MACHINE LEARNING ASSIGNMENT

ANSWERS:

Objective type:

1. A) Least Square Error
2. A) Linear Regression is sensitive to outliers.
3. B) Negative
4. B) Correlation
5. C) Low bias and high variance
6. B) Predictive model
7. D) Regularization
8. D) SMOTE
9. A) TPR and FPR
10. B) False
11. B) apply PCA to project high dimensional data
12. A), B) and D)

Subjective type:

13. **Regularization:** It is a technique used to reduce the errors by fitting the function appropriately on the given training set and avoid over-fitting.

14. The commonly used regularization techniques are:

    a) L1 regularization: A regression model which uses L1 regularization technique is called LASSO i.e. Least Absolute Shrinkage and Selection Operator, regression. It adds absolute value of magnitude of coefficient as penalty term to the loss function (L).

    b) L2 regularization: A regression model which uses L2 regularization technique is called Ridge regression. It adds squared magnitude of coefficient as penalty term to the loss function (L).

    c) Dropout

15. The error term of a regression equation represents all of the variation in the dependent variable not explained by the weighted independent variables. In simple words, an error term is a value which represents how observed data differs from actual population data.