MACHINE LEARNING ANSWERS

Q1) Option A

Q2) Option A

Q3) Option B

Q4) Option B

Q5) Option C

Q6) Option B

Q7) Option D

Q8) Option D

Q9) Option A

Q10) Option B

Q11) Option A,B and C are correct

Q12) Option A,B and C

Q13) Regularization is a method used to reduce the errors in the model by reducing the bias or variance and fitting the function appropriately on to the given training set and avoiding underfitting or overfiiting of the data.

Q14) There are three algorithms used for Regularization

1. **Lasso Regression (L1 Least absolute shrinkage and selection operator)**

It is the process of adding information to prevent the over-fitting problem, so a small modification will be done to the cost function or error. It removes the features which are less significant to our output and makes their respective coefficients zero. It uses shrinkage to reduce the values . So, if the dataset has high dimensionality and high correlation, lasso regression can be used.

2. **Ridge Regression (L2)**

It is a model tuning method that used to analyse data when the number of predictor variables in a dataset exceeds the number of observations, or when a data has multicollinearity.

3. **Elastic Net**

It is a combination of both L1 Lasso and L2 Ridge Regressions

Q15) According to Linear regression $y = a + bx + e$

E is considered as error, It simply means the difference between the actual and predicted values.

It is also called cost function and It uses mean-squared errorto calculate the erorrs