➢ **Mathematics Functions**

1. Display the result of 5 multiply by 30.
   Select 5*30

2. Find out the absolute value of -25, 25, -50 and 50.
   Select ABS(-25),ABS(25),ABS(-50),ABS(50)

3. Find smallest integer value that is greater than or equal to 25.2, 25.7 and -25.2.
   Select CEILING(25.2), CEILING(25.7), CEILING(-25.2)

4. Find largest integer value that is smaller than or equal to 25.2, 25.7 and -25.2.
   Select FLOOR(25.2),FLOOR(25.7), FLOOR(-25.2)

5. Find out remainder of 5 divided 2 and 5 divided by 3.
   Select 5%2, 5%3

6. Find out value of 3 raised to 2nd power and 4 raised 3rd power.
   Select POWER(3,2), POWER(4,3)

7. Find out the square root of 25, 30 and 50.
   Select SQRT(25), SQRT(30), SQRT(50)

8. Find out the square of 5, 15, and 25.
   Select SQUARE(5), SQUARE(15), SQUARE(25)

9. Find out the value of PI.
   Select PI()

10. Find out round value of 157.732 for 2, 0 and -2 decimal points.
    Select ROUND(157.732,2), ROUND(157.732,0),ROUND(157.732,-2)

11. Find out exponential value of 2 and 3.
    Select EXP(2), EXP(3)

12. Find out logarithm having base b having value 10 of 5 and 100.
    Select LOG10(5), LOG10(100)

13. Find sine, cosine and tangent of 3.1415.
    Select SIN(3.1415), COS(3.1415), TAN(3.1415)

14. Find sign of -25, 0 and 25.
    Select SIGN(-25), SIGN(0), SIGN(25)

15. Generate random number using function.
    Select RAND()

➢ **String Functions**
1. Find the length of following. (I) NULL   (II) '   hello   ' (III) Blank
   Select LEN(null), LEN('hello'), LEN('')

2. Display your name In lower & upper case.
   Select LOWER('DARSHAN UNIVERSITY'), UPPER('Darshan Univeristy')

3. Display first three characters of your name.
   Select SUBSTRING('Darshan University',1,3)

4. Display 3rd to 10th character of your name.
   Select SUBSTRING('Darshan University',3,8)

5. Write a query to convert 'abc123efg' to 'abcXYZefg' & 'abcabcabc' to 'ab5ab5ab5' using REPLACE.
   Select REPLACE('abc123efg',123,'XYZ'), REPLACE('abcabcabc','c',5)

6. Write a query to display ASCII code for 'a','A','z','Z', 0, 9.
   Select ASCII('a'), ASCII('A'), ASCII('z'), ASCII('Z'), ASCII(0), ASCII(9)

7. Write a query to display character based on number 97, 65,122,90,48,57.
   Select Char(97),CHAR(65), CHAR(122), CHAR(90), CHAR(48), char(57)

8. Write a query to remove spaces from left of a given string '   hello world   '.
   Select LTRIM('   HELLo World   ') "L"

9. Write a query to remove spaces from right of a given string '   hello world   '.
   Select RTRIM('   hello world   ') as "R"

10. Write a query to display first 4 & Last 5 characters of 'SQL Server'.
    Select LEFT ('sql server',4), RIGHT ('sql server',7)

11. Write a query to convert a string '1234.56' to number (Use CAST()).
    Select CAST ('1234.56' as float) as 'Cast'

12. Write a query to convert a float 10.58 to integer (Use CONVERT()).
    Select CONVERT (int, 10.58)

13. Put 10 spaces before your name using function.
    Select SPACE (10) + 'Darshan University'

14. Combine two strings (Your name & Surname) using + sign as well as CONCAT ().
    Using + Sign: Select ('Darshan' + 'University') as 'using +'
    Using CONCAT (): Select CONCAT('Darshan', 'Univeristy') "using CONCAT()"

15. Find reverse of "Darshan".
    Select REVERSE ('Darshan') as "Reverse"

16. Repeat your name 3 times.
    Select REPLICATE ('Darshan',3)

17. Delete 3 characters from a string, starting in position 1, and then insert "HTML" in position 1. (Use STUFF())
    Select STUFF ('SQL Tutorial',1,3,'HTML')

18. From Data, returns the first non-null value in a list. (Use COALESCE()) Select COALESCE (null, null, 'HTML', 'SQL ', null, 'CSS')

19. Tests whether the expression is numeric. (Use ISNUMERIC())
    Select ISNUMERIC ('12.5')

20. Search for "t" in string "Customer", and return its position. (Use CHARINDEX())
    Select CHARINDEX('t','Customer')