



## Robotics Syllabus for STD 6TH

### ROBOTICS – SYLLABUS HINTS

#### 1. Flash Light and Musical Performer Robot

1. What is a robot?
2. Robots around us (home, school, hospitals, space)
3. Difference between humans and robots
4. Introduction to light and sound in robots
5. Use of LED and buzzer
6. Input and output concept
7. Simple robot actions
8. Fun robot performance
9. Building robots using blocks / kits

Fun Activity Robot: **Flash Light and Musical Performer Robot**

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#### 2. Car Robot

1. Main parts: body, brain, sensors, motors
2. Simple idea of **input → process → output**
3. Parts of a robot car
4. What is coding?
5. Step-by-step instructions
6. Motor and wheel movement
7. Direction control
8. Basic robot commands
9. Safety while handling robot cars
10. Fun robot performance
11. Building robots using blocks / kits

Fun Activity Robot: **Car Robot**

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### 3. Robot Car with Eyes

1. Sensors as robot eyes
2. Obstacle detection
3. Automatic stopping and turning
4. Collision avoidance
5. Real-life applications
6. Building robots using blocks / kits

Fun Activity Robot: **Car Robot with eyes**

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### 4. Magical Light with Ultrasonic Sensor

1. Introduction to ultrasonic sensor
2. Distance sensing concept
3. Automatic light ON and OFF
4. Smart lighting system
5. Daily life examples
6. Building robots using blocks / kits

Fun Activity Robot: **Magical Light with Ultrasonic Sensor**

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### 5. Light Sensor and Sound Sensor for Smart Light

1. Introduction to light sensor
2. Introduction to sound sensor
3. Automatic light control
4. Energy saving concept
5. Smart home application
6. Building robots using blocks / kits

Fun Activity Robot: **Light Sensor and Sound Sensor for Smart Light**

## **6. Smart Fan with Ultrasonic Sensor**

1. Motion detection using sensor
2. Automatic fan operation
3. Energy conservation
4. Smart appliance concept
5. Safety and proper use
6. Building robots using blocks / kits

Fun Activity Robot: **Smart Fan with Ultrasonic Sensor**

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## **7. Automated Watering System**

1. Introduction to moisture sensor
  2. Detecting dry and wet soil
  3. Automatic watering process
  4. Water conservation
  5. Uses in gardening and farming
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## **8. Never Get Lost**

*(Navigation & Direction Concept)*

1. Introduction to directions
2. Following paths and routes
3. Sensor-based navigation
4. Obstacle awareness
5. Safe movement of robots