Question One

A. Explain the terms Artificial Intelligence (AI), Machine Learning (ML) and Deep Learning? / **4 marks**

B. What is Data Collection and Acquisition?/**2 marks**

C. Differentiate data, big data and ML dataset?/ **2 marks**

D. What are main Types of datasets? / **2 marks**

Question Two

A. A machine learning model is a mathematical representation of the result of a training process through the information it is given to find patterns, and from this it produces an Machine Learning model which can make predictions based on the designs it has found, list and explain the different types of Learning/ Training models of Machine learning that you know? **/6 marks**

B. Can you mention some advantages and disadvantages of decision trees? / **4 marks**

Question Three

A. What is a confusion matrix and why do you need it? / **4 marks**

B. Supervised learning is a type of machine learning algorithm where a model is trained on a labeled dataset, This means that the dataset used for training contains both input data and the corresponding output data, which is also known as the target or label, What is the difference between Classification and Regression and two examples for each one?/ **6 marks**

Question Four

A. Differentiate between K-Means and KNN algorithms?/ **4 Marks**

B. The performance metrics help us understand how well our model has performed for the given data, In this way, we can improve the model's performance by tuning the hyper-parameters. Differentiate Classification Metrics from Regression Metrics/ **4 marks**

C. List and explain how can we check the outliers problems in machine learning dataset?/ **4 marks**

Question Five

A. What are the performance metrics that can be used to estimate the efficiency of a linear regression model? / **2 marks**

B. handling missing values in machine learning have many types strategies , list and explain three strategies of handling missing values?/ **6 marks**

GOOD LUCK!!!