Task: “Build & Judge a Mini AI”

Part 1 — Chronology of AI

Write **one real-world example** for each stage:

Machine Learning → **Disease Diagnosis and Risk Prediction**
Deep Learning → **Recommendation Systems like Netflix and YouTube**
Computer Vision → **Autonomous Vehicles (e.g. Tesla Autopilot**)
NLP → **Spam Email Filtering (e.g. Gmail)**
LLMs → **ChatGPT or Google Gemini**

Part 2 — Deep Learning Architectures

Match the model to the use case:

1. **RNN - Early speech-to-text systems**
2. **LSTM - Text translation(old Google Translate)**
3. **CNN - Image recognition**
4. **Transformer - Predicting the next word in ChatGPT**

Use cases:

Image recognition
Text translation (old Google Translate)
Predicting the next word in ChatGPT
Early speech-to-text systems

Part 3 — Frameworks

Choose one framework (PyTorch / TensorFlow / Keras).
In **one sentence**, explain why you would use it if you were a student making a cat-vs-dog classifier.

Answer :

I would use Keras because it's beginner-friendly and makes it easy to build and train a cat-vs-dog classifier with just a few lines of code.

Part 4 — Evaluation Metrics

Imagine you built a spam filter. Answer:

Precision: If it marks 10 emails as spam and 7 are truly spam → what’s Precision?

Answer : Precision = 0.7

Recall: If there were 12 spam emails in total, how many did it catch? (use same example)
Answer : Recall = 7/12 = 0.5833

F1 Score: Use the formula and calculate (round to 2 decimals).
Answer : F1 score = 0.64

MSE/MAE: Predict your friend’s age (actual = 15, prediction = 18). Which metric punishes the error more?
Answer: MSE

BLEU/ROUGE: AI translated “The cat sat on the mat” as “Cat is on the mat.” Which metric (BLEU/ROUGE) do you think would give a high score?
Answer : ROGUE

Part 5 — Responsible AI & Explainability

You built an AI that predicts loan approvals.

A customer asks, “Why was my loan rejected?”
Write **one simple way** to explain the decision fairly (e.g., “Your income was too low compared to the loan size”).

Answer : The model predicted rejection because the combination of your income and credit history indicates a higher risk of loan default.

Deliverable: Each trainee should write answers in 5–7 short lines.