MACHINE LEARNING

Question 1 :- The computational complexity of linear regression is:

Ans :- (B) $O(n)$

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

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

Ans :- (C) Polynomial Regression

Question 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

Question 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

Question 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

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

Ans :- False

Question 7 :- The cost function of linear regression can be given as $J(w , w) = 1 \sum m (w + w (i) - (i))2$. The half term at start is due to: 0 1 $2m$ i=1 0 1

Ans :- **scaling cost function by half makes gradient descent converge faster.**

Question 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)**

Question 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 is very large.

C) We need to iterate.

D) It does not make use of dependent variable.

Ans :- **(A) & (B)**

Question 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 :- **(A) & (B) (Linear Regression will have high bias and low variance. & Polynomial with degree 5 will have low bias and high variance.)**