



B.K. BIRLA CENTRE FOR EDUCATION

SARALA BIRLA GROUP OF SCHOOLS
A CBSE DAY-CUM-BOYS' RESIDENTIAL SCHOOL



PERIODIC TEST I 2026-27

ARTIFICIAL INTELLIGENCE – SET – 2 MARKING SCHEME/ ANSWER KEY

Class : VIII

Date :

Admission No.:

Duration : 1 Hrs

Max. Marks : 25

Roll No.:

SECTION – A

Q1. Fill in the blanks (6x1 = 6) **A.** A project has a specific beginning and a definite end. This characteristic is called **temporary** (or time-bound). **B.** The **Deployment** phase of the AI Project Cycle involves putting the model into a real-world production environment. **C.** In Data Acquisition, data collected from surveys and questionnaires is an example of a **primary** source. **D.** A computer sees an image as millions of tiny coloured dots called **pixels**. **E.** A project life cycle typically has four phases: Initiation, Planning, Execution, and **Closure** (or Closing). **F.** Public datasets from government websites are an example of **secondary** (or open) sources of data.

Q2. Choose the correct answer from the given options (5x1 = 5) **A.** Which phase of the AI Project Cycle uses the 4Ws Problem Canvas? **Answer: c) Problem Scoping**

B. After training, the model's performance is assessed using a separate test dataset. Which phase does this describe? **Answer: d) Evaluation**

C. Which of the following is the most reliable open-sourced data source for an AI project? **Answer: c) Government portals like data.gov.in**

D. The AI Project Cycle is a linear process – you always move forward and never revisit earlier steps. This statement is: **Answer: b) false** (*The AI project cycle is iterative, meaning you often loop back to improve the model*).

E. Extracting private data without permission is an offence. This statement is: **Answer: a) True**

SECTION – B: Short Answer Questions

Q3. What is the use of 4 W canvas? What does each 'W' identify? (2 Marks) **Answer:** The 4Ws Problem Canvas is a tool used in the Problem Scoping phase to completely understand a problem before trying to solve it. *What each 'W' identifies:*

- **Who:** The people facing the problem (stakeholders).
- **What:** The exact nature of the problem.
- **Where:** The context, situation, or location of the problem.
- **Why:** Why solving the problem is important and beneficial.

Q4. What is Data Acquisition? Why is the quality and quantity of data important for an AI model? (2 Marks) Answer: Data Acquisition is the process of collecting accurate and relevant data needed to train an AI system. *Importance:* An AI model learns entirely from data. If you have too little data (poor quantity) or incorrect/biased data (poor quality), the AI will make wrong predictions. This is known as "Garbage In, Garbage Out."

Q5. What is the difference between Primary and Secondary sources of data? Give one example of each. (2 Marks) Answer:

- **Primary Data:** Data collected directly for the first time by the person doing the project. (*Example: Conducting surveys, personal interviews, or using sensors*).
- **Secondary Data:** Data that has already been collected and published by someone else. (*Example: Government databases, news articles, or public websites like Kaggle*).

Q6. What do you mean by a problem statement? Give 1 example. (2 Marks) Answer: A problem statement is a clear, concise summary of the issue that needs to be solved. It is created after filling out the 4Ws Canvas to guide the project. *Example:* "Our school students (Who) are forgetting to bring their library books back on time (What) in the school library (Where), so we need an AI reminder system to avoid late fees and keep books available for everyone (Why)."

SECTION – C: Long Answer Questions

Q7. What is the AI Project Cycle? Explain any three steps of the AI Project Cycle in detail. (3 Marks) Answer: The AI Project Cycle is a step-by-step framework or process used to design, develop, test, and deploy an AI project successfully from start to finish. (*Students can explain any 3 of the following steps*):

1. **Problem Scoping:** The first step where we identify the problem, figure out who is affected, and define the goal using tools like the 4Ws canvas.
2. **Data Acquisition:** Gathering all the necessary data (like text, images, or audio) from primary or secondary sources to train the computer.
3. **Data Exploration:** Looking closely at the collected data using graphs and charts to find patterns, trends, and remove errors.
4. **Modelling:** Selecting the right AI algorithms and using the data to train the AI so it learns how to make decisions or predictions.
5. **Evaluation:** Testing the trained model with new data to check its accuracy and reliability before releasing it.
6. **Deployment:** Putting the finalized AI model into the real world so users can actually interact with it.

Q8. Explain Problem Scoping. How does it help in an AI project? Also describe any two benefits of doing proper Problem Scoping before starting a project. (3 Marks) Answer: Problem Scoping is the very first phase of an AI project where the main focus is to pinpoint the exact problem, understand the people involved, and decide if AI is the right solution for it. It helps by giving the project a clear direction and goal right from the beginning. *Benefits of proper Problem Scoping (Any two):*

1. **Saves time and effort:** It prevents teams from wasting resources building a solution for the wrong problem.
2. **Clarity:** It breaks down a big, confusing problem into a simple, understandable problem statement.
3. **Better Planning:** It helps in deciding exactly what kind of data will be needed in the next steps.