Revision Time (Source: CBSE Facilitator Handbook)

Place the problems into a problem statement template

After understanding and writing the problems, **set your goals**, and make them your AI project target. Write your goals for your selected theme.

Suppose you have selected the theme of agriculture then write how AI will help farmers to solve their problems.

1. Determine what will be a good time for seeding?

2. Determine what will be a good time for harvesting?

3. Determine when and how much fertilizer will be applied to the selected crop?

Your final problem statement will look like the following table for :

Who	Stakeholders
	Farmers, Fertilizer Producers, Labours, Tractor Companies
What	The problem, Issue, Need
	Determine what will a good time for seeding or crop harvesting?
When	Context/Situation
	Decide the mature age for the crop and determine its time
Ideal Solution	Benefits
	Take the crop on time and supply against market demand on time

Activity Time: Now pick a goal and prepare a problem template for your idea.

Activity Time!

Purpose: Implementation of AI project cycle to develop an AI Model

Suggested Topics:

- Personalized Education Plan
- Smart Traffic Management
- Personalized Fitness
- Smart Home Management
- Wildlife Conservation using Drones

Activity Introduction:

- In this activity, students use the AI project cycle to conceptualise a solution for the given problem.
- AI project cycle is a 6-step process which aids in problem solving using Artificial Intelligence

Description:

- All individuals have different cognitive levels and personalities.
- Different people need attention towards different parts of their learning.
- A generalized education system does not provide that.

Activity Guidelines:

- Understand the problem.
- Learn the various aspects and developments in the field.
- Fill the AI Project Cycle mapping template for the problem.
- The solution to the problem of personalized education is an AI algorithm that trains over the behavior and choices of a student. Thus, all the requirements specific to a student could be recognized and addressed to.

Fill the AI Project Cycle mapping template for the selected problem:

AI Project Cycle Mapping Template					
Problem Solving	Data Acquisition	Data Exploration	Modelling	Evaluation	Deployment

Exercise:

1. What are the various stages of the AI Project Cycle? Can you explain each briefly.
2. Why is there a need to use a Problem Statement Template during problem scoping?
3. How will you differentiate between Training Data and Testing Data? Elaborate with examples.
4. Name various methods for collecting data. For each method, can you name at least one project in which you may use that method of data collection?
5. Name a few government websites from where you can get open-source data.
6. What do you think is the relevance of Data Visualization in AI?
7. List any five graphs used for data visualization.
8. How is Data Exploration different from Data Acquisition?
9. How is Machine Learning related to Artificial Intelligence?

10. Compare and contrast Rule-based and Learning-based approach in Al modeling indicating clearly when each of these may be used.

11. Identify which of the following are examples of classification/regression/clustering.

    I. Making a diagnosis for a patient on the basis of their symptoms

    II. Price prediction for a house coming up on sale

    III. HR shortlisting applications for interview based on information provided in candidates' resume

    IV. Credit Card Fraud prevention

    V. SPAM filters

12. What do you understand by the terms True Positive and False Positive?