FLIP ROBO

ASSIGNMENT – 39

# MACHINE LEARNING

**In Q1 to Q8, only one option is correct, Choose the correct option:**

1. The computational complexity of linear regression is:

A) $(n2.4)$ B) $(n)$
C) $(n2)$ D) $(n3)$
Ans - B) $(n)$

2. Which of the following can be used to fit non-linear data?

A) Lasso Regression B) Logistic Regression
C) Polynomial Regression D) Ridge Regression
Ans - B) Logistic Regression

3. Which of the following can be used to optimize the cost function of Linear Regression?

A) Entropy B) Gradient Descent
C) Pasting D) None of the above.
Ans - B) Gradient Descent

4. Which of the following method does not have closed form solution for its coefficients?

A) extrapolation B) Ridge
C) Lasso D) Elastic Nets
Ans – C)Lasso

5. Which gradient descent algorithm always gives optimal solution?

A) Stochastic Gradient Descent B) Mini-Batch Gradient Descent
C) Batch Gradient Descent D) All of the above
Ans – D) All of the above

6. Generalization error measures how well a model performs on training data.

A) True B) False
Ans – A) True

7. The cost function of linear regression can be given as $(w0,1)= 12m\Sigma(w0+ w1x(i)- y(i))2mi=1$. The half term at start is due to:

A) scaling cost function by half makes gradient descent converge faster.
B) presence of half makes it easy to do grid search.
C) it does not matter whether half is there or not.
D) None of the above.
Ans –

8. Which of the following will have symmetric relation between dependent variable and independent variable?
A) Regression B) Correlation
C) Both of them D) None of these
Ans – B) Correlation

**In Q9 to Q11, more than one options are correct, Choose all the correct options:**

9. Which of the following is true about Normal Equation used to compute the coefficient of the Linear Regression?
A) We don't have to choose the learning rate.
B) It becomes slow when number of features are very large.
C) We need to iterate.
D) It does not make use of dependent variable.
Ans – A) We don't have to choose the learning rate
B) It becomes slow when number of features are very large

10. Which of the following statement/s are true if we generated data with the help of polynomial features with 5 degrees of freedom which perfectly fits the data?

A) Linear Regression will have high bias and low variance.
B) Linear Regression will have low bias and high variance.
C) Polynomial with degree 5 will have low bias and high variance.
D) Polynomial with degree 5 will have high bias and low variance.
Ans – B) Linear Regression will have low bias and high variance.