In Q1 to Q11, only one option is correct, choose the correct option:

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?
   A) Regression
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
   A) Descriptive model
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:
    A) Apply PCA to project high dimensional data

In Q12, more than one options are correct, 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) It becomes slow when number of features is very large.

    B) It does not make use of dependent variable.

13. Explain the term regularization?

Answer- Regularization refers to the techniques that are used to calibrate machine learning model in order to minimize the adjusted loss function and prevent overfitting and underfitting. Using regularization, we can fit our machine learning model appropriately on a given test set and hence reduce the error in it. While training in machine learning model, the model can easily be “overfitted” or” underfitted”. To avoid this, we use regularization in machine learning to properly fit model onto our test set. Under Bias-Variance trade off we have 2 methords a) Regularization b) Cross validation. There are 3 types of regularization techniques a) Lasso Regression b) Ridge Regression c) Elastic-Net Regression (Combination of Lasso & Ridge)

14. Which particular algorithms are used for regularization?

Answer- The algorithms that are used for regularization are as follows:

a) Lasso Regression

b) Ridge Regression

c)Elastic-Net Regression (Combination of Lasso and Ridge Regression)

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

Answer- Mean squared Error (MSE)

Mean Absolute Error (MAE)

Root Mean Squared Error (RMSE)

R2 score