Class 4

Answer Key

AI RoboGenius

1. Human vs Artificial Intelligence

ROBO CHECK

A. 1. (iii) 2. (ii) 3. (i) 4. (iv)

B. 1. T 2. T 3. T 4. T

COMPETENCY-BASED QUESTIONS

1. Ishita's ability to solve puzzles faster with practice shows the quality of learning from experience.
2. The ability of Artificial Intelligence shown here is Natural Language Processing (NLP).

2. Smart World with AI

ROBO CHECK

A. 1. (ii) 2. (iii) 3. (iv) 4. (i) 5. (ii)

B. 1. T 2. F 3. T 4. F 5. T

C. 1. Smart cities 2. Energy 3. Drones 4. Programs
5. Google Assistant

COMPETENCY-BASED QUESTIONS

1. Google Maps can suggest a faster alternative route in real time.
2. Priya is using a smart thermostat to adjust its temperature automatically.

3. Introduction to Robots, AI and Micro:bit

ROBO CHECK

A.	1. (i)	2. (iv)	3. (ii)	4. (ii)	5. (i)
B.	1. F	2. T	3. T	4. T	5. T
C.	1. Humanoid	2. Boston Dynamics	3. Manav	4. Accuracy	5. Electricity

COMPETENCY-BASED QUESTIONS

1. The key features of this humanoid robot that make it useful in a research environment are:
   - It can speak several languages, helping it communicate with different people.
   - It can recognise faces, allowing it to identify people.
   - It offers helpful information, assisting researchers with tasks.
2. The robot benefits the worker and the company in the following ways:
   - For the worker: The robot can reduce strain and fatigue by doing repetitive and physically demanding tasks.
   - For the company: The robot performs the task with precision and speed. It improves efficiency and consistency, which leads to higher productivity.

CASE STUDY

1. The company faced slow productivity and human errors in its manufacturing process.
2. The company gained improved productivity and safety.

4. Logical Thinking and Early Algorithms

ROBO CHECK

A.	1. (ii)	2. (i)	3. (ii)	4. (i)	5. (ii)
B.	1. F	2. T	3. F	4. T	5. F
C.	1. Sequencing	2. Timing	3. Accurate	4. Forever	5. flow

COMPETENCY-BASED QUESTIONS

1. Timing ensures the cake is properly baked by ensuring the right baking time.
2. Sequencing and order of commands are key to ensuring the robot performs actions correctly.

CASE STUDY

1. Sequencing in the robot's program ensures they follow the correct order.
2. It ensures that tasks are performed in the correct order, preventing mistakes and reducing errors.

5. Coding with Micro:Bit

A.	1. (ii)	2. (ii)	3. (iv)	4. (i)	5. (ii)
B.	1. T	2. F	3. T	4. T	5. T
C.	1. Download	2. Show string	3. Live preview	4. Block-based	5. Information

COMPETENCY-BASED QUESTIONS

1. Use the Make a Variable block to create the variable that will store the count. The Change by block updates the count.
2. Ananya can use the if-then-else block.

6. Sensors in Micro:Bit

A.	1. (iii)	2. (iv)	3. (i)	4. (i)	5. (i)
B.	1. T	2. T	3. F	4. T	5. F
C.	1. Sensors	2. X, Y, Z	3. Motion	4. Compass	5. Directional

COMPETENCY-BASED QUESTIONS

1. Aman would use the "on shake" block to trigger an alarm when the Micro:bit is moved or shaken.
2. Priya would use the "on tilt" block to detect the tilt direction and display an arrow accordingly on the Micro:bit.