MACHINE LEARNING

1. Which of the following methods do we use to find the best fit line for data in Linear Regression?
A) Least Square Error

2. Which of the following statement is true about outliers in linear regression?
A) Linear regression is sensitive to outliers

3. A line falls from left to right if a slope is _____?
B) Negative

4. Which of the following will have symmetric relation between dependent variable and independent variable?
B) Correlation

5. Which of the following is the reason for over fitting condition?
C) Low bias and high variance

6. If output involves label then that model is called as:
B) Predictive modal

7. Lasso and Ridge regression techniques belong to _____?
D) Regularization

8. To overcome with imbalance dataset which technique can be used?
D) SMOTE

9. The AUC Receiver Operator Characteristic (AUCROC) curve is an evaluation metric for binary classification problems. It uses _____ to make graph?
A) TPR and FPR

10. In AUC Receiver Operator Characteristic (AUCROC) curve for the better model area under the curve should be less.
B) False

11. Pick the feature extraction from below:
B) Apply PCA to project high dimensional data

choose all the correct options:

12. Which of the following is true about Normal Equation used to compute the coefficient of the Linear Regression?
A) We don't have to choose the learning rate.

ASSIGNMENT – 39 MACHINE LEARNING Q13 and Q15 are subjective answer type questions, Answer them briefly.

13. Explain the term regularization?

Ans: Regularization is one of the key concepts in Machine learning as it helps choose a simple model rather than a complex one. It also used to calibrate machine learning models in order to minimize the adjusted loss function and prevent overfitting or underfitting

14. Which particular algorithms are used for regularization?

Ans: LASSO regression: LASSO regression is also known as the L1 Regularization. LASSO regression converts coefficients of less important features to zero, which indeed helps in feature selection, and it shrinks the coefficients of remaining features to reduce the model complexity, hence avoiding overfitting.

Ridge Regression is also known as the L2 Regularization. Ridge regression shrinks the coefficients as it helps to reduce the model complexity and multi-collinearity.

Elastic-Net is a regularized regression method that linearly combines the L1 and L2 penalties of the LASSO and Ridge methods respectively.

15. Explain the term error present in linear regression equation?

Linear regression models are extremely critical to the interpretation of the regression coefficients. The error term is a random real number it may assume any positive, negative or zero value upon chance.