**STATISTICS WORKSHEET-3**

1. b 2. C 3. A 4.b 5.d 6.a 7. b 8.d 9. a

10. What Is Bayes' Theorem?

Ans : Bayes' theorem describes the probability of occurrence of an event related to any condition. It is also considered for the case of conditional probability. Bayes theorem is also known as the formula for the probability of “causes”.

11. What is z-score?

**Ans : - A z-score (also called a**standard score**) gives you an idea of how far from the**[mean](https://www.statisticshowto.com/probability-and-statistics/statistics-definitions/mean-median-mode/)**a data point is.**

**12.** What is t-test?

Ans: - A t-test is an inferential [statistic](https://www.investopedia.com/terms/s/statistics.asp) used to determine if there is a significant difference between the means of two groups and how they are related. T-tests are used when the data sets follow a normal distribution and have unknown variances

13. What is percentile?

Ans:- Percentile is defined as the value below which a given percentage falls under

14. What is ANOVA?

Ans:- Analysis of variance (ANOVA) is an analysis tool used in statistics that splits an observed aggregate variability found inside a data set into two parts: systematic factors and random factors. The systematic factors have a statistical influence on the given data set, while the random factors do not. Analysts use the ANOVA test to determine the influence that independent variables have on the dependent variable in a regression study.

15. How can ANOVA help?

Ans:- ANOVA is helpful for testing three or more variables. It is similar to multiple two-sample t-tests. However, it results in fewer type I errors and is appropriate for a range of issues.

**WORKSHEET 3 SQL**

1. Write SQL query to create table **Customers.**

CREATE TABLE customer ( customerNumber int, customerName char, contactLastName char, contactFirstName char, phone int, addressLine1 varchar, addressLine2 varchar, city char, state char, postalCode int(6), country char, salesRepEmployeeNumber int, creditLimit int);

2. Write SQL query to create table **Orders.**

CREATE TABLE Orders ( orderNumber int,orderDate Date, requiredDate Date, ShippedDate Date, status varchar, comments char, customerNumber int);

3. Write SQL query to show all the columns data from the **Orders** Table.

Ans: SELECT \* from Orders;

4. Write SQL query to show all the comments from the **Orders** Table.

Ans: SELECT comments from Orders;

5. Write a SQL query to show orderDate and Total number of orders placed on that date, from Orders table.

Ans: SELECT (count orderDate) from order , Where order = OrderBY orderDate ;

6. Write a SQL query to show employeNumber, lastName, firstName of all the employees from **employees** table.

Ans: SELECT employeNumber,lastName,firstName from employees;

7. Write a SQL query to show all orderNumber, customerName of the person who placed the respective order.

Ans: - SELECT o.orderNumber

FROM orders o

LEFT JOIN customers c

ON c.customerNumber = o.customerNumber

WHERE c.customerName LIKE 'N%'

8. Write a SQL query to show name of all the customers in one column and salerepemployee name in another column.

Ans: SELECT customerName , saleRepEmployee from customers;

9.Write a SQL query to show Date in one column and total payment amount of the payments made on that date from the **payments** table.

Ans:- SELECT SUM(amount)

FROM payment

WHERE EXTRACT(DOW FROM payment\_date)= 1;

10. Write a SQL query to show all the products productName, MSRP, productDescription from the **products** table.

Ans:- SELECT productName,MSRP,porductDescription FROM products;

11. Write a SQL query to print the productName, productDescription of the most ordered product.

Ans:- SELECT p.`product\_id`, p.`name`, SUM(o.`quantity`) AS quantity

FROM `Order\_Detail` AS o

INNER JOIN `Product` AS p

ON o.`product\_id` = p.`product\_id`

GROUP BY o.`product\_id`

ORDER BY SUM(o.`quantity`) DESC, p.`name` ASC

LIMIT 50

12. Write a SQL query to print the city name where maximum number of orders were placed.

Ans:- SELECT customer\_id, COUNT(DISTINCT ord\_no), MAX(purch\_amt) FROM orders GROUP BY customer\_id ORDER BY 2 DESC;

13. Write a SQL query to get the name of the state having maximum number of customers.

Ans:-

14. Write a SQL query to print the employee number in one column and Full name of the employee in the second column for all the employees.

Ans:- SELECT employee number ,firstName from employee ;

15. Write a SQL query to print the orderNumber, customer Name and total amount paid by the customer for that order (quantityOrdered × priceEach).

**MACHINE LEARNING**

ASSIGNMENT – 3

1. a 2. d 3. c 4. b 5. d 6. c 7. d 8. a 9. b 10. b 11. a 12. b

13. What is the importance of clustering?

Ans:- Having clustering methods helps in restarting the local search procedure and remove the inefficiency. In addition, clustering helps to determine the internal structure of the data.

1. This clustering analysis has been used for model analysis, vector region of attraction.
2. Clustering helps in understanding the natural grouping in a dataset. Their purpose is to make sense to partition the data into some group of logical groupings.

14. How can I improve my clustering performance?

Ans:- Graph-based clustering performance can easily be improved by applying ICA blind source separation during the graph Laplacian embedding step. Applying unsupervised feature learning to input data using either RICA or SFT, improves clustering performance.