

## **MACHINE LEARNING**

### ANSWERES

Q1 → A) Least square error

Q2 → A) Linear Regression is sensitive to outliers

Q3 → B) Negative

Q4 → B) Correlation

Q5 → C) Low bias and high variance

Q6 → B) Predictive model

Q7 → D) Regularization

Q8 → D) SMOTE

Q9 → A) TPR and FPR

Q10 → B) False

Q11 → B) Apply PCA to project high dimensional data

Q12 → A) We don't have to choose the learning rate.

B) It becomes slow when number of features is very large.

Q13 → Regularization

The term regularization means to make things acceptable, in machine learning regularizations techniques are used to reduce the error by fitting a function approximately on the given training set and avoid overfitting. It is the process which shrinks the coefficients towards zero.

Q14 → There are mainly two regularization techniques

1. Lasso (L1) regularization

2. Ridge (L2) regularization

Lasso regularization: it modifies the over-fitted or under-fitted models by adding the penalty equivalent to the sum of the absolute values of coefficients.

Ridge regularization: Also known as Ridge Regression, it modifies the over-fitted or under fitted models by adding the penalty equivalent to the sum of the squares of the magnitude of coefficients.

Q15→ The term error is the difference between the actual value and the predicted value. It is the measure of how accurately a algorithm is able to predict the outcome values. If the error value is high lower is the accuracy of the model.

In linear regression equation :  $y = a + bx + e$  , where , 'e' is the error value which is the difference between predicted value and actual value. i.e.  $e = y_1 - y_0$  where  $y_1$  is predicted value and  $y_0$  is actual value.