MACHINE LEARNING

1. Which of the following methods do we use to find the best fit line for data in Linear Regression?
   Ans: **Least Square Error**
2. Which of the following statement is true about outliers in linear regression?
   Ans: **Linear regression is sensitive to outliers**
3. A line falls from left to right if a slope is _____?
   Ans: **Negative**
4. Which of the following will have symmetric relation between dependent variable and independent variable?
   Ans: **Correlation**
5. Which of the following is the reason for over fitting condition?
   Ans: **Low bias and high variance**
6. If output involves label then that model is called as:
   Ans: **Predictive modal**
7. Lasso and Ridge regression techniques belong to _____?
   Ans: **Regularization**
8. To overcome with imbalance dataset which technique can be used?
   Ans: **SMOTE**
9. The AUC Receiver Operator Characteristic (AUCROC) curve is an evaluation metric for binary classification problems. It uses _____ to make graph?
   Ans: **TPR and FPR**
10. In AUC Receiver Operator Characteristic (AUCROC) curve for the better model area under the curve should be less.
    Ans: **False**
11. Pick the feature extraction from below:
    Ans: **Apply PCA to project high dimensional data**
12. Which of the following is true about Normal Equation used to compute the coefficient of the Linear Regression?
    Ans: **We don't have to choose the learning rate.**
    It becomes slow when number of features is very large.
    We need to iterate.

13. Explain the term regularization?
    Ans: Regularization is the process of regularizes or shrinks the coefficient towards zero. This discourages Learning a more complex or flexible model to prevent overfitting.

14. Which particular algorithms are used for regularization?
    Ans: 1. Ridge Regression (L2 Regularization)
    2. Lasso Regression (L1 Regularization)
    3. Dropout

15. Explain the term error present in linear regression equation?
    Ans: Y=a+bx+e
    here e is error is the sum of squared difference between actual value and predicted value.
    $\sum(Y-\bar{Y})^2$