Q1) a) Define Artificial Intelligence (AI) and explain its major types.

b) What are the key differences between Machine Learning, Deep Learning, and AI?

Q2) a) Explain the difference between training error and testing error in machine learning models.

b) How do confusion matrices help in evaluating classification models?

Q3) a) Explain the key differences between biological vision and machine vision.

b) Define computer vision and list its major applications.

Q4) a) Define an artificial neural network (ANN) and explain its components.

b) What are activation functions? Explain ReLU, Sigmoid, and Softmax activation unctions.

Q5) a) Differentiate between **Keras, TensorFlow, Theano, and CNTK**.

b) Explain the **architecture of a simple neural network**.

Q6) a) Compare and contrast **Keras, TensorFlow, Theano, and CNTK** in terms of usability and performance.

b) Explain the difference between **overfitting and underfitting** in neural networks.