Answers to MCQs

1. A) Least Square Error

2. A) Linear regression is sensitive to outliers

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

4. B) Correlation will have symmetric relation.

5. C) Low bias and high variance

6. B) Predictive model

7. A) Cross validation- Lasso and Ridge regression techniques belong to cross validation.

8. A) Cross validation is used to overcome imbalanced dataset.

9. A) TPR and FPR are used to make graph.

10. B) False- The area under the curve should be high.

11. B) Apply PCA to project high dimensional data

12. A) and B) are true

13. Regularization refers to a technique that is used to calibrate machine learning models in order to minimize the adjusted loss function and prevent overfitting or underfitting. Using Regularization, we can fit our machine learning model appropriately on a given test set and hence reduce the errors in it.

14. There are three main types of algorithms used for regularization techniques: **Ridge Regularization, Lasso Regularization and Dropout**. **Ridge Regularization** modifies the over-fitted or under fitted models by adding the penalty equivalent to the sum of the squares of the magnitude of coefficients. **Lasso Regularization** modifies the over-fitted or under-fitted models by adding the penalty equivalent to the sum of the absolute values of coefficients. **Dropout** is

a regularization technique used in neural networks. It prevents complex co-adaptations from other neurons.

15. An **error term** represents the margin of error within a statistical model. It refers to the sum of the deviations within the regression line, which provides an explanation for the difference between the theoretical value of the model and the actual observed results.