**Task: “Build & Judge a Mini AI”**

**Part 1 — Chronology of AI**

Write one real-world example for each stage:

Machine Learning → Recommendation systems Like spotify, Youtube

Deep Learning → Speech recognition

Computer Vision → Self driving cars

NLP → Chatbots like Alexa , Siri

LLMs → Assistant Agents

Part 2 — Deep Learning Architectures

Match the model to the use case: Use cases:

1. RNN Image recognition

2. LSTM Text translation (old Google Translate)

3. CNN Predicting the next word in ChatGPT

4. Transformer 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.

If I am student I would use keras to build a Cat Vs Dog classifier because it is very simple to use and easy to implement and need less 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?

Ans : Precision will be 70% (true positives/ total)

Recall: If there were 12 spam emails in total, how many did it catch?

(use same example)

Ans: Recall will be 0.58 (7/12)

F1 Score: Use the formula and calculate (round to 2 decimals).

Ans:F1 Score is 0.64 (0.6363)

MSE/MAE: Predict your friend’s age (actual = 15, prediction = 18). Which

metric punishes the error more?

Ans: In MAE, the Penalty will be the same. In this case it will be 3

While , In MSE , errors get squared. So here the penalty will be 3^2 = 9

So MSE punishes more than MAE

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?

ROUGE will give higher score than BLEU, Rogue focuses on the original information using the keywords

While BLEU use the complete sequence of words which can have some penalty

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”).

Ans : AI should reflect the logical reason and maintain an empathetic tone

(“ Your CIBIL score is low for this Loan “)

May suggest some ways to improve CIBIL as well as

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