

UNIT III (RDBMS)

Answers To One Mark Questions

1. MySQL is an Open Source Relational Database Management System (RDBMS) that uses Structured Query Language (SQL) for adding, accessing and managing contents in a database. It is available free of cost.
2. “_” (Underscore) is used to represent a single character whereas “%” is used to represent any sequence of zero or more characters.
3. In a table, there can be only one Primary key constraint whereas; it may have more than one unique key constraint.
OR
Primary key constraint is used to identify a tuple (record) uniquely, cannot be null. Unique key constraint makes sure that duplicate values in a specified column are not accepted, however it may be null.
4. Primary key formed by combining more than one fields is called Composite Key.
5. Degree means number of columns (Attributes/ Fields) in a table.
Cardinality means number of rows (Tuples/ Records) in a table.
6. She specified ‘NOT NULL’ constraint for that column while creating the table.
7. Candidate key is a column or group of columns that is suitable to be selected as primary key. A table can have multiple candidate keys but it can have only primary key.
Example: Assume a table student having columns **AdmNo, Rollno, Name, Address**.
AdmNo and Rollno are candidate keys, anyone can be selected as primary key.
8. ALTER TABLE command is used to modify the structure of a table. This command falls in DDL category. UPDATE command is used to make changes in the data stored in a table. This command falls in DML category.
9. DDL – Data Definition Language
DML – Data Manipulation Language
TCL - Transaction Control Language
DCL – Data Control Language
10. (i) It must contain a unique value for each row of data.
(ii) It cannot contain NULL values.
11. The ROLLBACK command cancels transactions that have not yet already been saved to the database. It cancels transactions since the last COMMIT or ROLLBACK command was issued.
12. **INSTR(str1, str2)** function is used to give the location of first occurrence of a str2 in str1.
13. Show tables;
14. SYSDATE() shows the time of its own execution and NOW() shows constant time that is time of commands execution.
SELECT SYSDATE(), SLEEP (2), SYSDATE();

It will show different time before and after sleep statement

```
SELECT NOW(), SLEEP (2), NOW();
```

It will show same time before and after sleep statement that is time of command's execution

15. `SELECT * FROM EMP WHERE SALARY IS NULL;`
16. Keyword **AS** is used to give column alias that is descriptive heading to a column.
17. `LCASE()` or `LOWER()` function can be used to convert the string into lower case.
18. `LEN()` function returns the length of the string.
19. `UPDATE` command should be used.
20. `Where` clause is used to apply condition on individual rows and `Having` clause is used to apply on grouped data. Aggregate functions are used with `Having` clause to apply the condition.
21. To apply equi join, common column exists in joining tables but in case of non equi join, common column does not exist in joining tables
22. Degree will be 11 and Cardinality will be 21.
23. `Show Databases;`
24. Rakesh should use the `Drop Table` command.
25. `SELECT NAME FROM student WHERE NAME LIKE "%p";`
26. Sanjeev must have applied **check** constraint on Salary column.
27. Yes, we can use an expression in `UPDATE` command.
`UPDATE STUDENT SET FEE=FEE+1000;`
28. `TRIM()` function will be used.
29. **IN** clause is used to specify list of values in a condition whereas `LIKE` clause is used for pattern matching.
30. In case of equi join joining condition and common column in joining tables is must whereas in case of cross join joining condition and common column is not required.
31. `COMMIT` and `ROLLBACK` are TCL commands.
32. `Select * from student where name Like "T%";`
33. `USE EMPLOYEE;`
34. That value is not existing in the Table1. It is due to referential integrity constraint.
35. `SELECT NAME FROM STUDENT WHERE Stream_name IS NULL OR Stream_name LIKE "%computers";`

36. Foreign key is used to enforce referential integrity constraint. Foreign key in Child table can hold only that data which exists in corresponding column of parent table.
37. COMMIT command is to make pending changes permanent. SAVEPOINT is used for temporary book mark which can further be used for partial rollback.
38. MySQL is an Open Source Relational Database Management System (RDBMS) that uses Structured Query language (SQL) for adding, accessing and managing content in a database.
OR
It is an Open Source RDBMS Software. It is available free of cost.
39. NO.
Reason: NULL is used to mean that the field has no value / unknown value.
0 is a numeric value.
40. **12 (Twelve)** rows will get displayed.
41. UPDATE COMPANY SET COMM = COMM + 500 WHERE SALES > 200000;
OR
UPDATE COMPANY SET COMM = COMM + 500 WHERE SALES > 200000 AND JOB = "Salesman";
42. "_" is used to represent a single character whereas "%" is used to represent any sequence of zero or more characters.
43. ALTER TABLE command should be used by Mohit.
44. COMMIT;
45.
(i) SELECT CONCAT (city , " ",state) FROM Campus WHERE C_Name= "APS";
Ans. DELHI DELHI
MUMBAI MAHARASHTRA
BANGALORE KARNATAKA
AHMEDABAD GUJARAT
(ii) SELECT CITY, INSTR(CITY, "l") FROM CAMPUS WHERE C_NAME= "DPS"
Ans. DELHI 5
HYDERABAD 0
(iii) SELECT DISTINCT (CITY) FROM CAMPUS;
Ans. BANGALORE
HYDERABAD
CHANDIGARH
AHMEDABAD
AMRITSAR
(iv) SELECT RIGHT(C_NAME, 2) FROM CAMPUS WHERE C_ID=2009;
Ans. PS
46. USE TEST;
47. USE EMPLOYEE;
SHOW TABLES LIKE "ST%";

48. SELECT * FROM BOOKS WHERE PRICE>=350 AND PRICE<=550;
49. SELECT * FROM BOOKS WHERE PUBLISHER IN('BPB','OXFORD','JPH');
50. There will be three **NULL** entries in column FEE.
51. SELECT SUBSTR("Internet Superhighway",6,3);
52. SELECT INSTR("Enjoying MySQL","My");
53. 800
54. (i) SELECT NAME, MNO FROM MCA WHERE YEAR(Join_DT)>2010;
(ii) SELECT * FROM MCA ORDER BY MNO DESC;
(iii) INSERT INTO MCA VALUES (8326, "AMIT", "0G2-8, MALVIYA NAGAR", "2010-07-12", 6700, "II", "A1");
(iv) SELECT COUNT(DISTINCT SEMESTER) FROM MCA;
(v) ALTER TABLE MCA ADD REMARKS VARCHAR(20);
(vi) UPDATE MCA SET FEE=7000 WHERE NAME="AMIT";
55. (i) SELECT * FROM HOSPITAL WHERE DEPARTMENT="CARDIOLOGY";
(ii) SELECT NAME FROM HOSPITAL WHERE DEPARTMENT= "ENT" AND SEX= "F";
(iii) SELECT NAME, DATEOFADM FROM HOSPITAL ORDER BY DATEOFADM;
(iv) SELECT NAME, CHARGES, AGE FROM HOSPITAL WHERE SEX= "M";
(v) SELECT COUNT(*) FROM HOSPITAL WHERE SEX= "F";
(vi) UPDATE HOSPITAL SET CHARGES=CHARGES-0.05*CHARGES WHERE SEX= "M" AND DEPARTMENT= "CARDIOLOGY";
(vii) SELECT DISTINCT DEPARTMENT FROM HOSPITAL;
(viii) SELECT * FROM HOSPITAL WHERE YEAR(DATEOFADM)=2007;
56. (i) SELECT TITLE FROM LIBRARY WHERE PRICE BETWEEN 100 AND 300;
(ii) SELECT AUTHOR,TITLE FROM LIBRARY WHERE SUBJET= "PROG" AND PUBLISHER= "BPB";
(iii) SLEECT TITLE,PRICE FROM LIBRARY WHERE PRICE>130 ORDER BY QTY;
(iv) SELECT TITLE FROM LIBRARY WHERE QTY<4;
(v) MIN(Price)
40
(vi) Sum(Price * Qty)
293740
(vii) Avg(Price)
143
(viii) Count(Distinct Publisher)
7
57. (i) Select Shop_Name,Sale from Shop where Area="North";
(ii) Select * from Shop where Sale>300000 order by Shop_Name;
(iii) Select City, Sum(Sale) from Shop group by City;
(iv) Select Sale, Sale*0.07 AS "Incentive" from Shop;

- (v) Avg(Sale)
275000
- (vi) Count(Distint City)
3

58.

- (i) SELECT * FROM FURNITURE WHERE TYPE= "BABY COT";
- (ii) SELECT ITEMNAME, PRICE-DISCOUNT_PERC/100*PRICE AS "NET PRICE" FROM FURNITURE;
- (iii) SELECT ITEMNAME, TYPE FROM FURNITURE WHERE DATEOFSTOCK< "2002-02-01" ORDER BY ITEMNAME DESC;
- (iv) SELECT ITEMNAME,DATEOFSTOCK FROM FURNITURE WHERE DISCOUNT_PERC>25;
- (v) ALTER TABLE FURNITURE ADD PRIMARY KEY(ID);

59.

- (i) SELECT NAME,ADM_NO FROM SCHOLARS WHERE YEAR(JOIN_DT)>2012;
- (ii) SELECT * FROM SCHOLARS ORDER BY ADM_NO DESC;
- (iii) INSERT INTO SCHOLARS (ADM_NO,NAME,JOIN_DT) VALUES(8326, "ANKIT", "2013-10-25");
- (iv) SELECT COUNT(DISTINCT SEMESTER) FROM SCHOLARS;
- (v) ALTER TABLE SCHOLARS ADD PRIMARY KEY(ADM_NO);
- (vi) UPDATE SCHOLARS SET FEE=30000 WHERE NAME= "VIJAY";

60.

- (i) SELECT DNAME, DRINKCODE FROM SOFTDRINK WHERE CALORIES > 120;
- (ii) SELECT DRINKCODE, DNAME, CALORIES FROM SOFTDRINK ORDER BY CALORIES DESC;
- (iii) SELECT DNAME, PRICE FROM SOFTDRINK WHERE PRICE BETWEEN 12 AND 18;
OR
SELECT DNAME, PRICE FROM SOFTDRINK WHERE PRICE>=12 AND Price <=18;
OR
SELECT DNAME, PRICE FROM SOFTDRINK WHERE PRICE>=12 AND Price <=18;
- (iv) UPDATE SOFTDRINK SET PRICE = 1.10*PRICE;
OR
UPDATE SOFTDRINK SET PRICE = PRICE + 0.10*PRICE;
OR
UPDATE SOFTDRINK SET PRICE = PRICE + 10 / 100 *PRICE;
- (v) COUNT (DISTINCT PRICE)
4
- (vi) MAX (CALORIES)
150
- (vii) DNAME
Green Mango
Mango Juice Bahaar

61. Degree = 4, Cardinality = 6

62.

- (i) Select Movie_Id, 0.02*Total_Sales AS "Directors Commission" from Movie;
- (ii) SELECT MOVIE_ID, MOVIE_TITLE,CATEGORY FROM MOVIE WHERE RELEASE_DATE IS NULL;
- (iii) SELECT * FROM MOVIE ORDER BY STARS_RECEIVED DESC;
- (iv) UPDATE MOVIE SET STARS_RECEIVED=10 WHERE YEAR(RELEASE_DATE)=2007;
- (v) DELETE FROM MOVIE WHERE CATEGORY=SUSPENSE;
- (vi) ALTER TABLE MOVIE ADD RATING CHAR(2);

63.

- (i) SELECT COUNT(DEPARTMENT) FROM COURSE;
- (ii) SELECT DEPARTMENT, MAX(FEES) FROM COURSE FROUP BY DEPARTMENT;
- (iii) UPDATE COURSE SET FEES=1000 WHERE FEES IS NULL;
- (iv) SELECT NAME, DEPARTMENT, FEES FROM COURSE ORDER BY DEPARTMENT, FEES;
- (v) Avg(feess)
840
- (vi) Sum(feess)
1800

64.

- (i) SELECT * FROM EXAM WHERE STREAM="COMMERCE" ORDER BY PERCENTAGE;
- (ii) SELECT ADNO, SNAME, PERCENTAGE, STREAM FROM EXAM WHERE LENGTH(SNAME)<4;
- (iii) ALTER TABLE EXAM ADD BUS_FEES DECIMAL(8,2);
- (iv) UPDATE EXAM SET PERCENTAGE= PERCENTAGE * 1.02 WHERE STREAM= "SCIENCE";
OR
UPDATE EXAM SET PERCENTAGE= PERCENTAGE + (PERCENTAGE * 0.02) WHERE STREAM= "SCIENCE";
OR
UPDATE EXAM SET PERCENTAGE= PERCENTAGE * 1.02 WHERE STREAM IN("SCIENCE");
OR
UPDATE EXAM SET PERCENTAGE= PERCENTAGE + (PERCENTAGE *0.02) WHERE STREAM IN("SCIENCE");
- (v) SELECT * FROM EXAM WHERE CLSECTION LIKE "12%";
- (vi) SELECT SNAME,PERCENTAGE FROM EXAM WHERE RIGHT(CLSECTION)="A";
OR
SELECT SNAME,PERCENTAGE FROM EXAM WHERE CLSECTION LIKE "%A";
- (vii) COUNT(DISTINCT STREAM)
3
- (viii) ROUND(PERCENTAGE)
90
66

65.

- (i) Select name from friends where country not like "India";
- (ii) Select name,city,country from friends order by age desc;
- (iii) Select count(*) from friends where email_id like "%gmail%";
- (iv) Select name,city from friends where email_id is null;

OUTPUT

(v)

Name	Age	Country
Alice	14	USA
Angel	16	USA
Alexender	15	Australia

(vi)

Ucase(concat(name,"*",city))
Charles*Copenhagen
Jette*Nykobing

(vii)

UID
Alic
Ange

66.

- (i) SELECT NAME FROM RESULT WHERE DIVISION="FIRST" ORDER BY NAME;
- (ii) SELECT NAME,SUBJECT, STIPEND*12 AS "ANNUAL STIPEND" FROM RESULT;
- (iii) SELECT COUNT(*) FROM RESULT WHERE SUBJECT IN("ACCOUNT","INFORMATICS");
- (iv) INSERT INTO RESULT VALUES(7,"SUMITRA",675,"MATHEMATICS",75,"FIRST");
- (v) AVG(Stipend)
475
- (vi) COUNT(DISTINCT Subject)
6
- (vii) MIN(Average)
38

67.

- (i) SELECT INAME FROM GYM WHERE INAME LIKE "A%";
- (ii) SELECT ICODE,INAME FROM GYM WHERE BRANDNAME IN("RELIABLE","COSCORE");
- (iii) UPDATE GYM SET BRANDNAME= "Fit Trend India" WHERE ICODE = "G101";
- (iv) INSERT INTO GYM VALUES("G107"," Vibro Exerciser", 21000 , "GTC Fitness");

68.

- (i) SELECT PNAME,PRICE FROM FITNESS WHERE PRICE>20000;
- (ii) SELECT PNAME FROM FITNESS WHERE MANUFACTURER="Aone";
- (iii) UPDATE FITNESS SET PRICE=PRICE (PRICE*25/100);
- (iv) INSERT INTO FITNESS VALUES("P7","Vibro Exerciser", "28000", "Aone");
- (v)

PCODE	PNAME	PRICE	MANUFACTURER
P1	Treadmill	21000	Coscore
P2	Bike	20000	Aone
P3	Cross Trainer	14000	Reliable
P4	Multi Gym	34000	Coscore
P5	Massage chair	65000	Regrosene
- (vi) COUNT(DISTINCT(MANUFACTURER))
4
- (vii) MAX(PRICE)
65000

Answers To Two Marks Questions

1. NULL means field has no value / unknown value.
No, NULL value is not same as 0(zero). Zero is a numeric value.
Any arithmetic operation performed on NULL will evaluate to NULL whereas in case of zero it is not so.
2. (i) Attribute means Column/Field in the table.
(ii) Tuple means Row/Record in the table.
3.
 - (i) MIN(Basic)
5500
 - (ii) Name Basic+100
Kiran NULL
4.
 - (i) GCODE and DESCRIPTION are candidate keys.
 - (ii) Degree is 5 and Cardinality is 4.
5. What is a transaction? Which command is used to make changes done by a transaction permanent?
Ans. A transaction is a unit of work (LUW) that must be done in logical order and successfully as a group or not done at all.
COMMIT command is used to make pending changes done by a transaction permanent on a database.
6. Primary Key is the field that uniquely identify in a table. For example Roll_No in Table Student
Foreign Key is the field that exist in child table and derives its data from parent table. It is referential integrity constraint.
7. Constraint is a condition applied on a column or group of columns in the table.
Two types of constraints supported by MySQL are: (a)Primary Key- It is combination of unique and not null.Primary Key field cannot have duplicate and null values. (b) Foreign Key- It is referential integrity constraint. The foreign Key field in the child table can contain only those values that exist in referencing column in the parent table.
8. Delete command is used to delete the records from the table.Drop Table command is used to physically remove the table (including structure) the database. Delete command is of DML category while Drop Table command belongs to DDL category.
9.
 - (i) Sumit
Robin
 - (ii) 9813210967
10. (i) SELECT LEFT(NAME, 6);
(ii) SELECT SUBSTR(NAME,3,9);

11. SQL stands for Structured Query Language. It is used to manage the database and perform various operations such as Insert, Delete, Update etc. on tables in the database. Two categories of SQL command are:

- (a) DDL(Data Definition Language) Example CREATE TABLE, ALTER TABLE
- (b) DML(Data Manipulation Language) Example INSERT, SELECT.

12. Delete command is used to delete the records from the table. User can use **Where** clause to apply the condition so that only desired records can be deleted .

Example: DELETE FROM STUDENT WHERE ROLL_NO=101;

13. **LIKE** clause is used for pattern matching. Two wildcards used with LIKE clause are: “%” and “_” .

14. Four date functions are (a) SYSDATE() (b) CURDATE() (c) YEAR() (d) MONTH()

15.

- (a) SLEECT ROUND(NUM,0);
- (b) SELECT ROUND(NUM, 1);

16. Rollno should be used as Primary Key because unique rollno is assigned to every student.

17.

- (i) AVG(cost)
5000
- (ii) cost+100
4100
6100
NULL

18. Cardinality is 0 (Zero) . After adding 4 rows cardinality will be 4 (Four).

19. DDL (Data Definition Language) commands work on database schema object such as table. Some commands which belong to DDL category are CREATE TABLE, ALTER TABLE and DROP TABLE.

DML(Data Manipulation Language) commands are used to manipulate the data in the table. Some commands which belong to DML category are INSERT, SELECT, UPDATE and DELETE.

20. (i) ROUND(8.6755,2)+ POW(4,3)

72.68

(ii) TRUNCATE(6.2465,1)

6.2

(iii) DAYOFMONTH('2009-08-24')

24

(iv) MID('STUDENTS',2,3)

TUD

21. CREATE TABLE EMPLOYEE(EMP_ID NUMERIC(6) PRIMARY KEY ,EMP_NAME VARCHAR(20) NOT NULL, EMP_ADDRESS VARCHAR(30), EMP_PHONE VARCHAR(10), EMP_SAL NUMERIC(9,2), DEPT_ID VARCHAR(2));

22. ALTER TABLE command should be used to add constraints in the existing table.

ALTER TABLE STUDENT ADD PRIMARY KEY(RNO);

23. (i)The columns suitable to be selected as Primary Key are called Candidate Keys

(ii) Alternate key is that field which is suitable but not selected as Primary Key.

Or

Candidate Key which is not selected as Primary Key is called Alternate Key.

24. Substr() function is used to extract a part of the given string and Instr() function is used to find location of a sub string in another string.

25. (i) Null+100

Null

(ii) MID('class12',5)

s12

26. (i) Truncate(475.3856,-2)

400

(ii) ceil(100.32)+Round(200.53)

302

27. Create table PAYMENT(Loan_Number Numeric(5), Payment_Number Varchar(3), Payment_Date Date Not Null, Payment_amount Numeric(7) check(Payment_amount>0), Payment_Type Varchar(10) Check Payment_Type IN('Cheque','Cash'), Primary Key(Loan_Number,Payment_Number));

28. Create table Emp(Ecode Int(5) Primary Key, Name Varchar(25) Not Null, Sex Char(1) Not Null Default 'M', Hiredate Date, Job Varchar(30) Not Null, Sal Int(10) Check(Sal>=10000), Deptno Char(3) References Dept(dno));

29. **AND, OR** are logical operators available in MySQL used to combine more than one conditions in various SQL query statements.

SELECT RNO,NAME FROM STUDENT WHERE STREAM='SCI' OR STREAM='COM';

SELECT RNO,NAME FROM STUDENT WHERE STREAM='SCI' AND FEE>10000;

30. (i) ROUND (5678.77, -4)

10000

(ii) TRUNCATE (15.78, -1)

10

31.

(i) LENGTH ("INDIA") * 4

20

(ii) POWER (2, -2)

0.25

32. Primary Key is that field that uniquely identifies the record. There can be only one Primary Key in a table whereas Candidate Keys can be more than one.

33. DDL commands are : CREATE, DROP

DML commands are: SELECT, DELETE

34. CREATE TABLE BOOKS(BOOK_ID VARCHAR(6) PRIMARY KEY, BOOK_NAME VARCHAR(25), AUTHOR_NAME VARCHAR(30), PUBLISHER VARCHAR(20), PRICE INTEGER, TYPE VARCHAR(15) CHECK TYPE IN("MAGAZINE", "TEXT BOOK"), QUANTITY INTEGER NOT NULL);

35. CREATE TABLE CLUB(MEMBER_NO NUMERIC(5) PRIMARY KEY, MEMBER_NAME VARCHAR(40) NOT NULL, AGE NUMERIC(2) CHECK(AGE>18),TYPE VARCHAR(10) CHECK TYPE IN ("TEMPORARY", "PERMANENT"), GAMES VARCHAR(20) REFERENCES MASTER(FACILITIES), FEES NUMERIC(6,2) CHECK(FEES>800), FEES_DATE DATE NOT NULL);

36. ALTER TABLE CLUB ADD PHNO VARCHAR(10);
It belongs to DDL category.

37. UPDATE CLUB SET FEES=FEES-0.05*FEES WHERE TYPE=PERMANENT;
UPDATE command belongs to DML category.

38. (i) Compid
(ii) Value 4 in column Compid in the table Model should not exist because it is not available in the corresponding column of Parent table Company.

39.

- (i) Book_ID is the foreign key in table Issues as it refers to the data of corresponding primary key column Book_ID of parent table(Books).
- (ii) Cardinality will be 4.
- (iii) Select AuthorName,Qty_Issued from Books,Issues where Books.Book_ID= Issues.Book_ID and Publisher="BPB";
- (iv) Select Publisher, Sum(Qty) from books Group by publisher Having Sum(Qty)<20;

- 40. (i) SELECT NAME FROM DOCTOR WHERE DEPT= "MEDICINE" AND EXPERIENCE>10;
- (ii) SELECT NAME, DEPT,BASIC+ALLOWANCE AS "SALARY" FROM DOCTOR,SALARY WHERE DOCTOR.ID=SALARY.ID AND DEPT="ENT";
- (iii) SELECT DEPT, COUNT(*) FROM DOCTOR GROUP BY DEPT;
- (iv) SLECT MAX(CONSULTATION) FROM DOCTOR,SALARY WHERE DOCTOR.ID=SALARY.ID AND SEX= "M";
- (v) Cardinality will be 7.
- (vi) ID is Foreign Key.

41. ORDER BY clause is used to arrange the records in ascending or descending order whereas GROUP BY clause is used to arrange the data in groups.

- 42. (i) **Doctor_No** in table Doctor and **Patient_No** in table Patient should be used as primary key.
- (ii) Cardinality will be 20 after Cartesian product of both the tables

43.

- (i) SELECT QTY*UNITPR AS "AMOUNT" FROM STOCK WHERE ITNAME IN("Office file","Sharpener camlin");
- (ii) SELECT ITNAME FROM STOCK,DEALERS WHERE STOCK.DCODE= DEALERS.DCODE AND DNAME="VIKASH STATIONERS";

(iii)

DCODE	COUNT(QTY)	AVG(UnitPr)
101	3	30
102	2	61
103	2	22

44. (i) Ccode+Vcode is combined to form composite Primary Key as no single column in the table is sufficient. to form primary key.

(ii) SELECT CNAME,CITY FROM VEHICLE,CUSTOMER WHERE VEHICLE.VCODE= CUSTOMER.VCODE AND VEHICLE_NAME IN("INDIGO", "A-STAR");

(iii) Cardinality will be 5.

```
SELECT * FROM VEHICLE,CUSTOMER WHERE VEHICLE.VCODE = CUSTOMER.VCODE
```

45. Transaction is Logical Unit of Work (LUW). Atomicity, Consistency, Isolation and Durability (ACID) are the properties of a transaction.

46. "**SAVEPOINT**" is used to assign temporary bookmark and used along with "**ROLLBACK TO**" statement for partial rollback.

SET AUTOCOMMIT=0;

1. UPDATE EMP SET SAL=SAL+500 WHERE DEPT="ACCTS";
2. SAVEPOINT A;
3. DELETE FROM EMP WHERE NAME="RAVI";
4. INSERT INTO EMP VALUES(105,"SMITH","SALE");
5. SAVEPOINT B;
6. UPDATE EMP SET DEPT= "STORE" WHERE EMPNO=104;
7. ROLLBACK TO SAVEPOINT A;

STATEMENT 7 WILL UNDO ALL THE STATEMENTS FROM 3 TO 6.

47. **Cross join** will be formed as no joining condition is specified. Cardinality will be 12.

48. (i) SELECT TRUNCATE(MONEY,2); (ii) SELECT TRUNCATE(MONEY,-3);

49. When DDL command is issued transaction process will commit.

SET AUTOCOMMIT=0;

1. UPDATE EMP SET SAL=SAL+500 WHERE DEPT="ACCTS";
2. SAVEPOINT A;
3. DELETE FROM EMP WHERE NAME="RAVI";
4. INSERT INTO EMP VALUES(105,"SMITH","SALE");
5. ALTER TABLE EMP ADD EMAIL_ID VARCHAR(15);
6. INSERT INTO EMP VALUES(107,"SUNIL","PROD");
7. SAVEPOINT B;
8. UPDATE EMP SET DEPT= "STORE" WHERE EMPNO=104;
9. ROLLBACK TO SAVEPOINT A;

STATEMENT NO 5 IS DDL COMMAND, SO WILL COMMIT THE TRANSACTION PROCESS.
THUS STATEMENT NUMBER 9 WILL UNDO ONLY STATEMENTS FROM 6 TO 8.

50. SELECT Stream , MAX (Agg) FROM Employee Group by Stream;

51.

(i) SELECT ICODE,INAME,VNAME FROM SAMS S, VENDOR V WHERE S.VCODE= V.VCODE AND INAME= "MOBILE PHONE";

OR

SELECT ICODE,INAME,VNAME FROM SAMS, VENDOR WHERE SAMS.VCODE= VENDOR.VCODE AND INAME= "MOBILE PHONE";

OR

SELECT SAMS.ICODE,SAMS.INAME,VENDOR.VNAME FROM SAMSS, VENDOR WHERE S.VCODE= V.VCODE AND INAME= "MOBILE PHONE";

(ii) SELECT ICODE, INAME, VNAME, PRICE FROM SAMS, VENDOR WHERE SAMS.VCODE= VENDOR.VCODE AND PRICE>20000;

(iii) SELECT VNAME, INAME FROM SAMS,VENDOR WHERE SAMS.VCODE= VENDOR.VCODE AND VCODE= "P03";

(iv) Primary Key – Icode

Reason: ICode is unique to every row in the table SAMS.

Foreign key: VCode

Reason: VCode is the Primary Key of the table VENDOR. It is used to link two tables SAMS and VENDOR and is enforcing referential integrity , hence VCode column can be considered as Foreign key for the table SAMS.

52. Alter table Hospital add Address varchar(20);
DDL category.

53. Rollback command should be used. TCL category.

54.

(i)

```
+-----+
| avg(Salary) |
+-----+
|5300.0000 |
+-----+
```

(ii)

```
+-----+
| Salary+100 |
+-----+
|  NULL  |
+-----+
```

55. Desc Product; OR
Describe Product;

56. Use Gadgets;
Show tables;

57.

(i)

GCode	GameName	Number_of_Players	PrizeMoney
101	Carom Board	2	5000
102	Badminton	2	12000
103	Table Tennis	4	8000

(ii)

GCode	GameName	Number_of_Players	PrizeMoney
101	Carom Board	2	5000
102	Badminton	2	12000

103	Table Tennis	4	8000
108	Lawn Tennis	4	25000

58. Pairs are:

Group A (i) and (iii)
Group B (ii) and (iv)

59.

(i) Cardinality: 4 Degree: 5
(ii) Cardinality: 6 Degree: 6

60.

(i) 6 (ii) 10
(iii) 600 (iv) 30

61.

```
Create table Bank_Customer(
Acc_No integer primary key, Cust_Name varchar(20)
not null,
Cust_Add varchar(20),
Cust_City varchar(20)
);
```

62. (i) Yes, it is possible to have primary key and foreign key column in one table. Primary key column is used to uniquely identify each record of the table while foreign key column is used to maintain referential integrity. As in the above given table 'Transaction_Detail', Trans_Id column is a primary key column while Acc_No column may act as a foreign key column.

(ii) A table can have maximum one Primary Key
A table can have any number of foreign Keys

63. i. select flights.fno,source,airlines from flights,fares where flight.fno=fares.fno and fare<10000;

ii. select sum(no_of_fl) from flights,fares where flights.fno=fares.fno group by source having Airlines='Indian Airlines';

iii.

MC101	6	Deccan Airlines
MU499	3	Sahara

64. In a table, there is only one Primary Key constraint whereas, it may have more than one unique key constraint.

OR

Primary Key constraint used to identify a tuple uniquely, cannot be NULL. Unique Key constraint makes sure that duplicate values in the specified column are not accepted, however it may be null.

65. Similarity:

- Both are used for storing non numeric data.
- Both can store 1 to 255 characters.
- Values must be enclosed in single quotes or double quotes.

Difference:

CHAR	VARCHAR
Used for fixed – length string	Used for variable – length string
Padded to the specified length when stored	No padding takes place

66. A Transaction is a unit of work that must be done in logical order and successfully as a group or not done at all. COMMIT command is used to make changes done by a transaction permanent on a database.

67.

Single Row function	Aggregate function
Works one single value/ row	Works on multiple values in a single column
Returns one value for each row	Returns one value after operating on single/multiple rows
Accepts one or more arguments	Accepts only one argument

Example of Single row function: ROUND(X), CONCAT(str1,ste2,...)

Example of Aggregate function: MAX(), MIN(), AVG(), SUM(), CONT()

68. CREATE TABLE LIBRARY(BookId Int (10) Primary Key;BookName Varchar (40) Not Null, Type Char (10), Author Varchar (40), No_Copies Int (6), Price Decimal (8,2));

69.

- (i) SELECT SALESMANID, NAME, S.LOCATIONID, LOCATIONNAME FROM SALES S, LOCATION L WHERE S.LOCATIONID = L.LOCATIONID;
OR
SELECT SALESMANID, NAME SALES.LOCATIONID, LOCATIONNAME FROM SALES, LOCATION WHERE SALES.LOCATIONID = LOCATION.LOCATIONID ;
OR
SELECT SALESMANID, NAME, LOCATION.LOCATIONID, LOCATIONNAME FROM SALES, LOCATION WHERE SALES.LOCATIONID = LOCATION.LOCATIONID;
OR
SELECT SALES.SALESMANID, SALES.NAME, SALES.LOCATIONID, LOCATION.LOCATIONNAME FROM SALES, LOCATION WHERE SALES.LOCATIONID = LOCATION.LOCATIONID;
OR
SELECT SALESMANID, NAME, L.LOCATIONID, L.LOCATIONNAME FROM SALES S , LOCATION L WHERE S.LOCATIONID = L.LOCATIONID ;
OR
SELECT S.SALESMANID, S.NAME, S.LOCATIONID, LOCATIONNAME FROM SALES S, LOCATION L WHERE S.LOCATIONID = L.LOCATIONID;
- (ii) SELECT S.NAME, S.SALES L.LOCATIONNAME FROM SALES S, LOCATION L WHERE S.LOCATIONID = L.LOCATIONID AND S.SALES > 1300000;
OR
SELECT NAME, SALES, LOCATIONNAME FROM SALES, LOCATION WHERE SALES.LOCATIONID = LOCATION.LOCATIONID AND SALES > 1300000;
OR
SELECT SALES.NAME, SALES.SALES, LOCATION.LOCATIONNAME FROM SALES, LOCATION WHERE SALES.LOCATIONID = LOCATION.LOCATIONID AND SALES > 1300000;

OR

```
SELECT NAME, SALES, LOCATIONNAME FROM SALES S, LOCATION L WHERE S.LOCATIONID = L.LOCATIONID AND S.SALES > 1300000;
```

(iii) SELECT NAME FROM SALES WHERE NAME LIKE "%SINGH%";

(iv) Primary Key(Table:SALES)- SALESMANID

Reason : It can uniquely identify each row in the table SALES.

(v) UPDATE SALES SET LOCATIONID = 104 WHERE SALESMANID = "S3";

70. He should use delete command.

```
DELETE FROM INVENTORY;
```

71. COMMIT command is to make the pending changes permanent in the database. Whereas; ROLLBACK command is used to discard the pending changes. Once committed cannot be roll backed.

72. 12 rows and 6 columns will be there if we Cartesian product of these two tables.

```
SELECT * FROM FLIGHT,AIRHOSTESS;
```

OR

```
SELECT * FROM FLIGHT CROSS JOIN AIRHOSTESS;
```

73. UNIQUE constraint when applied on a column means that column will not hold duplicate values. PRIMARY key can be applied only once in a table whereas; unique can be applied more than once.

74. (i) classXII (ii) 1 (iii) 44 (iv) 3

75. (i) DDL – CREATE TABLE (ii) DML – INSERT (iii) TCL – COMMIT

76. ALTER table command is used to modify the structure of table whereas; IPDATE command is used to modify the data/records of table. ALTER table is DDL category command. UPDATE belongs to DML category.

77.

(i) SELECT PATNAME,PATNO,DOCNAME FROM PATIENTS,DOCTORS WHERE PATIENTS.DOCID=DOCTORS.DOCID;

(ii) SELECT PATIENTS.* FROM PATIENTS,DOCTORS WHERE PATIENTS.DOCID = DOCTORS.DOCID AND OPD_DAYS="TTS";

(ii)	OPD_DAYS	COUNT(*)
	MWF	3
	TTS	2

78.

(i) SELECT COUNT(*) FROM CUSTOMER ,BCLERK WHERE CUSTOMER.BOOKING_CODE= BCLERK.BOOKING_CODE AND NAME="VARSHA";

(ii) SELECT LCASE(CUSTOMER_NAME), LCASE(NAME) FROM CUSTOMER ,BCLERK WHERE CUSTOMER.BOOKING_CODE= BCLERK.BOOKING_CODE

(iii) SELECT NAME ,COUNT(CUSTOMER_NAME) FROM CUSTOMER ,BCLERK WHERE CUSTOMER.BOOKING_CODE= BCLERK.BOOKING_CODE GROUP BY NAME;

79. Drop Table command deletes a complete table from the database. After Drop Table command neither data nor structure of the table remains in the database. It is DDL category command.

The delete command deletes only the rows from the table. Even if a delete command deletes all the rows from the table, the table structure remains intact. It is DML category command.

80. CREATE TABLE PAYMENT (Loan_number Integer(4) Primary Key, Payment_number Varchar(3), Payment_date Date, Payment_amount Integer(8) NOT NULL);

81.

- (i) SELECT * FROM PRODUCT WHERE Price BETWEEN 40 AND 120;
- (ii) SELECT ClientNAME, City, ProductNAME, Price FROM Client, Product WHERE Client.P_ID= Product.P_ID;
- (iii) UPDATE Product SET Price= Price+20;

82.

- (i) Divno
- (ii)

Name	Divname
Shankhya	Media
Sunish	Dance

83. CREATE TABLE BANK (Acct_number Integer(4) Primary Key, Name Varcher(3), BirthDate Date, Balance Integer(8) NOT NULL);

84.

- (i) Deptno
- (ii)

Name	DName
Vishakha	Lights
Manish	Dance

85. USE command will be used to open an existing database.

USE TEST; to open the database named as TEST

86. DROP TABLE BACKUP;

DDL category

87. Similarity- Both are TCL commands

Difference- ROLLBACK discards the pending changes whereas COMMIT makes the pending changes permanent

88. **12 rows** and 6 columns. Degree will be 6 and cardinality will be 12.

89. The corresponding value in Table1 might not be existing.

90. SELECT NAME, CLASS FROM STUDENTS WHERE COURSE_NAME IS NULL OR COURSE_NAME LIKE "%economics";

91. ALTER TABLE STUDENT MODIFY FEES NUMERIC(5) NOT NULL;

92. Foreign Key- It is referential integrity constraint. The foreign Key field in the child table can contain only those values that exist in referencing column in the parent table.

93. Cardinality will be 8 and Degree will be 6 .

94. The reason for giving different outputs must be the existence of NULL entries in the column HOBBY of table CONTACTS.

95. SELECT * FROM EMP ORDER BY ENAME,DEPT;

96. CREATE TABLE CHALLAN(CHALLAN_NO DECIMAL(10) PRIMARY KEY, CH_DATE DATE, REG_NO CHAR(10), OFFENCE DECIMAL(3));

97.

(i) SELECT COUNT(ADDRESS) FROM STUDENTS WHERE ADDRESS IS NOT NULL;

(ii) SELECT NAME,CLASS,GRADE FROM STUDENTS,SPORTS WHERE STUDENTS.ADMNO= SPORTS.ADMNO;

(iii) SELECT NAME,COACHNAME FROM STUDENTS,SPORTS WHERE STUDENTS.ADMNO= SPORTS.ADMNO;

98. SELECT CONSTRAINT_NAME, CONSTRAINT_TYPE FROM USER_CONSTRAINTS WHERE TABLE_NAME="EMP";

99. A **SAVEPOINT** is a point(temporary bookmark) in a transaction where you can roll the transaction back to a certain point without rolling back the entire transaction. We can say it is used for partial rollback.

OR

"SAVEPOINT" is used to assign temporary bookmark and used along with **"ROLLBACK TO"** statement for partial rollback.

SET AUTOCOMMIT=0;

1. UPDATE EMP SET SAL=SAL+500 WHERE DEPT="ACCTS";

2. SAVEPOINT A;

3. DELETE FROM EMP WHERE NAME="RAVI";

4. INSERT INTO EMP VALUES(105,"SMITH","SALE");

5. SAVEPOINT B;

6. UPDATE EMP SET DEPT= "STORE" WHERE EMPNO=104;

7. ROLLBACK TO SAVEPOINT A;

STATEMENT 7 WILL UNDO ALL THE STATEMENTS FROM 3 TO 6.

100. CURDATE() – Returns the current date.

DATE() – Extracts the date part of a date or date/time expression.

101. Cardinality will be 8 and Degree will be 5.

102. If SALARY column is defined as NULL and then if any employee's salary is missing then count function will not count those null valued salary. For example if EMPLOYEE table contains 10 record of employees and out of 10 employees say 7th employee's salary is not entered then output will be 10 and 9 for respective queries.

103. SELECT * FROM STUDENTS ORDER BY AGGREGATE, NAME DESC;

104. The COMMIT statement is used to end a transaction and make all changes permanent. COMMIT command permanently saves the changes made during the transaction execution. ROLLBACK command undoes the changes made during the transaction execution.

Syntax: COMMIT[WORK];

Syntax: ROLLBACK[WORK];

105. Cardinality--4 Degree -- 3

106. CREATE TABLE VEHICLE(RegNo CHAR(10) PRIMARY KEY, Regdate DATE, Owner VARCHAR(30), Address VARCHAR(40));

107.

(i) SELECT C.ENO,C.ENAME,C.SALARY,D.DNAME FROM EMPLOYEE C,DEPARTMENT D WHERE C.DEPT=D.DEPT AND C.AGE>=25 && C.AGE<=35;

(ii) SELECT D.DNAME,C.ENAME FROM EMPLOYEE C,DEPARTMENT D WHERE C.DEPT=D.DEPT AND C.ENO=D.HOD;

(iii) SELECT ENAME,SALARY,ZONE, (SALARY*30)/100 AS "INCOME TAX" FROM EMPLOYEE ;

108.

(i) REGNO and ADMNO can be chosen as Candidate Keys in the table RESULT.

(ii) UPDATE RESULT SET MARKS=95 WHERE NAME="Mukta";

109.

Single Row Function	Aggregate (Multiple Row) functions
Works on a single value / row	Works on a multiple values in a single column
Returns one value for each row	Returns one value after operating on single / multiple rows
Accepts one or more arguments	Accepts only one argument

Example of Single row function:

ROUND(X), CONCAT(str1,str2,...), SUBSTR(str, start position, number of characters) etc.

Example of Aggregate function:

MAX(), MIN(), AVG(), SUM(), COUNT()

110. Similarity:

- Both are used for storing non numeric data.
- Values must be enclosed in single quotes or double quotes.

Difference

- CHAR is used for fixed length strings whereas; VARCHAR is used for variable length strings.
- CHAR is padded with blank spaces to the specified length when stored whereas; in case VARCHAR no padding takes place.