Class 5

Answer Key

RoboGenius Pro

1. Introduction to Robotics and AI

ROBO CHECK

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

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

C. 1. Smart machine 2. Robotics 3. Military 4. Natural Language Processing 5. Make decisions

COMPETENCY-BASED QUESTIONS

1. Self-driving cars
2. Robotic vacuum cleaner

CASE STUDY

1. RoboGuard is a service robot used in military operations. It performs tasks like bomb disposal, surveillance and patrolling restricted areas.
2. RoboGuard is equipped with wheels, cameras, sensors and a microcontroller to navigate hazardous environments and detect threats.

2. Exploring Real vs Simulated Components

ROBO CHECK

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

B. 1. T 2. F 3. T 4. T 5. F 6. T

C. 1. Framework 2. Software 3. Simulations 4. AI 5. Digital

COMPETENCY-BASED QUESTIONS

1. Manvi's robot is using sensors and a controller.
2. Amit is using simulation.

CASE STUDY

1. The benefit of Neha using SimuBot before building the real robot was that it allowed her to identify and fix issues without wasting materials.
2. The issue Neha identified with her robot during the simulation was that the robot moved too fast and missed dirt spots, meaning it was not covering all areas efficiently.

3. Micro:bit and the World Around Us

ROBO CHECK

A.	1. (ii)	2. (iii)	3. (ii)	4. (iv)	5. (i)
B.	1. T	2. T	3. T	4. T	5. F
C.	1. Pins	2. Bluetooth	3. Light	4. 25	5. 3V pin

COMPETENCY-BASED QUESTIONS

1. Arjun should use the temperature sensor to measure the temperature. For output, he can use the LED display to show the temperature and the speaker to give a warning when it gets too hot.
2. Aarav should use the Button A to trigger the action of displaying his name when pressed.

4. Creative Projects with Micro:Bit

ROBO CHECK

A.	1. (i)	2. (ii)	3. (iii)	4. (iv)	5. (ii)
B.	1. T	2. F	3. T	4. T	5. T
	6. F	7. T	8. T		
C.	1. LEDs	2. Logical reasoning	3. Code	4. Groups	5. Pedometer

COMPETENCY-BASED QUESTIONS

1. Navya should use the accelerometer to detect movement in the room. For output, she can use the speaker to trigger an alarm when movement is detected.
2. Kiran should use the accelerometer to detect the shake. Each shake will increase the count and the updated number can be displayed on the LED display.