MYSQL REVISION TOUR

TYPE A: Very Short Answer Questions

1	**What is MySQL server?**
Ans.	MySQL server listens for client requests coming in over the network and accesses database contents according to those requests and provides that to the clients.
2	**What is MySQL client?**
Ans.	**MySQL clients** are programs that connect to the MySQL server and issue queries in a pre-specified format. MySQL is compatible with the standards based SQL. The client program may contact the server programmatically or manually.
3	**What is SQL? What are the different categories of SQL commands?**
Ans.	**SQL** is the set of commands that is recognized by nearly all RDBMSs. SQL commands can be divided into following categories: 1. Data definition Language (DDL) commands. 2. Data Manipulation Language (DML) Commands. 3. Transaction Control Language (TCL) Commands. 4. Session Control Commands. 5. System Control Commands.
4	**What does Data Dictionary consists of?**
Ans.	Data Dictionary consists of metadata i.e., data about data.
5	**Maximum how many characters can be stored in a** **(i) Text literal Numeric literal?**
Ans.	(i) 4000 bytes 53 digits of precision
6	**What is datatype? Name some datatypes available in MySQL.**
Ans.	Data types are means to identify the types of data associated operations for handling it. 1. INT 2. FLOAT 3. DOUBLE 4. DATE 5. CHAR 6. VARCHAR
7	**What is null value in MySQL database? Can you use nulls in arithmetic expressions?**
Ans.	If a column in a row has no value, then column is said to be null, or to contain a null. No, we can not use nulls in arithmetic expressions.
8	**Which keyword eliminates the redundant data from a query result?**
Ans.	DISTINCT
9	**How would you display system date as the result of a query?**
Ans.	mysql> SELECT curdate();
10	**How would you calculate 13*15 in SQL?**
Ans.	mysql> SELECT 13*15;
11	**Define a function.**
Ans.	A function is a special type of predefine command set that performs some operation and returns a single value.
12	**What will be the output of following code? mysql> SELECT CONCAT (CONCAT ('Inform' , 'atics'), 'Practices');**
Ans.	InformaticsPractices
13	**What will be the output of following code? mysql> SELECT LCASE ('INFORMATICS PRACTICES CLASS 11TH');**
Ans.	informatics practices class 11th
14	**What will be the output of following code? mysql> SELECT UCASE ('Computer studies');**
Ans.	COMPUTER STUDIES
15	**What will be the output of following code? mysql> SELECT CONCAT (LOWER ('Class'), UPPER('xii'));**
Ans.	classXII
16	**If Str="INFORMATICS PRACTICES……" and Str1="…..FOR CLASS XI"**
Ans.	Incomplete question. Question should be display both string as "INFORMATICS PRACTICES FOR CLASS XI" whose

	answer will SELECT CONCAT(Str,Str1);
17	**Write SQL statement to display** **Today, the date is <current date>**
Ans.	select concat("Today, the date is ",curdate());
18	**What is constraint? Name some constraints that you can apply to enhance database integrity.**
Ans.	A **constraint** is a condition or check applicable on a field or set of fields. 1. NOT NULL 2. DEFAULT 3. UNIQUE 4. CHECK 5. PRIMARY KEY 6. FORGIN KEY
19	**What is role of UNIQUE constraint? How is PRIMARY KEY constraint different from UNIQUE constraint?**
Ans.	The UNIQUE constraint uniquely identifies each record in a database table. Multiple UNIQUE constraints can be defined on a table whereas multiple PRIMARY KEY constraints cannot be defined on a table. Primary Key can't accept null values. Whereas Unique key can accept only one null value. We can have only one Primary key in a table. Whereas We can have more than one unique key in a table.
20	**What is primary key? What is PRIMARY KEY constraint?**
Ans.	A **primary key** is a set of one or more attributes that can uniquely identify tuples within the relation. The **primary key constraint** is a column or set of columns that uniquely identifies each row in a table.
21	**What is NOT NULL constraint? What is DEFAULT constraint?**
Ans.	A constraint on a column that specifies that the column cannot contain NULL values. The DEFAULT constraint is used to insert a default value into a column.The default value will be added to all new records, if no other value is specified.
22	**When a column's value is skipped in an INSERT command, which value is inserted in the database?**
Ans.	When a column's value is skipped in an INSERT command, null value is inserted in the database.
23	**What is the error in following statement?** **UPDATE EMPL;**
Ans.	The UPDATE command specifies the rows to be changed using the WHERE clause, and the new data using the SET keyword. **example –** UPDATE EMPL SET gross=gross*2;
24	**Identify the error:** **DELETE ALL FROM TABLE EMPL;**
Ans.	DELETE FROM EMPL;
25	**Write MySQL command to display the list of existing databases.**
Ans.	SHOW DATABASES;
26	**Mr. William wants to remove all the rows from Inventory table to release the storage space, but he does not want to remove the structure of the table. What MySQL statement should he use?**
Ans.	DELETE FROM Inventory;
27	**(a) What is the purpose of ORDER BY clause in MySql? How is it different from GROUP BY clause?** **(b) Table SCHOOL has 4 rows and 5 columns. What is the Cardinality and Degree of this table?**
Ans.	(a) ✓ Order by clause is used to sort a particular field in either ascending order or descending order. **Difference:** ✓ ORDER BY is used in MySQL query to sort the result in specified columns name whereas GROUP BY is used to group your result in specified columns. ✓ The GROUP BY clause must come after any WHERE clause and before any ORDER BY clause while ORDER BY takes the name of one or more columns by which to sort the output. (b) The cardinality is 4 and the degree is 5.

28	**Write MySql command will be used to open an already existing database "CONTACTS".**
Ans.	USE CONTACTS;

TYPE B: Short Answer Questions

1	**What is the role of database server in database management system? Give the key features of MySQL.**
Ans.	Server listens for client requests coming in over the network and access database contents according to those requests and provides that to the clients. following are the key feature of MYSQL **Some of the features of MySQL are :** ✓ Fast speed ✓ Ease of use ✓ Query Language Support ✓ Portability ✓ Connectivity ✓ Localization
2	**How are SQL commands classified?**
Ans.	SQL provides many different types of commands used for different purpose. SQL commands can be mainly divided into following categories: 1. Data Definition Language (DDL) – commands that allow you to perform tasks related to data definition e.g., ✓ Creating, altering and dropping. ✓ Granting and revoking privileges and roles. ✓ Maintenance commands 2. Data Manipulation Language (DML) – commands that allow you to perform data manipulation e. g., ✓ Retrieval, insertion, deletion and modification of data stored in a database. 3. Transaction Control Language (TCL) – commands that allow you to manage and control the transactions e.g., ✓ Making changes to database permanent ✓ Undoing changes to database, permanent ✓ Creating savepoints ✓ Setting properties for current transactions.
3	**Differentiate between DDL and DML commands.**
Ans.	The **Data Definition Language (DDL)** commands, as the name suggests, allow you to perform tasks related to data definition. That is, through these commands, you can perform tasks like, create, alter and drop schema objects, grant and revoke privileges etc. The **Data Manipulation Language (DML) commands**, as the name suggests, are used to manipulate data. That is, DML commands query and manipulate data in existing schema objects.
4	**Write SQL commands for the following on the basis of given table CLUB** **Table: CLUB**

TABLE: CLUB

COACH_ID	COACHNAME	AGE	SPORTS	DATOFAPP	PAY	SEX
1	KUKREJA	35	KARATE	1996-03-27	1000	M
2	RAVINA	34	KARATE	1998-01-20	1200	F
3	KARAN	34	SQUASH	1998-02-19	2000	M
4	TARUN	33	BASKETBALL	1998-01-01	1500	M
5	ZUBIN	36	SWIMMING	1998-01-12	750	M
6	KETAKI	36	SWIMMING	1998-02-24	800	F
7	ANKITA	36	SQUASH	1998-02-20	2200	F
8	ZAREEN	37	KARATE	1998-02-22	1100	F
9	KUSH	41	SWIMMING	1998-01-13	900	M
10	SHAILYA	37	BASKETBALL	1998-02-19	1700	M

(a) To show all information about the swimming coaches in the club.
(b) To list names of all coaches with their date of appointment (DATOFAPP) in descending order.
(c) To display a report, showing coachname, pay, age and bonus (15% of pay) for all the coaches.
(d) Give the output of following SQL statements:
(i) SELECT LCASE (SPORTS) FROM Club;
(ii) SELECT MOD(Age, 5) FROM CLUB WHERE Sex='F';

(iii) SELECT POWER(3,2) FROM CLUB WHERE Sports='KARATE';
(iv) SELECT SubStr(CoachName, 1, 2) FROM CLUB WHERE Datofapp>'1998-01-31';

Ans.

```
(a) SELECT * FROM CLUB WHERE SPORTS= 'SWIMMING';
(b) SELECT COACHNAME, DATOFAPP FROM CLUB ORDER BY DATOFAPP DESC;
(c) SELECT COACHNAME, PAY, AGE, PAY*0.15 AS "BONUS" FROM CLUB;
```

(i)

LCASE(SPORTS)
karate
karate
squash
basketball
swimming
swimming
squash
karate
swimming
basketball

(ii)

MOD(Age,5)
4
1
1
2

(iii)

POWER(3,2)
1
1
1

(iv)

SubStr(Coach_Name, 1, 2)
KA
KE
AN
ZA
SH

5 **Write SQL commands for the following on the basis of given table STUDENT**

Table: STUDENT1

No	Name	Stipend	Stream	AvgMark	Grade	Class
1	Karan	400	Medical	78.5	B	12B
2	Divakar	450	Commerce	89.2	A	11C
3	Divya	300	Commerce	68.6	C	12C
4	Arun	350	Humanities	73.1	B	12C
5	Sabina	500	Nonmedical	90.6	A	11A
6	John	400	Medical	75.4	B	12B
7	Robert	250	Humanities	64.4	C	11A
8	Rubina	450	Nonmedical	88.5	A	12A
9	Vikas	500	Nonmedical	92.0	A	12A
10	Mohan	300	Commerce	67.5	C	12C

(a) Select all the Nonmedical stream students from STUDENT1.
(b) List the names of those students who are in class 12 sorted by Stipend.
(c) List all students sorted by AvgMark in descending order
(d) Display a report, listing Name, Stipend, Stream and amount of stipend received in a year assuming that the Stipend is paid every month.
(e) Give the output of following SQL statement:
(i) SELECT TRUNCATE (AvgMark,1) FROM Student1 Where AvgMark<75;
(ii) SELECT ROUND (AvgMark) FROM Student1 WHERE Grade='B';
(iii) SELECT CONCAT (Name, Stream) FROM Student1 WHERE Class='12A';
(iv) SELECT RIGHT (Stream, 2) FROM Student

Ans.

(a) SELECT * FROM club WHERE student1 LIKE 'Nonmedical';
(b) SELECT name FROM student1 WHERE class LIKE '12%' ORDER BY stipend;
(c) SELECT * FROM student1 ORDER BY AvgMark;
(d) SELECT Name, Stipend, Stream, Stipend*12 AS "Amount of Stipend" FROM student1;
(e)

(i)

TRUNCATE(AvgMark,1)
78.5
89.2
86.6
73.1
90.6
75.4
64.4
88.5
92.0
67.5

(ii)

ROUND(AvgMark)
79
89
69
73
91
75
64
89
92
66

(iii)

CONCAT(Name,Stream)
RubinaNonmedical
VikasNonmedical

(iv)

RIGHT(Stream,2)
al
ce
ce
es
al
al
es
al
al
ce

6	**What is foreign key? How do you define a foreign key in your table?**
Ans.	A foreign key is a column in a table where that column is a primary key of another table, which means that any data in a foreign key column must have corresponding data in the other table where that column is the primary key. **Defining FOREIGN KEY** Foreign key can be created in two ways: **1.CREATE TABLE** Foreign key (<column-to-be-designated-as-foreign-key>) references Master-Table (<primary-key-of-master-table>); **2. ALTER TABLE** ALTER TABLE <table-name> ADD FOREIGN KEY (<column- column-to-be-designated-as-foreign-key>) references Master-Table (<primary-key-of-master-table>);
7	**How is a FOREIGN KEY command different from PRIMARY KEY command?**
Ans.	Primary key uniquely identify a record in the table. Whereas Foreign key is a field in the table that is primary key in another table. Primary Key can't accept null values. Whereas Foreign key can accept multiple null value. We can have only one Primary key in a table. Whereas We can have more than one foreign key in a table.
8	**How is FOREIGN KEY commands related to the PRIMARY KEY?**
Ans.	FOREIGN KEY depends on PRIMARY KEY of another table so we have to mention the reference of the primary key, due this we can say FOREIGN KEY is related to PRIMARY KEY.
9	**What are table constraints? What are column constraints? How are these two different?**
Ans.	The difference between column constraint and table constraint is that column constraint applies only to individual columns, whereas table constraints apply to groups of one or more columns.
10	**Insert all those records of table Accounts into table Pending where amt_outstanding is more than 10000.**
Ans.	CREATE TABLE Pending AS (SELECT * FROM Accounts WHERE amt_outstanding>10000);
11	**Increase salary of employee records by 10% (table employee).**

Ans. UPDATE employee SET sal=sal+(sal*10/100);

12 **Add a constraint (NN-Grade) in table Empl that declares column Grade not null.**

Ans. ALTER TABLE Empl ADD CONSTRAINT NN-Grade NOT NULL (Grade);

13 **Drop the table Empl.**

Ans. DROP TABLE Empl;

14 **Differentiate between :**

(i) DROP TABLE, DROP DATABASE

(ii) DROP TABLE, DROP Clause of ALTER TABLE.

Ans. (i) DROP TABLE statement is used to delete the table only from the database whereas DROP DATABASE statement is used to delete the entire database including tables and other objects.

(ii) By DROP clause of ALTER TABLE we can delete column, primary key, foreign key from table.

15 **Mr. Mittal is using a table with following columns: Name, Class, Stream_Id, Stream_name**
He needs to display names of students who have not been assigned any stream or have been assigned stream_name that ends with "computers".
He wrote the following command, which did not give desired result.

```
SELECT Name, Class FROM Students
WHERE Stream_name = NULL OR Stream_name = "%computers";
```

Help Mr. Mittal to run the query by removing the error and write correct query.

Ans. SELECT Name, Class FROM Students WHERE Stream_name IS NULL OR Stream_name LIKE "%computers";

16 **Consider the Table SHOPPE given below. Write command in MySql for (i) to (iv) and output for (v) to (vii)**

Code	Item	Company	Qty	City	Price
102	Biscuit	Hide & Seek	100	Delhi	10.00
103	Jam	Kissan	110	Kolkata	25.00
101	Coffee	Nestle	200	Kolkata	55.00
106	Sauce	Maggi	56	Mumbai	55.00
107	Cake	Britannia	72	Delhi	10.00
104	Maggi	Nestle	150	Mumbai	10.00
105	Chocolate	Cadbury	170	Delhi	25.00

(i) To display names of the items whose name starts with 'C' in ascending order of Price.

(ii) To display code, Item name and City of the products whose quantity is less than 100.

(iii) To count distinct Company from the table.

(iv) To insert a new row in the table Shoppe
'110','Pizza','Papa Jones',120,"Kolkata",50.0

(v) Select Item from Shoppe where Item IN("Jam"," Coffee");

(vi) Select Count(distinct(City)) from Shoppe;

(vii) Select MIN(Qty) from Shoppe where City="Mumbai";

Ans. (i) SELECT Item FROM SHOPPE WHERE Item LIKE 'c%' ORDER BY Price;

(ii) SELECT Code,Item,City FROM SHOPPE WHERE Qty<100;

(iii) SELECT COUNT(DISTINCT(Company)) FROM SHOPPE;

(iv) INSERT INTO SHOPPE VALUES (110,'Pizza' , 'Papa Jones',120, 'kolkata' , 50.0);

(v)
Item
Jam
Coffee

(vi) 3

(vii)
MIN(Qty)
56

17 **The Doc_name Column of a table Hospital is given below:**

Doc_name
Avinash
Hariharan

Vinayak
Deepak
Sanjeev

Based on the information, find the output of the following queries:

(i) SELECT doc_name FROM HOSPITAL WHERE Doc_name like "%v";

(ii) SELECT doc_name FROM HOSPITAL WHERE Doc_name like "%e%";

Ans.

(i) Sanjeev

(ii) Deepak
Sanjeev

18. **Sarthak, a student of class XII, created a table "Class". Grade is one of the columns of this table. To find the details of students whose Grades have not been entered, he wrote the following MySql query, which did not give the desired result:**

SELECT * FROM Class WHERE Grade="Null";

Help sarthak to run the query by removing the errors from the query and write the correct Query.

Ans. SELECT * FROM Class WHERE Grade IS NULL;

19 **What is the purpose of DROP TABLE command in MySql? How is it different from DELETE command?**

Ans. The DROP command is used to remove a table.

Difference:

1. DELETE command removes rows from a table while DROP TABLE removes the table (rows as well as the structure).
2. DELETE is a DML command while DROP TABLE is a DOL command.
3. The effect of DELETE command can be rolled back while the effect of DROP TABLE cannot be rolled back.

20 **Consider the table RESULT given below. Write commands in MySql for(i) to (iv) and output for (v) to (vii)**

Table : Result

No	Name	Stipend	Subject	Average	Division
1	Sharon	400	English	38	THIRD
2	Amal	680	Mathematics	72	FIRST
3	Vedant	500	Accounts	67	FIRST
4	Shakeer	200	Informatics	55	SECOND
5	Anandha	400	History	85	FIRST
6	Upasna	550	Geography	45	THIRD

(i) To list the names of those students, who have obtained Division as FIRST in the ascending order of NAME.

(ii) To display a report listing NAME, SUBJECT and Annual stipend received assuming that the stipend column has monthly stipend. To count the number of students, who have either accounts or informatics as subject.

(iii) To insert a new row in the table EXAM:
6,"Mohan",500,"English",73,"Second"

(iv) SELECT AVG(Stipend) FROM EXAM WHERE DIVISION="THIRD"

(v) SELECT COUNT(DISTINCT Subject) FROM EXAM;

(vi) SELECT MIN(Average) FROM EXAM WHERE Subject="English";

Ans.

(i) SELECT Name FROM Result WHERE Division = 'FIRST' ORDER BY Name;

(ii) SELECT Name, Subject, Stipend * 12 FROM Result;

(iii) SELECT COUNT (*) FROM Result WHERE Subject IN ('Accounts', 'Informatics');

(iv) INSERT INTO Result VALUES (6,'Mohan' , 500, 'English' , 73, 'Second');

(v) 475

(vi) 6

(vii) 38

Type C: Long Answer Questions

1 **What do you understand by client server architecture of MySQL?**

Ans.	MySQL Database System is a combination of a MySQL server instance and a MySQL database. MySQL database system operates using client/server architecture, in which the server runs on the machine containing the databases and clients connect to the server over a network. SQL Server and Clients:- **MySQL Server** – ✓ Listens for client request coming in over the network ✓ Accesses database contents according to those requests ✓ Provides contents to the clients **MySQL Clients** – ✓ Programs that connect to the database server and issue queries in a pre-specified format