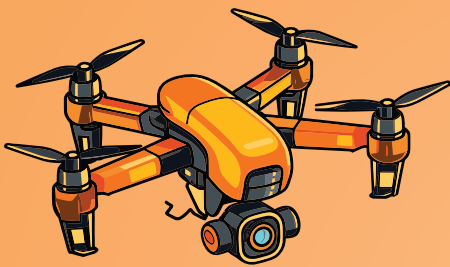


# Democratizing STEM Education for Bharat

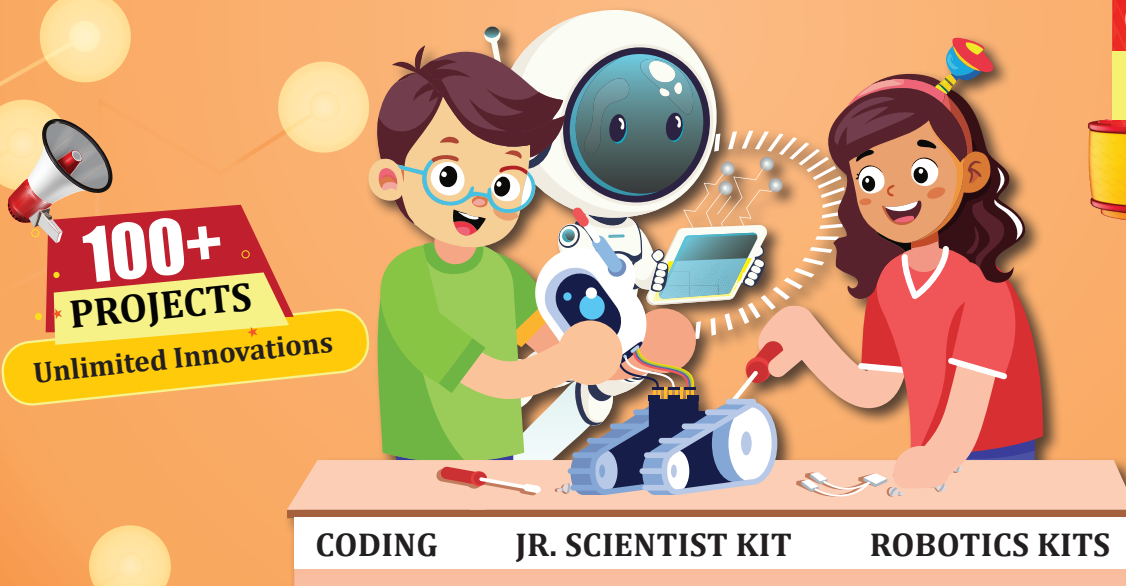
## Robotics Curriculum for Schools *with Artificial Intelligence*



Curriculum mapped with United Nations'



**SUSTAINABLE DEVELOPMENT GOALS**



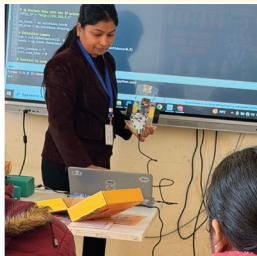
**100+**  
**PROJECTS**  
Unlimited Innovations

**0 Investment**  
No Additional Manpower  
No Additional Infrastructure

**CODING**

**JR. SCIENTIST KIT**

**ROBOTICS KITS**



Edusoft Robotix is a unit of Edusoft ITS Pvt. Ltd. (21 years old IT Education & Publishing Co.)  
Edusoft has been awarded 5 years in a row since 2021 for its IT, AI and G.K. books.

# RoboTrek Books

The program covers following modules class-wise:

**IGNITE CLASS (1-2)**

- Basic Circuit Adventures
- More Adventure with Circuits
- Fun with AI

Periods	Pages	Price
<b>25</b>	64	568.00



**KICK START CLASS (3-4)**

- Coding basics
- STEM Learning
- Block Code-based Devices Control


Periods	Pages	Price
<b>30</b>	96	628.00



**GEAR UP CLASS (5-6)**

- Coding basics with MS MakeCode
- Circuit Simulation
- Prototyping with Microcontroller


Periods	Pages	Price
<b>36</b>	112	648.00



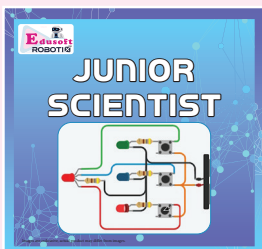
**FULL THROTTLE CLASS (7-8)**

- Text-based Arduino C++ Coding Basics
- Advanced Circuits
- Advanced Prototyping with Microcontroller

Periods	Pages	Price
<b>36</b>	128	668.00



# Robo Pitara Kit for School Lab



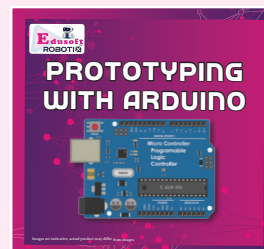
MRP 1488/-

## Junior Scientist Kit

A special kit for young ones to explore the basic concepts of electricity.

## Prototyping with Arduino

Develop automated solutions by coding devices.



MRP 8888/-



MRP 18152/-  
with Ignite Kit MRP 20440/-  
(Incl. of GST)



## Magic Board

MRP 3888/-

+  
**Ignite Kit\***  
MRP 2288/-

Program devices with block code.

## Programmable Car Kit

Create multi-functional intelligent car.



MRP 3888/-

\* Optional, only if Ignite (Level 01) book is selected.

# Robo Pitara Components List

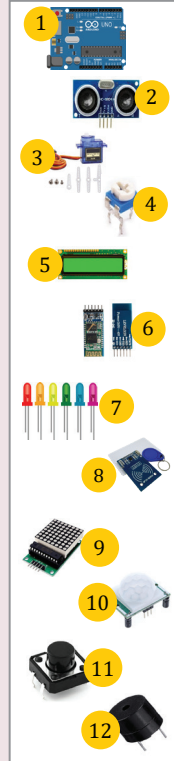
## Junior Scientist Kit

1. Small Breadboard
2. 3V Coin Cell & Holder
3. DC Motor
4. Fan Blade
5. Slider Switch
6. Resistor Box
7. Photo-resistor (LDR)
8. Copper Tape
9. 9V Battery and Battery Clip
10. Transistor (BC547)
11. RGB LED
12. F-F Jumper Wires
13. M-F Jumper Wires
14. M-M Jumper Wires
15. Solar Panel

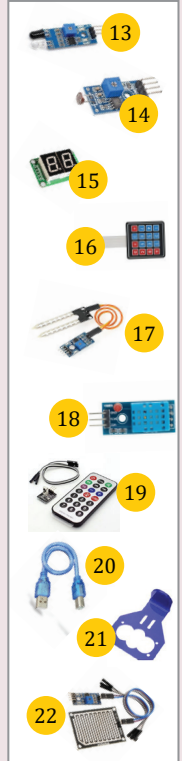


## Prototyping with Arduino

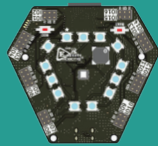
1. Arduino UNO
2. Ultrasonic Sensor
3. Servo Motor (SG-90)
4. Potentiometer (103)
5. LCD Module 16x2
6. HC-05 (Bluetooth Module)
7. LEDs
8. RFID Module (RC522)
9. 8x8 LED Dot Matrix Module
10. PIR Sensor
11. Push Button
12. Small Buzzer



13. IR Sensor
14. LDR Sensor Module
15. 2 Digit 7 Segment Display Module
16. 4X4 Keypad Matrix
17. Soil Moisture Sensor Module
18. DHT - 11 (Humidity & Temperature Sensor)
19. IR Remote & IR Receiver
20. A to B Cable
21. Ultrasonic Sensor Stand
22. Rain Drop Sensor



## Magic Board

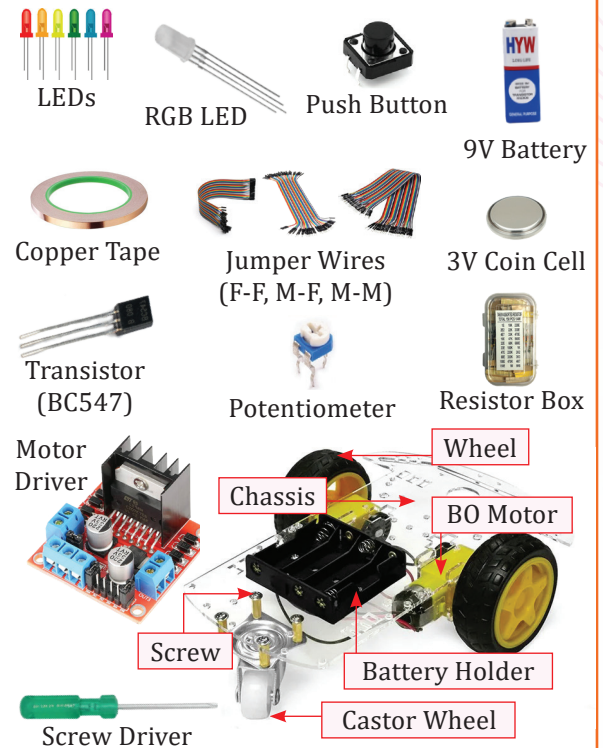


## Ignite Kit

1. Copper Tape
2. LEDs (Red, Yellow, Green)
3. Big Piezo Buzzer
4. Push Button
5. Slide Switch
6. DC Motor
7. 18 Awg Single Core Hook Up Wire
8. Cello Tape (Small)
9. Plastic Scissors
10. Paper Clips
11. Resistor
12. 9V Battery and Battery Clip
13. Coin Cell



## Programmable Car



# Robotics Projects in the Books

## Level-01

**Note: Subject to change with new ideas and learning requirements.**

### Unit 1: Basic Circuit Adventures

1. Circuit Adventure with LEDs,  
Simple Circuit with a LED, Train of LEDs
2. Let's Make Some Noise  
Fun with LED & Buzzer
3. Switch ON! Switch OFF!  
Light AND Sound with a Switch, Light OR Sound with a Switch
4. Motors Spin the World  
Let's Spin Our Motor, Switch the Motor On/Off

### Unit 2: More Adventure with Circuits

1. Journey of the Sun
2. Cake Candle Lights Up!
3. Call Bell Circuit
4. Night Sky
5. Make Your Own Switch
6. Do it Yourself  
Car Horn, Table Lamp, Moody Snowman
7. Rotating Canvas
8. Lucky Wheel
9. Looper Challenge!

### Unit 3: Fun with Artificial Intelligence

1. AI-A fun journey
2. Fun with AI
3. AI in Action
4. Drawings Come Alive

## Level-A1

### Warm Up: Paper Circuit Adventure

#### Unit-1 Coding Basics

1. Logic Development with scratchJr.
2. Coding Basics with Scratch

### Warm Up with Amazing Breadboard and Tinkercad Understanding Tinkercad

#### Unit-2 Junior Scientist

1. Understanding Circuit
2. Magic with light emitting diode (LED)
3. Switching to Switches
4. Motors Drive our World!
5. The Buzzer Buzz
6. Transistor Tango

#### Unit-end Projects

#### Unit-3 Magic Board

1. The Magic Wand in Hand
2. Code LED with Magic Board
3. Buzzer Fun with Magic Board
4. Detect Objects with Ultrasonic Sensor

#### A Tryst with AI

## Level-B1

#### Unit-1 Coding Basics

1. Introduction to MakeCode for Micro:bit
2. Simple Block Coding in MakeCode for Micro:bit
3. Events, Decisions & Loops in MakeCode for Micro:bit

#### Unit-2 Circuit Simulation with Tinkercad

1. Exploring Tinkercad: A Gateway to Design circuit
2. Components of Circuit

#### Pause to meet an Amazing friend Breadboard

3. The Basics of Electricity-1
4. The Basics of Electricity-2

#### Unit-3 Coding with Magic Board

1. The Magic Wand in Hand
2. Servo Motor Control
3. Motion Activated Lighting
4. Object Counter
5. Push Button Driven LED Show

#### Unit-4 Prototyping with Arduino

1. Say Hello To Arduino
2. LED and LDR with Arduino

#### Unit-end Projects

#### A Tryst with AI

## Level-C1

#### Unit-1 Coding with Magic Board

1. The Magic Wand in Hand
2. Ultrasonic Sensor & Servo Motor
3. Rain Sensing and Protection

#### Unit-2 Circuit Simulation with Tinkercad

1. Exploring Tinkercad: A Gateway to Design circuit
2. Components of Circuit

#### Pause to meet an Amazing friend Breadboard

3. The Basics of Electricity-1
4. The Basics of Electricity-2

#### Unit-3 Prototyping with Arduino

1. Say Hello To Arduino
2. Serial Communication with Serial Object
3. Ultrasonic Sensor
4. Servo Motor Control
5. Temperature AND Humidity
6. LED Matrix Display
7. Infrared Remote Control

#### Unit-end Projects

#### A Tryst with AI

# Grade-wise Additional Projects\*

## Grade 3

1. Fan ON/OFF Switch
2. Sound Alert when Button Pressed
3. OR logic with two push buttons
4. AND logic with two push buttons
5. Smart Indicator using Slider Switch
6. One-Button Multiple Output Control
7. Two-Mode Lamp (Dim/Bright using 2 LEDs)
8. LED Torch Model
9. Touchless switch system
10. Fastest Finger First (buzzer round)

## Grade 4

1. Study Lamp Saver (auto OFF in daylight)
2. Power Saver Lamp
3. Shoe Rack Light
4. Automatic Doorbell System
5. Door Open Reminder
6. Silent Alarm System (LED based)
7. SOS Alert Button
8. Object Presence Detector
9. Handwash Duration Timer
10. Sequence based led control system

## Grade 5

1. Object Alert System
2. Object Near Alert (Ultrasonic + Buzzer)
3. Distance-based Lights ON/OFF
4. Entry Alert System
5. Intruder Detection (basic)
6. Bag Theft Alert Model
7. Restricted Area Alert
8. Touchless Switch System
9. Smart Shoe Rack Light
10. Automatic Water Tap

## Grade 6

1. Safe Parking Distance Indicator
2. Reverse Parking Assistant
3. Anti-Collision Alert
4. Table Edge Warning System
5. Multiple Choice Question System
6. Morse Code Generator
7. Sequence-Based LED Control
8. Weather Awareness Station (DHT11)
9. Temperature Rise Warning System
10. Rain Level Indicator

## Grade 7

1. Smart Street Light System
2. Smart Staircase Light System
3. Child Safety Distance Alarm
4. Over Sitting Alert System
5. Reading Distance Safety Alert
6. Posture Reminder Alert
7. Room Occupancy Detection System
8. Motion Based Entry Alert
9. Vehicle Cabin Temperature Monitoring System
10. Water Overflow System

## Grade 8

1. Bluetooth Controlled Home Automation
2. Smart Door System
3. PIN Based Access Control
4. Password Attempt Counter
5. Access Control System
6. Smart Attendance System
7. Parking Slot Availability Display
8. Smart Parking Guidance System
9. Environmental Data Logger
10. Smart Classroom Automation System

\*Subject to change depending on new ideas and revisions

More and more projects will be added as developed.

## Level-wise Individual Kits for Students

01 Ignite Kit ₹ 2288/-		
S.NO.	Item	Quantity
1.	Copper Tape	2
2.	LEDs (Red, Yellow, Green)	6
3.	Piezo Buzzer	1
4.	Push Button	3
5.	Slide Switch	3
6.	DC Motor	1
7.	18 AWG Single Core Wire	1 Meter
8.	Cello Tape	1
9.	Plastic Scissors	1
10.	Paper Clips	5
11.	Resistor	5
12.	9V Battery	1
13.	Battery Clip	1
14.	Coin Cell	4

A1 Kick Start Kit ₹ 6888/-		
S.NO.	Item	Quantity
1.	Magic Board	1
2.	Ultrasonic Sensor	1
3.	Jumper wire (m-m, m-f, f-f)	1 Set
4.	Breadboard 400 pins	1
5.	3V Coin Cell & Holder	1 each
6.	DC Motor	1
7.	Fan Blade	5
8.	Slider Switch	1
9.	Resistor Box	1
10.	LDR component	1
11.	9V Battery & Cap	1
12.	Copper Tape	1
13.	Transistor BC547	2
14.	RGB LED common cathode	2
15.	LEDs (red, green, yellow)	6
16.	Push Button	5
17.	Buzzer	1

B1 Gear Up Kit ₹ 7888/-		
S.NO.	Item	Quantity
1.	Arduino UNO	1
2.	A to B cable	1

Cont.

3.	LEDs (red, green, yellow)	6
4.	Breadboard 400 pins	1
5.	LDR Module	1
6.	Jumper Wire (m-m, m-f, f-f)	1 set each
7.	Resistor Box	5
8.	Magic Board	1
9.	Servo Motor	1
10.	PIR sensor	1
11.	IR sensor	1
12.	Push Button	5

C1 Full Throttle Kit ₹ 9888/-		
S.NO.	Item	Quantity
1.	Magic Board	1
2.	BO Motor	2
3.	Caster wheel	1
4.	4 cell battery holder	1
5.	Motor holder, Screws & Nuts	1 Pack
6.	Arduino UNO	1
7.	A to B cable	1
8.	Breadboard 400 pins	1
9.	Jumper Wire (m-m, m-f, f-f)	1 set each
10.	Ultrasonic sensor	1
11.	Servo Motor	1
12.	Rain drop sensor	1
13.	LEDs (red, green, yellow)	6
14.	Resistor Box	1
15.	LDR Module	1
16.	LCD module (16X2)	1
17.	Potentiometer (103)	1
18.	Buzzer	2
19.	Keypad Module	2
20.	DHT11 Sensor	6
21.	LED Matrix (8X8)	5
22.	IR Remote + Receiver Module	1 each
23.	Car Chassis	1
24.	Wheels	2
25.	Screw Driver	1
26.	L298N Motor Driver	1

\*MRP mentioned is incl. of GST

# RoboTrek STEM Activity Books

## STEM Activity Book Junior CLASS (1-4)

- Warm Up: Paper Circuit Adventure
- Introduction to Magic Board

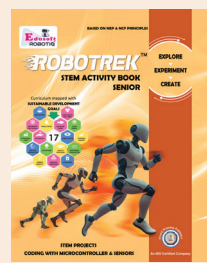
Periods	Pages	Price
8	24	148.00



## STEM Activity Book Senior CLASS (5-8)

- Introduction to Magic Board
- Say Hello to Arduino

Periods	Pages	Price
9	32	188.00



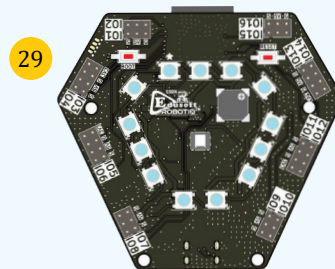
MRP. 9000/-  
(incl. of GST)

## Robo Pitara Starter Kit Components List

1. Arduino UNO
2. Ultrasonic Sensor
3. Servo Motor (SG-90)
4. Potentiometer (103)
5. LCD Module 16x2
6. F-F Jumper Wires
7. M-F Jumper Wires
8. M-M Jumper Wires
9. LEDs
10. PIR Sensor
11. Push Button
12. Small Buzzer
13. IR Sensor
14. LDR sensor Module
15. DHT - 11 (Humidity & Temperature Sensor)
16. A to B Cable
17. Rain Drop Sensor



18. Small Breadboard
19. 3V Coin Cell & Holder
20. DC Motor
21. Fan Blade
22. Slider Switch
23. Resistor Box
24. Photoresistor (LDR)
25. 9V Battery and Battery Clip
26. Copper Tape
27. Transistor (BC547)
28. RGB LED
29. Magic Board

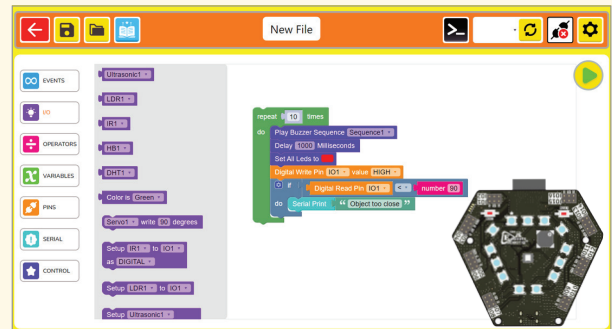


## Features & Deliverables

- ▶ STEM Education Kits – Junior Scientist, Magic Board, Ignite Kit, Prototyping Kit, and Programmable Car
- ▶ Fully illustrated, colorful textbooks
- ▶ Additional module for practical artificial intelligence
- ▶ Teachers’ Training and post training online support
- ▶ 25-40 activities per class per year
- ▶ Advanced projects beyond the book
- ▶ 100+ Project Ideas mapped to UN’s SDG’s
- ▶ Video-based courses in LMS with verifiable E-certificates
- ▶ Running code resources for activities
- ▶ Quizzes, contests, and webinars
- ▶ Learning videos for all the topics
- ▶ Regular knowledge-sharing through demo videos
- ▶ Additional online short sessions for any new concepts

## Coding and Design Platforms

- ▶ ScratchJr.
- ▶ Scratch
- ▶ Microsoft MakeCode for Microbit
- ▶ Tinkercad
- ▶ Magic Board Coding Dashboard
- ▶ Arduino C Editor (IDE)



## Explore > Experiment > Create Methodology

- ▶ Each session introduces to the student with the concept through storytelling technique.
- ▶ This is followed by practical experimentation by the students to establish evidence of the learnt concept.
- ▶ Finally, students work on a short challenge and create the solution under the facilitation by the teacher.

## Sample SDGs Mappings

### SDG GOAL 3: Good Health and Well-Being

1. Pulse rate monitoring device for elderly
2. IoT-based air quality monitoring system

### SDG GOAL 4: Quality Education

1. Augmented STEM models using Arduino
2. DIY microscope using webcam and lens

### SDG GOAL 11: Sustainable Cities and Communities

1. Earthquake alert using accelerometers
2. Waste segregation bot using color sensors



Received Awards from Ms. Smriti Irani and Mr. Virender Sehwal

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Email: [info@edusoftrobotix.com](mailto:info@edusoftrobotix.com)