

1. Introduction to Robots and AI



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|----------------|----------------|----------|---------------|------------|
| A. 1. (ii) | 2. (i) | 3. (ii) | 4. (ii) | 5. (i) |
| B. 1. T | 2. F | 3. T | 4. F | 5. T |
| C. 1. Software | 2. Programming | 3. Power | 4. Controller | 5. Sensors |

COMPETENCY-BASED QUESTIONS

1. The end effector
2. The sensors

CASE STUDY

1. These robots have sensors that help them avoid students.
2. Artificial Intelligence (AI) helps the robots choose the best path to deliver items safely.
3. Robots save time and assist staff by doing tasks that would otherwise take longer or be repetitive.

2. Logical Thinking and Early Algorithms



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|----------------|---------|---------------|----------|----------|
| A. 1. (ii) | 2. (i) | 3. (ii) | 4. (ii) | 5. (iii) |
| B. 1. T | 2. F | 3. F | 4. T | 5. T |
| C. 1. Sequence | 2. Loop | 3. Pseudocode | 4. Robot | 5. Same |

COMPETENCY-BASED QUESTIONS

1. Rahul should use a loop.
2. The part might fall or not reach the belt at all.

CASE STUDY

1. Posha can make different dishes like pasta, soups and stir-fries. It uses special sensors to make sure the food is cooked perfectly and it adjusts the heat and stirs the ingredients at the right time.
2. Because Posha followed the recipe of vegetarian stir-fry perfectly.
3. You only need to choose a recipe, add the ingredients and Posha takes care of the cooking! By this way Posha makes cooking fun and easy.

3. Meet the Micro:Bit



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| A. 1. (ii) | 2. (ii) | 3. (iii) | 4. (ii) | 5. (i) |
| B. 1. T | 2. T | 3. F | 4. T | 5. F |
| C. 1. 5x5 | 2. Edge | 3. MakeCode | 4. Basic | 5. Input |

COMPETENCY-BASED QUESTIONS

1. Avina should use the 'show string' block to display the text.
2. Neha should use the 'show number' block to display the number.

4. Playing with Lights and Buttons



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|-------------|------------------|----------|-----------|----------|
| A. 1. (iii) | 2. (iv) | 3. (i) | 4. (ii) | 5. (iii) |
| B. 1. F | 2. T | 3. T | 4. F | 5. T |
| C. 1. 25 | 2. Input devices | 3. Front | 4. lights | 5. LED |



COMPETENCY-BASED QUESTIONS

1. This activity helps Aarav to understand that the buttons act as input devices that allow you to control the program in micro:bit.
2. Riya understands that the 'show leds' block helps you design your own shapes or patterns by turning specific LEDs On or OFF. When several LEDs light up together, they form patterns, shapes, letters or images on the display.

