



Robotics Syllabus for STD 5TH

Unit 1. Flash Light and Musical Performer Robot

- What is a robot?
 - Robots around us (home, school, hospitals, space)
 - Difference between humans and robots
 - Building robots using blocks/kits
 - Introduction to scratch
 - Introduction to light and sound in robots
 - Use of LEDs and buzzer
 - Understanding input and output
 - Building robots using blocks / kits
 - Activity: Simple robot performance actions
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Unit 2. Magical Light with Ultrasonic Sensor

- Main parts: body, brain, sensors, motors
 - Simple idea of **input** → **process** → **output**
 - Introduction to ultrasonic sensor
 - Distance detection concept
 - Automatic light ON and OFF
 - Building robots using blocks / kits
 - Activity: Real-life examples of smart lighting
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Unit 3. Light Sensor and Smart Light

- Introduction to light sensor
 - Working of light sensor in bright and dark areas
 - Automatic street light concept
 - Building robots using blocks / kits
 - Activity: smart lights Robot
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Unit 4. Smart Fan with Ultrasonic Sensor

- Introduction to motion detection
 - Use of ultrasonic sensor in smart fan
 - Automatic fan operation
 - Advantages of smart fans
 - Building robots using blocks / kits
 - Activity: Smart Fan Robot
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Unit 5. Car Robot

- Parts of a car robot
 - Motor and wheel movement
 - Directions: forward, backward, left, right
 - Safety while handling robot cars
 - Building robots using blocks / kits
 - Activity: Car Robot
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Unit 6. Robot Car with Eyes

- Obstacle detection concept
 - Sensors as robot “eyes”
 - Automatic stopping and turning
 - Avoiding collisions
 - Building robots using blocks / kits
 - Activity: Car Robot with Eyes
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Unit 7. Automated Watering System

- Introduction to moisture sensor
- Detecting dry and wet soil



- Automatic watering of plants
 - Importance of water conservation
 - Building robots using blocks / kits
 - Activity: Automated Watering system Robot
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Unit 8. Colourful Light Robot

- Introduction to LEDs
 - Different light colours
 - Creating light patterns and sequences
 - Uses of colourful light robots
 - Building robots using blocks / kits
 - Activity: Colourful Lights Robot
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Teaching Approach

- Activity-based learning
- Demonstrations and simple experiments
- Hands-on robot building (real or simulated)