

# Machine Learning Assignment

## Answer sheet

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### Q-1

1. A) Least square error
2. A) Linear regression is sensitive to outliers
3. C) Zero
4. D) None of these
5. D) None of these
6. B) Predictive modal
7. A) Cross validation
8. D) SMOTE (Synthetic Minority Over-Sampling Technique)
9. A) TPR and FPR
- 10.B) False
- 11.B) Apply PCA to project high dimensional data

### Q-2

12. A) We don't have to choose the learning rate.  
B) It becomes slow when number of features is very large.  
C) We need to iterate.

### Q-3

- 13.Regularization refers to techniques that are used to calibrate machine learning models in order to minimize the adjusted loss function and prevent overfitting or underfitting.
- 14.There are three main regularization techniques
  - 1) Ridge regression

2) Lasso (L2 Norm)

3) Dropout (L1 Norm)

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.