
			C	1	5	10	25	50

418	9	In PostgreSQL PL/pgSQL, which of the following statements about procedures is true?	D	1	Procedures cannot accept parameters.	Procedures always return a value.	Procedures are compiled and executed once when created.	Procedures can have OUT parameters to return multiple values.

Sr No	Unit Number	Question_Text	MCQ Answer	Marks	Option A	Option B	Option C	Option D
419	9	Which of the following statement/s is/are incorrect?	A	1	When a subquery returns more than one row, an implicit cursor is used.	When a subquery returns more than one row, an explicit cursor is used.	An implicit cursor is used for all DML operations like DECLARE, OPEN, FETCH, CLOSE.	None of these

420	9	In the PL/pgSQL block below, how many rows will be inserted in the messages table?
		DO $$
		DECLARE
		    Start1 INTEGER := 2;
		    end1 INTEGER := 100;
		    i INTEGER;
		BEGIN
		    FOR i IN Start1..end1 LOOP
		        INSERT INTO messages VALUES (i);
		    END LOOP;
		END;
		$$;
			B	1	0	99	1	100

421	9	Write a PL/pgSQL block to print the sum of even numbers from 1 to 100.		5				
422	9	Write a PL/pgSQL block to print the sum of odd numbers from 1 to 100.		5				
423	9	Write PL/pgSQL block to print sum of even numbers between 1 to 20.		5				
424	9	Write a PL/pgSQL block to print the sum of Numbers from 1 to 50.		5				
425	9	Write A PL/pgSQL block to print the given number is Odd or Even		5				
426	9	Write a PL/SQL cursor to increase the salary by 10% for the employees having salary less then 700000.		4				
427	9	Write a PL/pgSQL program function using WHILE loop for calculating the average of the numbers entered by in arrray in postgresql		5				
428	9	Write a PL/pgSQL procedure for transaction management system that includes the department table and transaction table with details as mentioned below Departments(dept_id, dept_name, balance) and transactions(transaction_id, from_dept_id, to_dept_id, amount,transaction_date)		3				
429	9	Write a PL/pgSQL code to find whether a given string is palindrome or not.		5				
430	9	Write PL/pgSQL program to find the sum of digits of a number.		5				
431	9	Write a PL/pgSQL program for inserting even numbers in EVEN table and odd number in ODD table from number 1 to 50.		5				
432	9	Write PL/pgSQL to find the greatest number among three numbers using the if-then-elseif statement		2				
433	9	Write a trigger for insertion of a row into supplier table. On executing the trigger sid less than zero should not be allowed. The schema isSupplier (sid, sname, city) Also show by inserting value in the table.		3				

Sr No	Unit Number	Question_Text	MCQ Answer	Marks	Option A	Option B	Option C	Option D
434	9	Write a PL/pgSQL cursor to display the names and branch of all students from the STUDENT relation. Assume suitable relation.		5				
435	9	Write a PL/pgSQL block using explicit cursor that will display the customer name, the fixed deposit number and the fixed deposit amount of the first 5 customers holding the highest amount in fixed deposits. Use following database: cust_mstr (custno, name, occupation) fd_dtls (fd_ser_no, fd_no, type, period, opndt, duedt, amt, dueamt) acct_fd_cust_dtls (acct_fd_no, custno)		5				
436	9	A stored function is created to perform the acct_no check operation. f_ChkAcctNo() is the name of function which accepts a variable acct_no from the user and returns value 0 if acct_no does not exist or 1 if acct_no exists.		5				
437	9	Write PL/pgSQL block to print whether the given number is Armstrong number or not.		5				
438	9	Write a Stored procedure to Insert Data in Student_Detail [Student_id,Name,Age,Class] table.		5				
439	9	Write a PL/pgSQL code to count the number of Sundays between the two inputted dates.		5				
440	9	A stored procedure is created to insert record in user table. Insertuser is the name of procedure which accepts a variable id and name from user table. Also call the procedure having id=101 and name=Raj and drop the procedure at the end. The schema is User (id int primary key, name varchar(100))		4				
441	9	Create a function using PL/pgSQL to find total number of customers in the customers table. Customers Id Name Department Salary 1 alex web developer 35000 2 ricky program developer 45000 3 mohan web designer 35000 Also call the function at the end		3				
442	10	_____ refers to the range of activities involved in extracting data from a database	B	1	Query Optimization	Query Processing	Parsing	Query Evaluation
443	10	The steps involved in processing _____	D	1	Parsing and translation	Optimization	Evaluation	All of these
444	10	_____ is the process of selecting the most efficient query-evaluation plan from among the many strategies usually possible for processing a given query, especially if the query is complex.	C	1	Query Processing	Regulary Expression	Query Optimization	SQL

Sr No	Unit Number	Question_Text	MCQ Answer	Marks	Option A	Option B	Option C	Option D
445	10	What is true about query optimization?	D	1	The cost of evaluating a query can vary depending on its type.	The evaluation plan is built by the system, so the user need not focus on writing their query efficiently.	An efficient query evaluation plan is generated by a database system, which minimizes its costs.	A, B and C
446	10	If the query was expressed in terms of a view, the _____ phase also replaces all uses of the view by the relational-algebra expression that defines the view.	C	1	Pairing	Parsing	Translation	Evaluation
447	10	The optimizer needs to generate alternative plans that produce the _____ as the given expression, and to choose the least-costly one.	D	1	partially different result	rows as result	columns as result	same result
448	10	Which statement is used to revoke an authorization?	A	1	Revoke	Modify	Alter	Define
449	10	Collections of operations that form a single logical unit of work are called _____.	D	1	Views	Networks	Units	Transactions
450	10	_____ is a technique of granting permission to authorized user to carry out particular transaction	D	1	Integrity	Productivity	Security	Authorization
451	10	Which form of Authorization allows the user only to read data?	B	1	Update Access	Read Access	Insert Access	Both A and B
452	10	Which of the following is the Form of Authorization Access?	D	1	Read Access	Update Access	Delete Access	All of these
453	10	MAC means _____.	B	1	Manual Acceptance Control	Mandatory Access Control	Mandatory Acceptance Control	Manually Allowance Control
454	10	Which is the lower level of System Control Authority?	A	1	System Maintenance	System Administrator	System Control	System Monitor
455	10	We can recover the lost transaction using_____	D	1	System Control	System Monitor	Authorization	Audit trail
456	10	_____is the default access Control mechanism for most desktop operating system	C	1	MAC	Role based access control (RBAC)	DAC	Rule-based (RBAC)
457	10	In a _____, operations do not wait for requests to produce tuples, but instead generate the tuples eagerly.	C	1	Parser	Translation	Producer-Driven pipeline	Evaluation plan
458	10	_____ refers to the structure of the data and how it matches the schema of the database.	B	1	Demand-Driven pipeline	Data Integrity	Data Security	Producer-Driven pipeline
459	10	Authentication refers to :	D	1	methods of restricting user access to system	Establishing Identity	controlling the operation on the data	All of these
460	10	With the Help of _____,User can check his Credentials by him self by entering login id & Password in any Examination System.	A	1	Authentication	Productivity	Security	Authorization

Sr No	Unit Number	Question_Text	MCQ Answer	Marks	Option A	Option B	Option C	Option D
461	10	RBAC is known as _____.	B	1	Rule Based Access Control	Non-Discretionary Access Control.	Rule Based Accepted Control	Non-Disable Access Control.
462	10	With the Help of _____User can check his Credentials by him self by entering login id & Password in any Examination System	A	1	Authentication	Security	Authorization	System control
463	10	Grants privileges on SQL authorization mechanism works on_____.	D	1	Entire relation	Specified tuples	Specified attributes	Both A and C
464	10	_____ may be transmissible from system to system	A	1	Authentication	Access Control	Security	None of these
465	10	The usual way of supplying access control to a database is depending on _____&_____ priviledges within database	A	1	Granting & Revoking	Logging & Logging off	Update & Tampering	Both A & B
466	10	Role Based Access Control is also known as_____	B	1	Rule-based (RBAC)	Non discretionary access control	discretionary access control	None of these
467	10	Given a relational-algebra expression, it is the job of _____ to come up with _____ that computes the same result as the given expression, and is the least-costly way of generating the result	C	1	query optimizer, expression tree	query evaluation engine, expression tree	query optimizer, query-evaluation plan	query evaluation engine, query evaluation plan
468	10	A user executes a query which the ___ system uses to generate the internal form of the query. In addition to checking the syntax of the query, the ___ verifies the name of the relation in the database, then the tuple, then the attribute value.	A	1	Parser and translator	Translation and Parser	Optimization and Evaluation	Evaluation and Optimization
469	10	Prevention of access to database by Unauthorized Users is refered as	C	1	Data Integrity	Data Productivity	Data Security	Data Reliability
470	10	With the rule-based model, _____ sets access management rules that can allow or deny user access to specific areas, regardless of an employee's other permissions.	D	1	security professional	system administrator	system manager	A or B
471	10	Which statements are true? 1) Data security deals with protection of data. 2) Data integrity deals with the validity of data. 3) Data integrity is making sure the data is correct and not corrupt. 4) Data security refers to the making sure that data is accessed by its intended users, thus ensuring the privacy and protection of data.	D	1	Only 1 and 2	Only 1 and 3	Only 2 and 3	All statements are true
472	10	Given figure is identified as:	B	1	Encryption Matrix	Access Control Matrix	Access Control List	Audit Matrix
473	10	In query processing, system must first translate given query into which form?	A	1	Internal form	Physical form	high level form	New form
474	10	In generating the internal form of the query, the parser checks _____	D	1	Syntax of query	Verifies relation name	None of given	Option A and B

Sr No	Unit Number	Question_Text	MCQ Answer	Marks	Option A	Option B	Option C	Option D
475	10	Query-evaluation plan that minimizes the cost of query evaluation is a duty of _____.	A	1	Database System	Database User	Database Admin	Programmer
476	10	_____ defines exactly what algorithm should be used for each operation, and how the execution of the operations should be coordinated	B	1	Query Engine	Evaluation plan	Query Optimizer Engine	Expression tree
477	10	Evaluation Primitive(s) is/are made up of:	A	1	Relational algebra operation(s)	Annotation of Instruction	QEP	PipelIne
478	10	A sequence of primitive operations that can be used to evaluate a query is known as_____	A	1	Query Evaluation plan	Optimization chart	Query Processing plan	Parsing query
479	10	Which Role in Authorization can execute some data administration command like restore or Upgrade a database?	A	1	System Administrator	System Control	Both A & B	System Monitor
480	10	What is used if any tampering with the database is suspected?	B	1	Database Locking	Database Audit	Database Updation	Database Prevention
481	10	Which form of access control enables data owners to extend access rights to other logins?	B	1	MAC	DAC	Role-based (RBAC)	Rule-based (RBAC)
482	10	What is Used to define Access Permission?	A	1	Access matrix	DAC	System Control	Authorization
483	10	Which Security Strategy is generally used in government and military services?	A	1	MAC	Role based access control (RBAC)	DAC	Rule-based (RBAC)
484	10	Given a relational-algebra expression, it is the job of _____ to come up with _____that computes the same result as the given expression, and is the least-costly way of generating the result	D	1	query optimizer, expression tree	parser, translation	expression tree, query optimizer	query optimizer, query-evaluation plan
485	10	Authentication refers to: i. provide integrity control to the data. ii. transmissible from system to system iii. process of verifying who you are iv. verifies what you are authorized to do or not to do	A	1	i, ii and iii	only iv	ii, iii and iv	i, ii and iv
486	10	Which of the following statements is/are true? i. RBAC is also known as Non-Discretionary Access Control. ii. It is necessary to understand each user's functionality in depth in RBAC. iii. The security cannot be easily maintained in RBAC.	C	1	Only i	Only iii	Only i and ii	Only i and iii
487	10	Which statements are true? 1) Data security deals with protection of data. 2) Data integrity deals with the validity of data. 3) Data integrity is making sure the data is correct and not corrupt. 4) Data integrity refers to the making sure that data is accessed by its intended users, thus ensuring the privacy and protection of data.	D	1	Only 1	Only 2	Only 1 and 2	Only 1,2 and 3

Sr No	Unit Number	Question_Text	MCQ Answer	Marks	Option A	Option B	Option C	Option D
488	10	Match the following: A) evaluation primitive 1) takes a query-evaluation plan, executes that plan, and returns the answers to the query B) query-execution plan 2) A relationalalgebra operation annotated with instructions on how to evaluate it c) query-execution engine 3) A sequence of primitive operations that can be used to evaluate a query	A	1	A-2, B-3, C-1	A-1, B-3, C-2	A-3, B-1, C-2	A-3, B-2, C-1
489	10	Which statement(S) is/are true? A) A query could be expressed in SQL several different ways. B) SQL query can be translated into a relationalalgebra expression in one of several ways. C) There are several ways to evaluate relational-algebra expressions D) We can execute each relational-algebra operation by one of several different algorithms.	D	1	Only A,B	Only A,C,D	Only D	All A,B,C,D
490	10	A security manager is setting up resource permissions in an application. The security manager has discovered that he can establish objects that contain access permissions, and then assign individual users to those objects. The access control model that most closely resembles this is:	D	1	Access matrix	Mandatory access control (MAC)	Discretionary access control (DAC)	Role based access control (RBAC)
491	10	Which one of the Following is True for DAC ? i. Users can transfer their object ownership to another user. ii. The access type of other users can be determined by the user. iii. Authorization failure can restrict the user access after several failed attempts. iv. Unauthorized users will be blind to object characteristics called file size, directory path, and file name.	D	1	I and II	I and IV	I,II and III	I,II,III and IV
492	10	_____ has an enforced operating system that can label and delineate incoming application data.	A	1	MAC	Role based access control (RBAC)	DAC	Rule-based (RBAC)
493	10	Under _____access is allowed or denied to resource objects based on a set of rules defined by a system administrator	D	1	MAC	Role based access control (RBAC)	DAC	Rule-based (RBAC)
494	10	Role Based Access Control grants access based on a user's role and implements key security principles such as _____ and_____	A	1	least privilege and separation of privilege	position and location	central authority regulations and user-specified rules	assigning access rights and user-specified rules
495	10	Which statements are true for Role based access control (RBAC) rules ? 1) It restricts database access based on a person's role within an organization. 2) The roles in RBAC refer to the levels of access that employees have to the Network. 3)Employees are only allowed to access the information necessary to effectively perform their job duties. 4) Lower-level employees usually do not have access to sensitive data if they do not need it to fulfil their responsibilities.	D	1	Only 1 and 2	Only 1 and 3	Only 3 and 4	All 1,2,3 and 4

Sr No	Unit Number	Question_Text	MCQ Answer	Marks	Option A	Option B	Option C	Option D
496	10	Match the following: A) query-execution engine 1) A relational algebra operation annotated with instructions on how to evaluate it B) query-execution plan 2) takes a query-evaluation plan, executes that plan, and returns the answers to the query C) evaluation primitive 3) system first translate given query into internal form D) query processing 4) A sequence of primitive operations that can be used to evaluate a query	B	1	A-1, B-2, C-3, D-4	A-2, B-4, C-1, D-3	A-4, B-2, C-3, D-1	A-4, B-3, C-2, D-1
497	10	In authorization graph if DBA provides authorization to u1 which in turn gives to u2 which of the following is correct ?	C	1	If DBA revokes authorization from u1 then u2 authorization is also revoked.	If u1 revokes authorization from u2 then u2 authorization is revoked	If DBA & u1 revokes authorization from u1 then u2 authorization is also revoked	If u2 revokes authorization then u1 authorization is revoked