ML Assignment 1:

Q1) Machine learning means machine will learn. Machine will understand the data and its relationships.

Q2) Classification of data into categories, prediction of results like market demand for a product, object detection using computer vision, machine translation from one language to another.

Q3) Labeled training set helps machine to learn relationships in data by comparing its predictions with actual labels.

Q4) Classification and regression

Q5) Clustering (kmeans and heirarchial), dimensionality reduction (PCA and singular value decomposition).

Q6) reinforced learning

Q7) clustering

Q8) semi supervised. Both clustering and models are required.

Q9) learning through new data incrementally.

Q10) out of core learning data is too large compared to computer’s memory. Core learning means both hardware and machine learning tasks are compatible.

Q11) instance based algorithm.

Q12) model parameter is trained while hyperparameter is tuned to find right parameter.

Q13) model based learning parameters look to search for generalizing data. They reduce costs to achieve success. They predict using the cost function.

Q14) good data, sufficient data, overfitting and underfitting, hardware capacity.

Q15) it means model has overfitted. Regularization, increasing training data, hyperparameter tuning could help.

Q16) test set is kept to test the model on its prediction and accuracy.

Q17) to double check the model.

Q18) to have ample and good data for all purposes, i.e., training, testing and development.

Q19) test set is small and not for training. Training would go wrong.