MARWADI UNIVERSITY

Branch/ Semester	Bachelor of Computer Applications
Subject Name:	RDBMS
Subject Code:	05MC0105
Assignment:	Strategic coaching assignment
Date:	11-11-2024
Group:	**Premium**

1. Create following table : product

Field Name	Data Type	Size	Constraints
ProductID	NUMBER	3	PRIMARY KEY
ProductName	VARCHAR	100	NOT NULL
Category	VARCHAR	50	NULL allowed
Description	VARCHAR	255	NULL allowed
Price	DECIMAL	(10,2)	NOT NULL, CHECK (Price >= 0)
QuantityInStock	NUMBER	3	NOT NULL, DEFAULT 0, CHECK (QuantityInStock >= 0)
SupplierID	NUMBER	4	
AddedDate	DATE	—	DEFAULT (CURRENT_DATE)
Status	VARCHAR	20	DEFAULT 'Available'

Order:

Field Name	Data Type	Size	Constraints
OrderID	NUMBER	3	PRIMARY KEY
CustomerName	VARCHAR	100	NOT NULL
CustomerPhone	VARCHAR	15	NULL allowed
OrderDate	DATE	—	DEFAULT (CURRENT_DATE)
ProductID	NUMBER	3	FOREIGN KEY REFERENCES Product(ProductID), NOT NULL
QuantityOrdered	NUMBER	5	NOT NULL, CHECK (QuantityOrdered > 0)
TotalAmount	DECIMAL	(10,2)	NOT NULL, CHECK (TotalAmount >= 0)
Status	VARCHAR	20	DEFAULT 'Pending'

1. Update the **price** of one product by 10.
2. Update the **quantity ordered** in one of the orders were ordered=101
3. Change the **status** of an order from *Pending* to *Confirmed*.
4. Show all products with their details.
5. Show all confirmed orders with customer names and product IDs.

6. Find products that cost more than **5000**.
7. Count how many orders were placed for each product.
8. Find the **most expensive product** in the Product table.
9. Write a query to display each order with its product name.
10. Display all orders where the product belongs to the **Electronics category**.
11. Show all product names , category and description in **uppercase**
12. **Round off** product price and display it with product name
13. Show the **highest** and **lowest** product price.
14. Find out sum of total amount as per status
15. Show first 5 characters of each product name.

2. Create following tables.

Transport

Field Name	Data Type	Size	Constraints
VehicleID	NUMBER	6	PRIMARY KEY,
VehicleNumber	VARCHAR	20	NOT NULL, UNIQUE
VehicleType	VARCHAR	50	NOT NULL
Capacity	NUMBER	3	NOT NULL
Status	VARCHAR	20	DEFAULT 'Available'
PurchaseDate	DATE	—	NULL allowed

Drivers

Field Name	Data Type	Size	Constraints
DriverID	NUMBER	6	PRIMARY KEY
DriverName	VARCHAR	100	NOT NULL
LicenseNumber	VARCHAR	50	NOT NULL, UNIQUE
PhoneNumber	VARCHAR	15	NULL allowed
ExperienceYears	NUMBER	2	DEFAULT 0
Status	VARCHAR	20	DEFAULT 'Active'

1. Display all records from both tables
2. Display drivername , license number along with status
3. Display all whose status is 'Active'
4. Display all and arrange by experience years
5. Display vehical no, name and status where capacity is 5 and status is 'Available'
6. Arrang all vehical by its capacity.
7. Display driver name (UPPERCASE), licence number(TITLE CASE), Status (LOWERCASE) along with experience
8. Show all **vehicle numbers** in **uppercase,**

	9. Find the **length of each vehicle type**. 10. Combine **driver name and license number** into one column. 11. Remove extra spaces from **trip source and destination** 12. Count the **total number of vehicles**. 13. Find the **average vehicle capacity**. 14. Find the **maximum and minimum driver experience**. 15. Replace **NULL phone numbers** with "No Phone".

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Group:	**Average**

1.	Write down the difference between DBMS and RDBMS.
2.	Write a note on database users.
3.	Explain functional dependency in detail
4.	Explain normalization in details with example.
5.	A booking table contains following fields. Write down query to construct the table using constraints and write down queries for all instructions also.

Field Name	Data Type	Size	Constraint
BookingID	INT	—	PRIMARY KEY,
CustomerName	VARCHAR	20	NOT NULL
CustomerEmail	VARCHAR	20	NULL allowed
CustomerPhone	VARCHAR	15	NULL allowed
ServiceType	VARCHAR	20	NOT NULL
BookingDate	DATE	—	NOT NULL
BookingTime	TIME	—	NULL allowed
Status	VARCHAR	20	DEFAULT 'Pending'
PaymentStatus	VARCHAR	20	DEFAULT 'Unpaid'
Amount	DECIMAL	(10,2)	NULL allowed

1. Describe table
2. Insert statement to insert record
3. Display customer name, amount and payment status
4. Display all customers whose name begin with ‘S’
5. Display all whose email id is NULL
6. Display all where status is ‘Pending’ and Payment status is ‘Paid’
7. Display all where status is ‘Pending’ OR Payment status is ‘Unpaid’
8. Display all and arrange by payment status
9. Display all and arrange by booking date
10. Display booking id, customer name, booking date and time and arrange as per booking time
11. Find out total amount according to payment status
12. Find out average amount according to status

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Group:	**Challenging**

1.	Write down the characteristics of DBMS
2.	Write a note ANSI SPARC architecture
3.	Explain data independence .
4.	Explain cardinality with types.
5.	Write down the difference between
	1. Strong and weak entity 2. Stored and derived attributes 3. Generalization and specialization 4. First normal form and third normal form 5. Lossy decomposition and lossless decomposition