



Incubated at
REP IIT Bhubaneswar

100% FREE • ONLINE • LIVE • ZOOM

ROBOTICS: UNLOCKED

A 15-day, grade-specific live robotics program for Class 6, 7 & 8 students.

Build real projects, learn from IIT-backed experts,
and unlock your future in technology — **FOR FREE.**

15
Live sessions
1 per week

₹0
Total tuition
Completely free

3
Grade-specific
batches

Register Now — Limited Seats Available

Comment "ROBOTICS" on our Instagram post

XROBOTICS — Program Overview

ROBOTICS: UNLOCKED

BATCH SCHEDULE

Pick your grade batch

Class 6 Every Thursday	12:00 PM – 1:00 PM 60 min - 15 sessions
Class 7 Every Thursday	2:00 PM – 3:00 PM 60 min - 15 sessions
Class 8 Every Wednesday	12:00 PM – 1:00 PM 60 min - 15 sessions

WHO IT'S FOR

Built for curious young minds

No prior experience needed. Each grade follows a unique curriculum tailored to their level — from basic circuits and sensors to full robotic systems.

- Class 6 - Ages ~11
- Class 7 - Ages ~12
- Class 8 - Ages ~13-14
- Zero prior experience
- Online via Zoom
- Live & interactive

XROBOTICS KIT BOX

Hardware Kit OPTIONAL ADD-ON
Delivered before Week 1. Includes everything students need to build along in class.

- Microcontroller board
- Servo & DC motors
- Robot chassis & wheels
- Buzzer, switch & battery
- IR & ultrasonic sensors
- LED, wires & jumpers
- Breadboard & resistors
- Project guidebook

HOW TO JOIN

Register in 3 easy steps

- Comment "ROBOTICS" on Instagram**
Find our post or reel and comment the keyword. Our chatbot responds to you instantly in DM.
- Select your grade in the DM**
Choose Class 6, 7, or 8. You'll receive the correct Zoom registration link for your batch.
- Complete Zoom registration**
Fill in name, email & WhatsApp number. Done — weekly session reminders are sent automatically.

WHY XROBOTICS

What makes us different

- IIT Bhubaneswar Incubated**
Built with academic rigor, backed by one of India's premier technical institutions.
- Grade-specific learning paths**
Class 6, 7 and 8 have a completely unique curriculum suited to their level.
- Project-based, hands-on learning**
Students build real-world systems — 3 phases: Theory → Beginner → Intermediate → Advanced.
- Tinkercad simulation included**
All practical sessions use Tinkercad — students simulate circuits online even without the kit.
- Certificate & final showcase**
Day 15 is a final presentation. Students demonstrate projects and receive recognition for their work.

Click Here to

BUY NOW

Join the Cohort — It's Completely Free

XROBOTICS WORKS PVT LTD - Incubated at IIT Bhubaneswar

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XROBOTICS — Class 6 Curriculum

15-DAY ROBOTICS: UNLOCKED

Class 6

15-Day Curriculum · Wednesdays, 1:00-2:00 PM · Online via Zoom

Foundational Level

PHASE 1 — THEORY · DAY 1-3

- Day 1 Introduction to Robotics & Sensors**
What is a robot - Tools vs machines vs robots - Robot elements: structure, power, movement, control - Sensor types: light, temperature, IR, touch - Input vs output devices - Real-life examples: automatic doors, street lights, alarm systems
- Day 2 Basics of Electricity & Circuits**
What is electricity - Open and closed circuits - Components: battery, wires, LED, switch - Series and parallel circuits - Safety precautions
- Day 3 Magnetism & Energy Concepts**
What is a magnet - Magnetic poles - Attraction and repulsion - Introduction to electromagnets - Basic idea of wireless energy transfer

BEGINNER PRACTICAL · DAY 4-7

- Day 4 Introduction to Tinkercad Circuits**
Explore Tinkercad interface - Build a simple LED circuit
Project: LED Magic - Glow a LED
- Day 5 Switch-Based Circuit**
Project: Light on Click - LED Circuit with a Switch
- Day 6 Series & Parallel Circuits**
Project: Build a Series and Parallel Circuit
- Day 7 Multi-LED Circuit**
Project: DuoGlow Circuit - Light up Two LEDs in Series

INTERMEDIATE PRACTICAL · DAY 8-11

- Day 8 Sensor Application**
Project: Obstacle Detection - Sense an Object using an IR Sensor
- Day 9 Alarm System**
Project: Manual Alarm System
- Day 10 Motor Application**
Project: Mini Cooling Fan
- Day 11 Motion-Based Model**
Project: Wind Driven Car

ADVANCED PRACTICAL · DAY 12-15

- Day 12 Wireless Energy Project**
Project: Watts Without Wires - Wireless Electricity
- Day 13 Electromagnet Project**
Project: Magnetic Marvel - Hands-on with Electromagnet
- Day 14 3D Design Basics**
Create simple models in Tinkercad - Design basic shapes like wheels or a simple robot body
- Day 15 Final Presentation & Showcase**
Demonstration of projects - Explanation of working principles - Evaluation based on understanding and creativity

Learning Outcomes — Class 6

- Understanding of sensors and their role in robotics Ability to build
- basic electrical circuits Hands-on experience with motors and
- magnetism Exposure to circuit simulation and basic 3D design using
- Tinkercad Development of logical thinking and problem-solving
- skills

Class 6 - Wednesdays 1:00-2:00 PM

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XROBOTICS — Class 7 Curriculum

15-DAY ROBOTICS: UNLOCKED

Class 7

15-Day Curriculum · Thursdays, 2:00-3:00 PM · Online via Zoom

Intermediate Level

PHASE 1 — THEORY · DAY 1-3

- Day 1 Introduction to Robotics & Systems**
What is a robot - Automated vs manual systems - System components: Input (switch, sensor) - Process (logic) - Output (LED, motor, buzzer) - Real-life automation: traffic lights, security systems, smart lighting
- Day 2 Electronics Fundamentals**
Current, voltage, and resistance - Components: battery, resistor, LED, switch, buzzer - Series and parallel circuits - Importance of circuit design
- Day 3 Sensors & Control Logic**
Sensor types: IR, flame, light-based detection - Manual vs semi-automatic control systems - Introduction to Tinkercad simulation and design

BEGINNER PRACTICAL · DAY 4-7

- Day 4 Basic Circuit Simulation**
TinkerCAD-based simulation - Build LED circuit - Simulate ON/OFF conditions
- Day 5 Signaling Systems**
Create blinking LED circuit - Understand timing concept (manual switching)
Project: Blinking Light Signaling System
- Day 6 Sequential Logic**
Create pattern-based LED signaling - Understand sequence flow
Project: Sequential Signaling System
- Day 7 Manual Control Systems**
Build traffic light model using LEDs and switches - Learn control sequencing
Project: Manual Traffic System

INTERMEDIATE PRACTICAL · DAY 8-11

- Day 8 Energy Experiment**
Generate electricity using lemon cells - Observe voltage generation
Project: Lemon Battery Experiment
- Day 9 Basic Energy Transfer**
Demonstrate wireless power transfer at basic level - Understand energy transmission concept
Project: Electronics-based Wireless Electricity
- Day 10 Mechanical + Electrical Integration**
Build manually controlled dispensing mechanism - Combine mechanical design with circuit control
Project: Manual Water Dispensing System
- Day 11 Motor-Based System**
Build simple motor-driven car - Control movement using switches
Project: Manual Controlled CAR

ADVANCED PRACTICAL · DAY 12-15

- Day 12 Sensor-Based Systems**
IR sensor for detection - Output using LED/buzzer
Project: Obstacle Avoiding System
- Day 13 Safety Systems**
Detect flame/light intensity - Trigger alert system
Project: Flame Detection System
- Day 14 Smart Automation Projects — Student Choice (1-2 Projects)**
Smart Lighting System | Smart Security System | Manual Door Lock | Smart Display System
- Day 15 Tinkercad 3D Design + Final Presentation**
Design a product (smart home model / security enclosure / traffic layout) - Final presentation: working model, design explanation, logic explanation

Learning Outcomes — Class 7

- Understanding of electronics and basic control systems Ability to
- design and simulate circuits using Tinkercad Hands-on experience
- with sensors, motors, and signaling systems Integration of
- mechanical and electrical concepts in real projects Development of
- logical thinking, system design, and 3D design skills

Class 7 - Thursdays 2:00-3:00 PM

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XROBOTICS — Class 8 Curriculum

15-DAY ROBOTICS: UNLOCKED

Class 8

15-Day Curriculum · Day&Time TBD · Online via Zoom

Advanced Level

PHASE 1 — THEORY · DAY 1-3

- Day 1 Robotics System Design**
What is a robot and automation - System architecture: Input (sensors) - Processing (logic) - Output (actuators) - Real-world smart systems: smart homes, smart cities
- Day 2 Electronics & Circuit Design**
Voltage, current, resistance - Series and parallel circuits - Sensors: IR, ultrasonic, gas, temperature - Actuators: motor, buzzer, LED, pump - Power management basics
- Day 3 Sensors & Control Logic**
Ultrasonic sensor (distance measurement) - IR sensor (object detection) - Gas sensor (air quality/breath analysis) - Conditional logic: If condition → action - System integration concept

BEGINNER PRACTICAL · DAY 4-7

- Day 4 Distance Measurement**
Use ultrasonic sensor - Indicate distance using LED or buzzer
Project: Distance Measurement Device
- Day 5 Basic Automation**
Light-based ON/OFF system - Automatic control using sensor
Project: Smart Street Lighting System
- Day 6 Hygiene Automation**
Sensor-based liquid dispensing mechanism
Project: Hand Sanitizer Dispenser
- Day 7 Smart Utility System**
Automatic lid opening using sensor
Project: Smart Dustbin

INTERMEDIATE PRACTICAL · DAY 8-11

- Day 8 Line Tracking**
IR sensor-based path tracking
Project: Line Following Car
- Day 9 Object Detection**
Detect and avoid obstacles using sensors
Project: Obstacle Avoiding Car
- Day 10 Human Interaction System**
Follow object/person using sensor logic
Project: Human Following Car
- Day 11 Safety System**
Detect flame and activate response (fan/pump/buzzer)
Project: Smart Fire Extinguishing System

ADVANCED PRACTICAL · DAY 12-15

- Day 12 Environmental Monitoring**
Measure temperature / environmental data - Output via indicators
Project: Weather Station Project
- Day 13 Health Monitoring**
Gas sensor-based detection - Alert using buzzer/LED
Project: Breath Analyser System
- Day 14 Additional Projects — No Extra Components Needed**
Smart Parking Indicator System | Automatic Room Light Controller
Build additional automation using the same ultrasonic/IR sensors already in the kit
- Day 15 Final Integration, Testing & Showcase**
Select 1-2 projects to improve and refine - System testing and debugging - Final presentation: working model, logic explanation, and real-world application

Learning Outcomes — Class 8

- Strong understanding of sensor-based automation systems Ability to design and build
- real-world robotic systems from scratch Integration of multiple components (sensors,
- actuators, motors) into working models Practical exposure to problem-solving,
- debugging, and system design Development of engineering thinking and independent
- project-building skills

Class 8 - Schedule to be announced

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