



INDIAN SCHOOL AL WADI AL KABIR

Class: VIII	Department: Computer Science
WORKSHEET-1	ARTIFICIAL INTELLIGENCE CHAPTER 2: AI AND ITS APPLICATIONS

Part A: Multiple Choice Questions (1 Mark Each)

- What is the primary goal of Artificial Intelligence?**
 - To replace human workers completely
 - To simulate natural human intelligence in machines to make them smarter
 - To build faster internet connections
 - To eliminate the need for satellite imagery
- AI helps in environmental protection by doing which of the following?**
 - Tracking wildlife populations
 - Predicting pollution levels
 - Detecting plastic waste
 - All of the above
- Which state in India used satellite imagery to identify 70 plastic dumps in 2023?**
 - Gujarat
 - Telangana
 - Himachal Pradesh
 - Maharashtra
- According to the source, poor air quality can specifically impair the academic performance of which group?**
 - Farmers
 - Students
 - Doctors
 - Pilots
- How do smart bins in cities like Pune improve waste management?**
 - By automatically burning trash
 - By using sensors to monitor waste levels and optimize collection routes
 - By turning plastic into metal
 - By providing free Wi-Fi to citizens
- What technology is used in Indore to segregate plastic, metal, and organic waste efficiently?**
 - Manual labor
 - Traditional filters
 - AI-based automated sorting machines
 - Vacuum cleaners
- The "Trail Guard AI" system is used in Indian tiger reserves to:**
 - Feed the animals
 - Provide real-time alerts when endangered animals like tigers are spotted
 - Track tourist vehicles
 - Record birdsong
- What is the purpose of the "Bharat Vistaar" platform announced in the 2026 Union Budget?**
 - To provide high-speed gaming for students
 - To help farmers with localized information on soil and weather in their own languages
 - To track urban traffic violations
 - To monitor international flights
- Which AI tool, validated by the ICMR, is used in India to detect tuberculosis (TB) from chest X-rays?**
 - Bharat Vistaar
 - SUMAN SAKHI
 - AI-driven image analysis tools
 - SWAYAM

10. **The "SUMAN SAKHI" chatbot launched in Madhya Pradesh provides 24/7 information on:**
 - a) Traffic rules
 - b) Soil health
 - c) Maternal care and high-risk pregnancy
 - d) Waste recycling
 11. **How do AI-powered washing machines improve efficiency?**
 - a) By using more water to ensure cleanliness
 - b) By automatically determining fabric type and dirt level to adjust water and detergent use
 - c) By requiring manual adjustment for every cycle
 - d) By playing music during the wash
 12. **In cities like Delhi and Bengaluru, AI is used in traffic signals to:**
 - a) Keep the lights red for longer
 - b) Take photos of every driver
 - c) Adjust signal timing based on real-time traffic conditions
 - d) Turn off the lights at night
 13. **Which platform allows Indian students to attend classes and learn without being physically present in a classroom?**
 - a) DIKSHA
 - b) e-NAM
 - c) SWAYAM
 - d) CROPIC
 14. **Which of these is an example of a "no-code" AI platform mentioned in the source?**
 - a) WhatsApp
 - b) Teachable Machine
 - c) Python
 - d) Microsoft Excel
 15. **In a "Teachable Machine" project, why would you record "Background Noise"?**
 - a) To make the AI louder
 - b) To help the model distinguish between actual commands and silence/room sounds
 - c) To record a podcast
 - d) To test the computer speakers
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Part B: Short Answer Questions (2 Marks Each)

1. **Explain how AI helps authorities manage air quality in cities.**
 - AI systems analyze data from monitoring stations and weather patterns to predict when and where pollution will increase. This allows authorities to take preventive steps, such as advising schools to cancel outdoor activities or restricting vehicles in high-pollution areas.
2. **What is "Predictive Healthcare" and how does it benefit patients in India?**
 - Predictive healthcare uses data from medical records, lifestyle patterns, and wearable devices to anticipate potential illnesses before they occur. In India, it helps prioritize care for high-risk individuals, reducing hospital visits and improving overall health outcomes.
3. **Describe the function of the CROPIC mobile application.**
 - CROPIC stands for 'Collection of Real Time Observations and Photo of Crops'. It allows farmers to upload photos of their crops at different stages so the AI can check for signs of stress or damage and provide real-time health tracking.
4. **How does AI-driven automation transform a traditional home into a "Smart Home"?**
 - AI automates everyday tasks like controlling lights, fans, and AC based on voice commands or usage patterns. It also improves security by using AI-powered cameras that detect unusual activity and send real-time alerts to the owner.
5. **Define "No-Code AI tools" and identify who can use them.**
 - No-code AI tools allow people to create AI applications using simple graphical interfaces without needing to be computer programmers. They are designed so that anyone can build models by simply providing examples, such as images or voice recordings.

Part C: Long Answer Questions (4 Marks Each)

1. **Discuss how AI assists in environmental protection across three different areas: waste management, wildlife conservation, and soil health.**
 - **Waste Management:** AI uses smart sensors in bins to optimize collection routes and image recognition to help sorting facilities segregate plastic, metal, and organic waste efficiently.
 - **Wildlife Conservation:** AI-powered camera traps, like Trail Guard AI, identify endangered species in real-time and alert officials to prevent poaching or monitor populations.
 - **Soil Health:** AI platforms like Bharat Vistaar analyze soil data from sensors to recommend specific fertilizers and irrigation schedules, helping farmers restore degraded soil.
2. **Explain the impact of AI on the modern Indian education system, specifically regarding assessments and accessibility.**
 - **Assessments:** AI transforms evaluation by using automated assessment systems, such as those on the DIKSHA platform, which grade assignments and quizzes instantly. This provides students with immediate feedback on their mistakes, whereas manual grading could take days or weeks.
 - **Accessibility:** AI enables virtual classrooms through platforms like SWAYAM, allowing students to access study materials and interact with teachers in real-time from any location. This removes the need for physical presence in a classroom, making quality education accessible to students in remote or underserved areas.

Answers for the 15-Questions

1. **b)** To simulate natural human intelligence in machines to make them smarter.
2. **d)** All of the above.
3. **c)** Himachal Pradesh.
4. **b)** Students.
5. **b)** By using sensors to monitor waste levels and optimize collection routes.
6. **c)** AI-based automated sorting machines.
7. **b)** Provide real-time alerts when endangered animals like tigers are spotted.
8. **b)** To help farmers with localized information on soil and weather in their own languages.
9. **c)** AI-driven image analysis tools.
10. **c)** Maternal care and high-risk pregnancy.
11. **b)** By automatically determining fabric type and dirt level to adjust water and detergent use.
12. **c)** Adjust signal timing based on real-time traffic conditions.
13. **c)** SWAYAM.
14. **b)** Teachable Machine.
15. **b)** To help the model distinguish between actual commands and silence/room sounds.