B.K. BIRLA CENTRE FOR EDUCATION

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

PERIODIC TEST 2025-26

ARTIFICIAL INTELLIGENCE – MARKING SCHEME (417)

Class : IX   **Duration : 1 Hrs**
Date   : 02-07-2025   **Max. Marks : 25**
Admission No.:   **Roll No.:**

General Instructions:

Try to attempt all questions as per given order.

All questions are compulsory.

The Question Paper is divided into Three sections Section A to C.

- Section A has 11 questions attempt 11 and carry 1 mark each.
- Section B has 6 questions attempt only 4 and carry 2 marks each.
- Section C has 4 questions attempt only 2 and carry 3 marks each.

Section-A

1. Which of the following is NOT a type of communication?   1
    A. Verbal   B. Non-verbal
    C. Written   D. Imaginary *

2. Which of the following is NOT one of the 3 P's of public speaking?   1
    A. Prepare   B. Practice
    C. Perform   D. Punish *

3. Which article correctly completes the sentence: "I saw ___ elephant at the zoo."   1
    A. a   B. an   *
    C. the   D. no article

4. Which of these is a sign of effective communication?   1
    A. Only one person speaks
    B. Message is clearly understood   *
    C. No response from listener
    D. Speaking louder than others

5.   Which of the following best defines Artificial Intelligence (AI)?   1
    A. Machines that are faster than humans
    B. Making machines perform tasks that require human intelligence *
    C. Writing computer programs only
    D. Machines replacing all humans

6. Which of the following is NOT a type of AI?   1
    A. Narrow AI
    B. General AI
    C. Emotional AI *
    D. Super AI

7. Which of the following is a domain of AI?   1
   A. Web design   B. Data entry
   C. Natural Language Processing *   D. Plumbing

8. What is the first stage of the AI project cycle?   1
   A. Modelling   B. Evaluation
   C. Problem Scoping *   D. Deployment

9. Which of these is part of the 4Ws Problem Canvas?   1
   A. What is the weather?
   B. Who are the stakeholders? *
   C. When will exams start?
   D. Why is AI costly?

10. Which of the following is an ethical concern in AI?   1
    A. High speed
    B. Free internet
    C. Bias in data and decision-making *
    D. AI speaking many languages

11. What is the purpose of Evaluation in AI?   1
    A. To change the topic
    B. To check the performance and accuracy of the model *
    C. To decorate the model
    D. To skip the testing part

SECTION - B

12 What is oral communication?   2
   Answer: **Oral communication** is the process of **expressing information or ideas by speaking**. It involves the use of **spoken words** to convey messages between people.

13 Write two disadvantage of non-verbal communication?   2
   Answer: It cannot effectively convey **detailed or technical information**.
   Body language, gestures, or facial expressions can be **interpreted differently** across cultures or individuals.

14 What is NLP?   2
   Answer: **NLP** stands for **Natural Language Processing**.
   It is a field of **Artificial Intelligence (AI)** that helps **computers understand, interpret, and respond** to **human language** (like English, Hindi, etc.). For Example: Siri, Alexa, Google Assistant

15 Write any two issues and concerns related to AI?   2
   Answer: As AI systems become more capable, they may **replace human workers** in certain jobs, leading to **unemployment** in some sectors.
   If AI is trained on **biased or incomplete data**, it can make **unfair or incorrect decisions**, especially in areas like hiring, loans, or law enforcement

16 What is confusion matrix?   2
   Answer: A **confusion matrix** is a table used to **evaluate the performance** of a classification model in **machine learning** or **artificial intelligence**. It compares the **actual values (true labels)** with the **predicted values** made by the model

17 What is Data Acquisition?   2
   Answer: **Data Acquisition** is the process of **collecting or gathering data** from various sources to use in an **Artificial Intelligence (AI)** or **Machine Learning (ML)** project.

SECTION – C

18   Differentiate between weak AI and strong AI.   3

Answer:

Aspect	Weak AI	Strong AI
Definition	AI that is designed to perform **specific tasks**	AI that can perform **any intellectual task like a human**
Also Known As	Narrow AI	General AI
Human-Like Thinking	Does **not truly understand** like humans	Can **think, reason, and learn** like humans
Examples	Siri, Alexa, Google Assistant, Chatbots	Hypothetical – not yet fully developed
Capabilities	Task-specific; limited to what it's programmed for	Can solve a wide range of problems independently
Learning Ability	Limited learning (based on training data)	Can learn and **apply knowledge across domains**

19   Give any three important applications of AI in real life.   3

Answer:

• Voice Assistants

AI is used in devices like Siri, Alexa, and Google Assistant to understand and respond to voice commands.

• Healthcare

AI helps doctors in diagnosing diseases, analyzing medical images (like X-rays), and providing personalized treatment suggestions.

• Self-Driving Cars

AI powers autonomous vehicles by helping them detect objects, follow traffic rules, and make real-time driving decisions.

20   A school is planning to develop a smart digital assistant to help students and staff with tasks   3
like answering questions, marking attendance using face recognition, and sending automated
reminders. The school also wants this system to work 24/7 without needing constant human
supervision.

Based on the above situation answer the following:

1. Identify and explain any **two AI domains** involved in this system.
2. Mention **one advantage** of using AI in this project.
3. Explain how **Natural Language Processing (NLP)** will help the assistant communicate with users.

Answer:

AI Domains:

Natural Language Processing (NLP): For understanding and responding to students' questions.

Computer Vision: For face recognition during attendance.

• Advantage of AI:

The system works 24/7, providing continuous support without human effort.

• Role of NLP:

NLP helps the assistant understand human language, enabling it to respond naturally to questions.

21   A group of students is working on an AI project to help reduce food waste in their school canteen.   3
They plan to collect daily data on leftover food, analyze it to find patterns, and then suggest how much food should be prepared in future. They aim to develop a simple app that gives daily predictions.
Based on the above project answer the following questions:
Identify and explain any **two stages** of the **AI Project Cycle** used by the students.
Why is **problem scoping** important before collecting data?
What kind of **data** will be useful in this project?

Answer:
Two AI Project Cycle Stages:
Data Acquisition: Collecting leftover food data daily.
Modelling: Using data to train a model that predicts food requirements.
Importance of Problem Scoping:
It helps clearly understand the goal — in this case, **reducing food waste**, so the solution can be focused.
Useful Data:
Amount of food prepared vs. leftover each day, number of students eating, type of meals served, etc.

** ALL THE BEST ! **