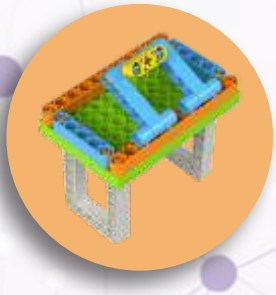
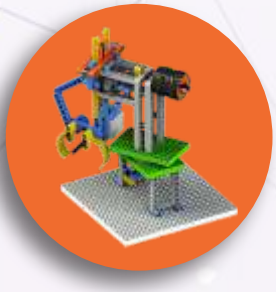
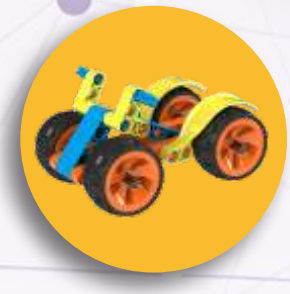
TESCA™

www.tescaglobal.com







BEGINNINGS

Stem Catalog

Tesca Technologies Pvt. Ltd

TESCA™
www.tescaglobal.com

INDEX

IT-2013, Ramchandrapura Industrial Area, Sitapura Extension, Near Bombay Hospital, Vidhani Circle, Jaipur-302022, Rajasthan, India,
Tel: +91-9829132777; Email: info@tesca.in, tesca.technologies@gmail.com

TESCA™
www.tescaglobal.com

AI & ROBOTIC LAB-1
Order Code - STEM-ARL1

What is Steam, Robotics & AI?

Integrated STEAM-Robotics and AI (Artificial Intelligence} is an interdisciplinary approach to teaching and learning that combines Science, Technology, Engineering, Art and Mathematics (STEAM) with Robotics and AI. This approach emphasizes problem-solving, critical thinking, and hands-on learning experiences, allowing students to apply STEM concepts to real-wor ld challenges.

Through integrated STEAM-Robotics and AI, students learn how to design, build, program, and operate robots and other automated systems using a variety of tools, such as sensors, motors, and microcontrollers. They also learn about the principles of AI, including machine learning and computer vision, and how to apply these principles to solve complex problems.

Integrated STEAM- Robotics and AI programs typically focus on project-based learning, where students work in teams to design and build solutions to real-world challenges. This approach promotes collaboration, communication, and creativity, and prepares students for the 21st-century workforce,where STEM skills and knowledge

How will young students be benefited?

- To provide exposure of future technological world.
- To build innovative solutions for real-life problems.
- To introduce learning by doing at an early age.
- To nurture 21st Century skills by Project-based learning.
- To enhance their problem solving approach towards community problems in line with

Top Skills in Demand

- Analytical thinking and innovation
- Active learning and learning strategies
- Complex problem-solving
- Technology design and programming
- Critical thinking and analysis
- Creativity,originality and initiative
- Leadership and social influence
- Reasoning and ideation

Tesca Technologies Pvt. Ltd.

Note: Specifications are subject to change.

01.07.2024

IT-2013, Ramchandrapura Industrial Area, Sitapura Extension, Near Bombay Hospital, Vidhani Circle, Jaipur-302022, Rajasthan, India,
Tel: +91-9829132777; Email: info@tesca.in, tesca.technologies@gmail.com

TESCA™
www.tescaglobal.com

AI & ROBOTIC LAB-1
Order Code - STEM-ARL1

END-TO-END IMPLEMENTATION & SUPPORT PLAN

Resources Required

for setting up a Lab at School

- A room/built space of around 600-1200 sq.Ft.
- A set of 4-6 work tables for carrying out hands-on activitiesin a group.
- Around 25-30 Mini Tables/Choirs for students to sit
- A set of Cabinets/Cupboards Sideboards for keeping the Hardware DIV Kits/Equipment
- A set of 4-6 Computers/Laptops with Internet Access & Connectivity
- Access to Projector/Whiteboard/LED Screen for presenting contents, Videos & PPTs

Tesca Technologies Pvt. Ltd.

Note: Specifications are subject to change.

01.07.2024

IT-2013, Ramchandrapura Industrial Area, Sitapura Extension, Near Bombay Hospital, Vidhani Circle, Jaipur-302022, Rajasthan, India,
Tel: +91-9829132777; Email: info@tesca.in, tesca.technologies@gmail.com

TESCA™
www.tescaglobal.com

AI & ROBOTIC LAB-1
Order Code - STEM-ARL1

DIV Kit Name : Tinker Orbits
Description : Tinker Orbits is a STEAM Robotics kit for kids to explore the basic concepts of electronic circuits, sensors, Robotics, logics and programming with the help of plug 'n' play modules. It is an educational DIV kit for students which covers the learners ' journe y around Robotics from Beginner level to the advanced Robotics concepts. This contains both programmable and non- programmable activities. Also, Programma ble activities are covered through Block Coding as well as Textual programming.
Category : AI, IOT & Robotics
SKU Number : 1609 SKU
Programmable/ Non- Programmable : Both
Kit to Student Ratio: 1:5
Grade Category: 3rd to 12th

DIV Kit Name : Tinker Orbits - Extended PBL Box
Description : Tinker Orbits extended Project based kit offer students to create 12 unique projects around the the concepts of AI like Smart Home, Smart Irrigation System, Railway Crossing, Smart dustbin etc.
Category : AI Project Based Learning Kit
SKU Number : 1652 SKU
Programmable/ Non- Programmable : Programmable
Kit to Student Ratio: 1:4
Grade Category: 5th to 12th

DIV Kit Name : Arduino Robotics Kit
Description : End-To-End Platform for students to Kick start child's journey in Robotics. Students can learn Robotics programming through Block Coding and Textua l Coding. Also, Interfacing of Sensors and actuators with Arduino controller.This kit is aimed at beginner s to advanced level learners and can be used to jump start child' growth and learning towards DIV electronics and robotics system.
Category : STEM Robotics
SKU Number : 1606 SKU
Programmable/ Non- Programmable : Programmable
Kit to Student Ratio: 1:5
Grade Category: 6th - 10th

DIV Kit Name : Mechatron Kit
Description : MECHATRONICS Robotic Kit is for 6+ Age Kids. Contains 150+ parts such as metallic strips, Remote control, control card, motors, gears, etc. Comes with an assembly guide w ith step-by-step instructions to help students build the robot-associated concepts of science and math mentioned with every design. Robotics kits for Kids & Robotic kits for students to make their own Robotics projects.
Category : STEM Robotics
SKU Number : 1612 SKU
Programmable/ Non- Programmable : Non Programmable
Kit to Student Ratio: 1:4
Grade Category: 2nd to 8th

TESCA™
www.tescaglobal.com

AI & ROBOTIC LAB-1
Order Code - STEM-ARL1

DIV Kit Name : Sensor Box
Description : This Sensor Kit compatible with Arduino is supplied with a var iety of sensors t hat are compatible with Arduino Boards. This is the most complete performance starter kit with all the essential Arduino sensors. This kit contains excellent sensors which are compatible with Arduino. You can find the best sensors, whether you're a beginner or an expert in this field, and use them to create the best DIV projects on your own. Prototyping will be easy and fun- loving with this Kit .
Category : STEM-Robotics
SKU Number : 1608 SKU
Programmable/ Non- Programmable : Programmable
Kit to Student Ratio: 1: All
Grade Category: For Project Purpose

DIV Kit Name : Soldering Box
Description : Hookup Wire Roll (Red), Hookup Wire Roll (Black), Hot glue gun, Soldering Iron 30 watts/230 volts, De-Soldering Pump, Soldering Flux (Paste)- 50grams, DE-soldering Copper Braid(Solder Wick),Soldering Wire: 20/22 AWG soldering Wire with rosin core flux (100 Grams),Soldering Helping hand, Glue Sticks, Safety goggles. Safety Gloves Pairs, Safety Mask
Category : Accessories
SKU Number : 1601 SKU
Programmable/ Non- Programmable : NA
Kit to Student Ratio: 1:All
Grade Category: For Project Purpose

DIV Kit Name : STEM-Electronics
Description : The Smart Circuit kit contains more than 50 DIV (Do It Yourself) projects with more than 40 interactive simulations and 10 real-world model templates and a colorfull user manual with its easy-to-follow instructions, smart electronics kit gives a hands-on education in how electrical circuits work to run theeveryday devices that they're familiar with. They'll also gain valuable lessons in building circuit design. This kit contains more than 12 electronic components, more than 30 magnetic blocks as well as more than 40 accessories for real model building along with dual power (USB + DC) which can be used to create many projects also no soldering is required.
SKU Number : 1604 SKU, **Programmable/ Non- Programmable** : Non-Programmable, **Kit to Student Ratio**: 1:4, **Grade Category**: 1st to 8th

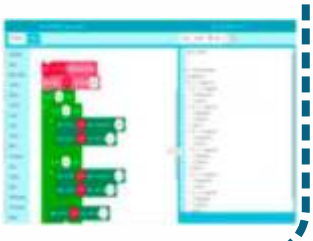
DIV Kit Name : STEM BOT
Description : Stem Bot is a graphical programming robot for STEM education, which inherits playability and simple operation on the micro:bit (Version 2). Includes various sensors like IR (Infrared Sensor), Ultrasonic sensor, and Light sensor to make DIV robotics projects. MakeCode is a free online coding platform availab le to code and learns advanced coding concepts.
Category : AI Based Robotics Kit
SKU Number : 1603 SKU
Programmable/ Non- Programmable : Programmable
Kit to Student Ratio: 1:5
Grade Category: 6th- 12th

Note: Specifications are subject to change.
01.07.2024
IT-2013, Ramchandrapura Industrial Area, Sitapura Extension, Near Bombay Hospital, Vidhani Circle, Jaipur-302022, Rajasthan, India,
Tel: +91-9829132777; Email: info@tesca.in, tesca.technologies@gmail.com

TESCA™
www.tescaglobal.com

AI & ROBOTIC LAB-1
Order Code - STEM-ARL1

DIV Kit Name : AI Connect Platform Recommended in AI STEP Up Module by NITI Aayog & CBSE
Description : "Subscription of AI Connect platform for the programming of AI (Python.Python Bascis, Machine learning and AI) which will be covering 100% syllabus of CBSE and SO+ Extra Activities for 5th Onwards.
Category : AI Coding Platform
SKU Number : 9004 SKU
Programmable/ Non- Programmable : Programmable
Kit to Student Ratio: 1:1
Grade Category: 5th- 12th



DIV Kit Name : Accessories Box
Description : This box contains t he necessa ry tools listed below, which will be required to operate the DIV kits and hardware mentioned above: Wire Stripper,Bulb Holder, Power St rip Adaptor, Multimeter, 12 V Adoptor and USB to DC Jack Cable.
Category : Accessories
SKU Number : 1653 SKU
Programmable/ Non- Programmable : NA
Kit to Student Ratio: 1:All
Grade Category: For Project Purpose

DIV Kit Name : Humanoid Robot
Description : Voice Intelligent RC Robot LED expression voice dialogue intelligent RC robot toy with lights. Robot can glide, dance, sing, tell stories, volume adjustments, and communicate with players according to the script . Increase the ingenuity of children,the cultivation of the independe nt persona lity . Robot toy inspires imaginative play and curiosity about science. Rotata ble head, enjoy more fun. Flexible hand actions.
Category : Humanoid Robot
SKU Number : 1646 SKU
Programmable/ Non- Programmable : Non- Programmable,
Kit to Student Ratio: 1:All
Grade Category: 6th to10th

DIV Kit Name : Bitli
Description : Bitli empowers students to unleash t heir creativity. From basic movements to complex AI-driven act ions, it adapts to student's skill levels and encourages them to experiment with new ideas. Based on the Bitli VI ,the micro: bit Bit li Bricks Pack contains 360 degrees servos, LED strips, and almost 200 pieces of bricks. It provides hands-on experience to learn A I, Robotics & Coding with 15+ robotics configurations and 50+ proj ects.
Category : A I & Robotics
Programmable/ Non- Programmable : Programmable
Kit to Student Ratio: 1:5
Grade Category: 3rd to 10th

TESCA™
www.tescaglobal.com

AI & ROBOTIC LAB-2
Order Code - STEM-ARL2

Tesca Labs for schools provides the perfect platform for students to develop the necessary technical knowledge to become future-ready. The platform is designed to help students gain an indepth understanding of coding, Artificial Intelligence, and Robotics through hands-on experiments.

With the help of our cutting-edge technology, students can explore, experiment, and build projects of their own, all while developing their critical thinking and problem-solving skills.

Equipping students with the skills needed to thrive in the 21st century is imperative for success.

With the International curriculum stressing the need for AI-powered education, Tesca Labs is the perfect solution to help students realize their full potential and become future-ready

Key Activities to be covered under the Lab:


Programming


Artificial Intelligence


Interactive AI Projects


Robotic


Robot Localization & Automation Technology


Self Driving

TESCA™
www.tescaglobal.com

AI & ROBOTIC LAB-2
Order Code - STEM-ARL2

Quarky Ultimate Kit
Qty. - 18

Quarky Explorer Kit
Qty. - 04

Mars Rover Addon Kit
Qty. - 01

Humanoid Robot Addon Kit
Qty. - 01

Alexa Echo with Smart Bulb
Qty. - 01

3.7V Lithium Ion Battery
Qty. - 10

1-Meter-long USB Cable
Qty. - 05

Battery Charging Station
(6 Ports), Qty. - 04

Quarky Motor Bundle
(DC Motor, Mounting Bracket,
Wheel), Qty. - 18

Servo Motor
Qty. - 18

Ultrasonic Sensor 3.3V
Qty. - 10

Jumper Cable
Male-Male - Qty. - 200
Male-Female - Qty. - 120
Female-Female - Qty. - 120

Note: Specifications are subject to change.

01.07.2024

TESCA™
www.tescaglobal.com

AI & ROBOTIC LAB-2
Order Code - STEM-ARL2

Alligator Wire
Qty. - 80

Plastic Addon Pack
Qty. - 04

Fastener Addon Pack
Qty. - 04

Cable Tie
Qty. - 08

Self-Driving Arena
Qty. - 18

Activity grade 3-8
{10 books each garde)
Qty. - 60

Flagship Products Quarky Ultimate Kit

Students love to play with hardware toys and kits. And it is also being observed that students involved in practical activities involving hardware have better retention and understanding of the concepts. At an early age, it is recommended that the students play with Abacus to learn mathematics.

Robotics is a very good tool to create engagement in kids to learn to code and develop computational thinking. It can be used to engage students in real-life problem-solving.

Tesca offers a one-stop solution for engaging students in Robotics with a focus on coding and AI. Quarky has a lot of features inbuilt allowing students to focus on conceptual understanding of physical computing, robotics locomotion, autonomous robots, self- driving cars, and automation in a very interactive way. Quarky can connect with PictoBlox using BLE or USB cable and has inbuilt short circuit protection making it safe for students.

TESCA™
www.tescaglobal.com

AI & ROBOTIC LAB-2
Order Code - STEM-ARL2

Learn Industry-Standard Concepts
Tesca helps you understand widely used artificial intelligence concepts such as machine learning (self-driving cars), face recognition (face unlock), speech recognition (Alexa), etc.

One Infinite Kit Creations
Quarky can become anything and do anything that you want it to. You can make hundreds of interactive real-world applications-based projects such as an expression detector, AI delivery bot, home automation system, etc.

Just Plug and Start Playing
Quarky has a plug-and-play interface, which means that you can easily connect common electronic components like sensors, motors, servos, etc. without having to solder them.

Programmable with Smartphone & Tab
Code and control all your projects, games, animations, and robots anytime, anywhere using a
Smartphone or a tablet! You can even mount your phone on them to make them completely autonomous.

Robots Configurations

Tesca Technologies Pvt. Ltd.

Note: Specifications are subject to change.

01.07.2024

IT-2013, Ramchandrapura Industrial Area, Sitapura Extension, Near Bombay Hospital, Vidhani Circle, Jaipur-302022, Rajasthan, India,
Tel: +91-9829132777; Email: info@tesca.in, tesca.technologies@gmail.com

AI & ROBOTIC LAB-2
Order Code - STEM-ARL2

Robots Configurations

PictoBlox - Learning Coding, AI, and Robotics made easy for Kids

Computer Vision, Natural Language Processing, Object Detection, Human Pose Detection, Speech Recognition, QR Code Scanner, and Machine Learning.

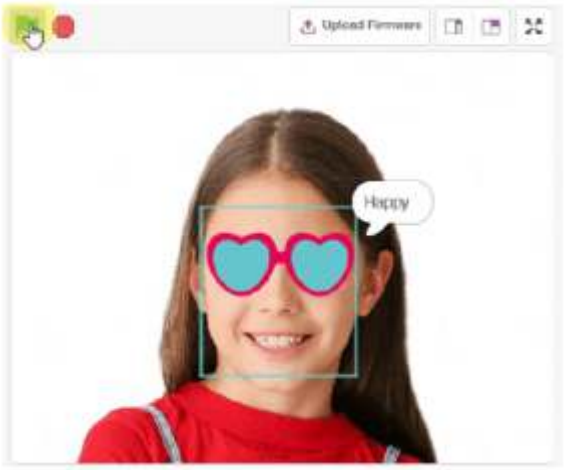
2. The objective of learning AI with PictoBlox is to engage students to create their own AI applications rather than going in-depth with the mathematics of neural networks. For example, with the following simple script the students can make a face filter in PictoBlox:

3. PictoBlox also allows the user to create machine learning models with offline training mode.

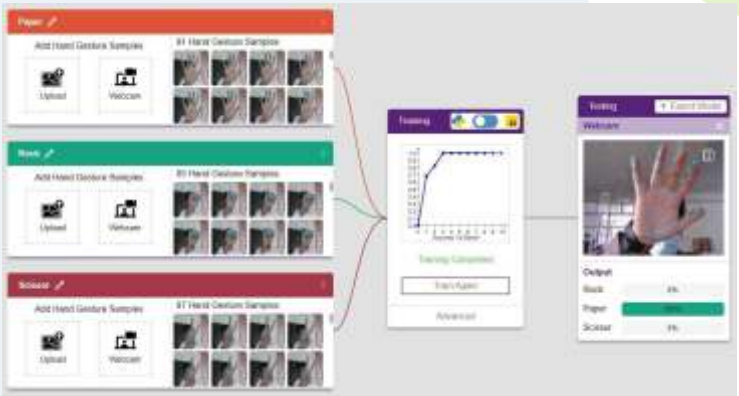
AI & ROBOTIC LAB-2
Order Code - STEM-ARL2

PictoBlox is the coding education software which has both graphical block-based and Python programming:

1. It allows students to add AI capabilities to their projects like Face Detection & Recognition, Computer Vision, Natural Language Processing, Object Detection, Human Pose Detection, Speech Recognition, QR Code Scanner, and Machine Learning.
2. The objective of learning AI with PictoBlox is to engage students to create their own AI applications rather than going in-depth with the mathematics of neural networks. For example, with the following simple script the students can make a face filter in PictoBlox:



3. PictoBlox also allows the user to create machine learning models with offline training mode. This is a very intuitive GUI created to make the process simple for the students. Using this module, students can create their custom ML models and use them in PictoBlox projects.
   - 3.1. Image Classification
   - 3.2. Human Pose Classification
   - 3.3. Hand Pose Classification
   - 3.4. Text Classification
   - 3.5. Object Detection
   - 3.6. Number Regression and Classification
   - 3.7. Audio Classification



4. PictoBlox is also available for Smartphone devices making coding & AI easily available for students who do not have access to a computer or a laptop.
5. As Python is integrated into the same platform it allows students to migrate from blockbased coding to syntax coding with ease.

AI & ROBOTIC LAB-2
Order Code - STEM-ARL2

6. PictoBlox is compatible with a wide range of hardware devices like Quarky, Arduino Uno, Nano, Mega, ESP32, and many more. This gives students an opportunity to implement coding and AI projects with interactive hardware.

Curriculum & Training for Students

Curriculum

Tesca has a created yearlong curriculum for Classes 3-12 in alignment with the British curriculum. The curriculum is experiential learning focused and will cover the basics and advanced levels of Programming, IoT, Artificial Intelligence, Machine Learning, and Robotics.

It is aligned with the international curriculum for Coding & AI Skill subjects.

Stage (Class)	Curriculum Objectives	Concepts Covered
Preparatory (Class 3-5)	Play, discovery, and activity-based and interactive classroom learning.	- Graphical Programming - Game, Story, and Quiz - AI and ML Activities - Physical Computing and Robotics
Middle Stage (Class 6-8)	Experiential learning aligned with Coding & AI skill subjects as per International Curriculum.	- Coding (as per Skill Subject) - Artificial Intelligence (as per Skill Subject) - Physical Computing and Automation - Robotics, Design Thinking, and Tinkering
Secondary (Class 9-12)	Coding, AI and Robotics with Python aligned with AI skill subject.	- Python Basics (as per Computer Science) - Artificial Intelligence (as per Skill Subject) - Physical Computing and Robotics with Python - Tinkering

Training of Students

The school will appoint teachers for student training on the curriculum. The student training will be conducted in the following method:

- Students will have 30 teaching sessions (1 class of 40 minutes weekly) per year
- Each year, students will make capstone projects where they will be given problem statements to work on, based on their learning from the curriculum
- Students will have 5 additional sessions for doubt clearing, exhibition & presentations
- Students will get certificates after completion of each year which will be accredited by tesca

Capacity Building Program and Handholding for Teachers

Tesca will help existing computer science teachers build their capacity so they can effectively teach the curriculum. Capacity building involves providing 3 days of virtual teacher training during the program to

AI & ROBOTIC LAB-3
Order Code - STEM-ARL3

- Easy to Start
- Easy Results
- Motivates Students
- No Cost of Failure

#	Item	Quantity	Note
1	AI Kit	20 Kits	
2	LMS Teacher Access	5 Licenses	
3	LMS for Students	500 Licenses per school	
4	Access to coding Application	-	
5	Access to Cloud	-	
6	Access to Android App Development Extension	-	
7	Teacher Training Program	3 days	Virtual
8	1 year virtual support	24 Virtual sessions	Through one year period

SPECIFICATION

- Contains 63 Module & Accessories
- It contain one Programmable Block called – NetLogic (WIFI & Bluetooth both)
- Basic electronics components like Light, Buzzer, NOT Gate, High Speed Motor
- Two ON/OFF Motors with Mounted BO & Servo motor & Parts.
- 13 types of sensors, few are Light Sensor, Obstacle Sensor & Moisture Sensor, Motion, Vibration Sensor, Sound Sensor, Tilt Sensor
- Smart Switch – to control appliances
- Having Construction Kit which contains 100+ components

SAMPLE PROJECTS

- Morse code with buzzer
- Pre-programmed path robot
- Automatic plant watering
- Cliff avoidZ
- Obstacle avoiding robot
- Salt water conductivity
- Digital Key
- Digital dimmer project ……and many more

Tesca Technologies Pvt. Ltd.

Note: Specifications are subject to change.

01.07.2024

AI & ROBOTIC LAB-3
Order Code - STEM-ARL3

Component	Qty
Adapter/Charger	1
Battery Power	2
Buzzer	1
Connectivity sensor	1
Copy	1
Dimmer	1
High speed motor	1
Inverter	1
Light	1
Light Sensor	1
Limit Switch	2
Magnetic sensor	1
Mini Plastic Fan	1
Motion Sensor	1
Motor with mounted BO	2
NetLogic	1
Obstacle sensor	2
OTG Adapter	1
Pipe	1
Pulley	1
Pulse Delay	1

Component	Qty
Push Button	2
Receiver	1
Sensor Base with threshold	4
Servo Motor	2
Servo Motor part	2
Smart Switch	1
sound sensor	1
Submersible pump	1
Switch	2
Tilt sensor	1
Transmitter	1
U- Left	1
U- Right	1
USB Cable	3
Vibration Motor	1
Vibration sensor	1
Wheel	2
Small Wheel	1
Magnet	1
Wire	4

Component	Qty
AND	1
OR	1
Toggle	1
USB Rechargeable Battery	2
Plastic Building Block Set 100+ Pcs	1

LMS FOR TEACHER`S & STUDENT`S

Teachers View

- Teaching Resources
- Session Power Point presentations
- Monitor students progress

Note: Specifications are subject to change.

01.07.2024

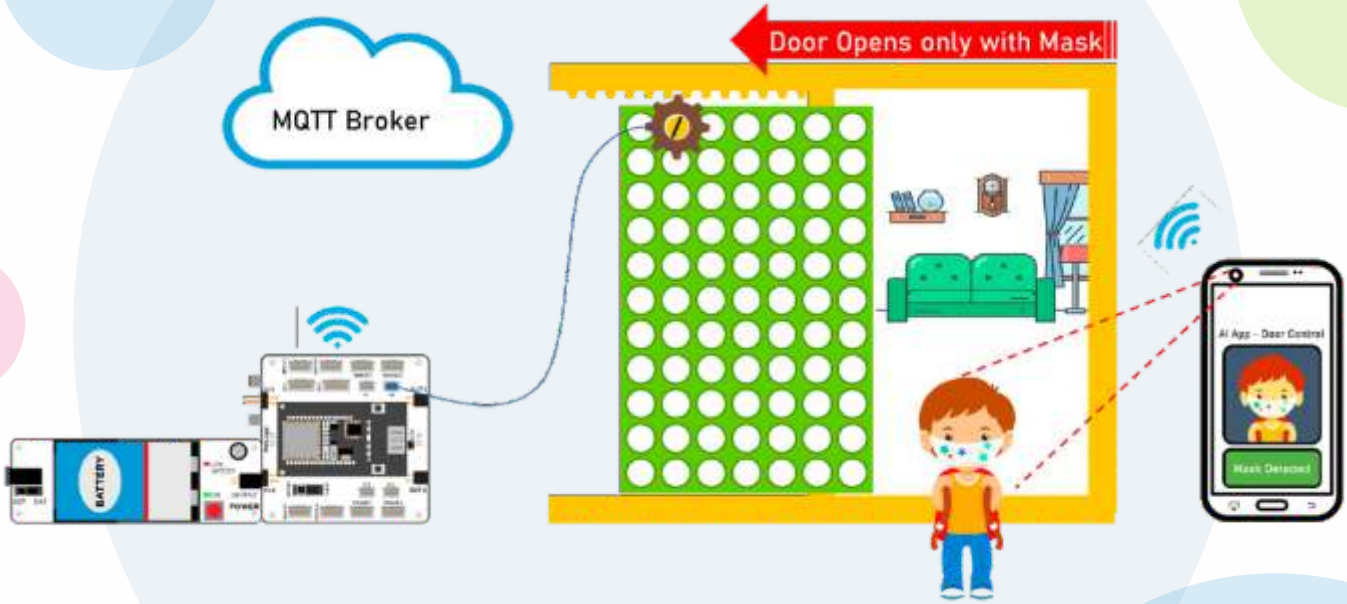
IT-2013, Ramchandrapura Industrial Area, Sitapura Extension, Near Bombay Hospital, Vidhani Circle, Jaipur-302022, Rajasthan, India,
Tel: +91-9829132777; Email: info@tesca.in, tesca.technologies@gmail.com

AI & ROBOTIC LAB-3
Order Code - STEM-ARL3

Student View

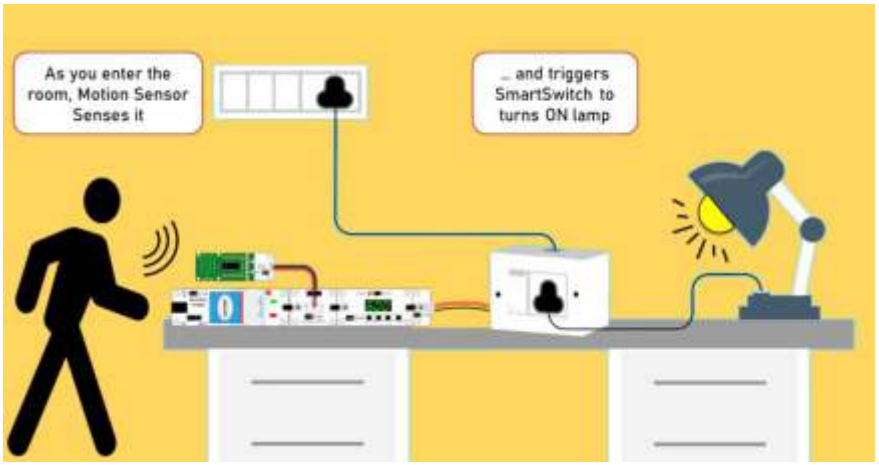
- Learning Resources – Videos & Documents
- Quizzes
- Scholarship

MAKE YOUR OWN AI APP WITH MIT APP INVENTOR

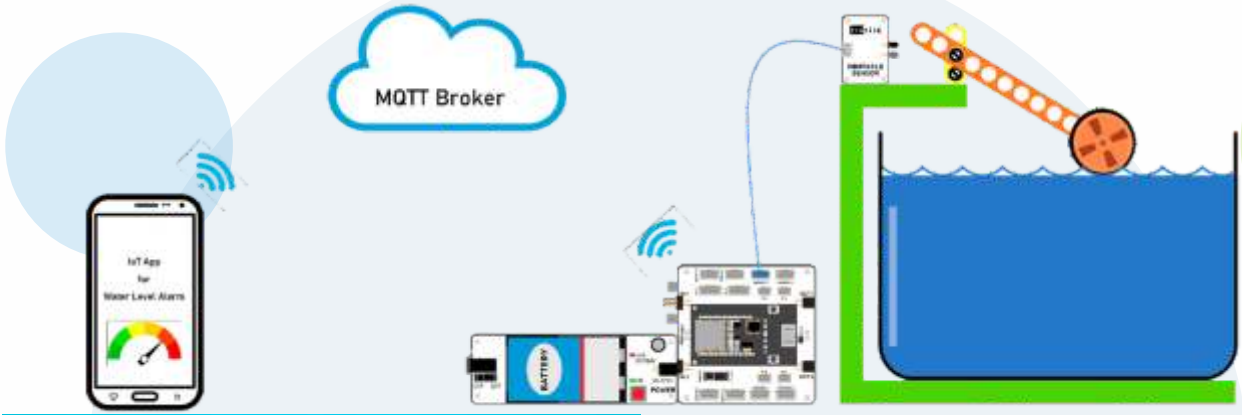


AI & ROBOTIC LAB-3
Order Code - STEM-ARL3

AUTOMATE WITH SMART SWITCH



MAKE YOUR OWN IOT APP WITH MIT APP INVENTOR



We train school teacherson:

- How to use kit
- How to make use of LMS
- How to effectively teach in the classroom
- How to mentor students

Note: Specifications are subject to change.

TESCA™
www.tescaglobal.com

STEM LEARNING SYSTEM (BASIC)
order code - STEM-001

This kit is designed for schools to be able to roll out well structed STEM/Robotics/AI education programs. This is an awesome beginner kit that offers modular Electronics, Robotics & Coding blocks. The kit can be used both with and without coding making the first step very easy for students. It has 22 blocks containing coding block, power supply, various inputs, sensors, outputs, motors, and much more. The kit also has plastic construction components.
The kit support Block coding, C++ & Python. The coding can be done using Windows, Android and iOS PCs/tablets
The kit comes with well structured 24 sessions of video curriculum that is available in LMS (learning management service). We also conduct teacher training programs.
Education topics covered: Electronics, Robotics, AI & IoT

Specification

- Contains 22 Module & Accessories
- It contain one Programmable Block called – NetLogic (WIFI & Bluetooth both)
- Basic electronics components like Light, Buzzer, NOT Gate, High Speed Motor
- Two ON/OFF Motors with Mounted BO
- Some sensors like Light Sensor, Obstacle Sensor & Moisture Sensor
- Rechargeable Battery with Charge & Cable
- Has construction kit with 50+ components

Sample Projects

- Car Parking Safety Alarm
- Open Door Alarm
- Morse code with buzzer
- Adding Motion & senses to your project
- Digital dimmer project
- Digital Key……and many more

Note: Specifications are subject to change.

STEM LEARNING SYSTEM (BASIC)
order code - STEM-001

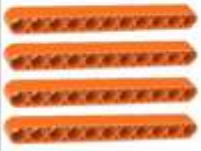
COMPONENT DETAILS

Component	Qty	Details
	1	USB Rechargeable Battery
	1	Battery Power Block – Supply power to rest of the blocks
	2	Motor Blocks – make lot of robotics and other interesting projects with it
	1	High Speed DC Motor
	1	Buzzer – Give Sound to your projects
	1	Light – Make your project shine and light
	1	USB Cable

Component	Qty	Details
	2	Obstacle Sensor – Make your projects to take decision by sensing things around it
	1	Sensor Base – Connect variety of sensors to this base
	1	Light Sensor – Make your projects to sense light around it and take decisions
	1	Moisture Sensor – Make your projects to sense moisture to make decisions
	1	Copy – with one input make three outputs work
	1	NOT – Logic gate that give inverted output of its input
	1	Small Wheel

Component	Qty	Details
	2	Robotic Wheel – Give power to your projects to move around
	1	Fan - Give power to your projects to blow air around
	2	3 pin wire to connect sensor
	2	2 pin wire to motors
	1	Adapter
	1	NetLogic – Code your kit with Cretile Use Drag-n-drop coding With Wi-Fi Connect to internet and explore the world of IoT

Construction Kit Component	Qty	Details
	2	Base Plate
	18	Connector
	4	Connector
	2	Motor Coupler
	1	Remover Tool

Construction Kit Component	Qty	Details
	6	1x5 Strip
	4	1x11 Strip
	1	Wheel Shaft
	3	Gear Wheels
	1	Big Gear
	1	Shaft

Construction Kit Component	Qty	Details
	2	Free Pipe
	3	Robotic Wheels
	2	Moving Connectors
	4	Free connectors

Tesca Technologies Pvt. Ltd.

Note: Specifications are subject to change.

01.07.2024

STEM LEARNING SYSTEM (BASIC)
order code - STEM-001

LMS FOR TEACHER`S & STUDENT`S

Teachers View

- Teaching Resources
- Session Power Point presentations
- Monitor students progress

Students View

- Learning Resources – Videos & Documents
- Quizzes
- Scholarship

TESCA™
www.tescaglobal.com

STEM LEARNING STSTEM (MEDIUM)
Order Code - STEM-002

- This kit is designed for schools to be able to roll out well structed STEM/Robotics/AI education programs. This is an awesome medium kit that offers modular Electronics, Robotics & Coding blocks. The kit can be used both with and without coding making the first step very easy for students. It has 45 blocks containing coding block, power supply, various inputs, sensors, outputs, motors, blocks for logic gates and much more. The kit also has plastic construction components.
- The kit support Block coding, C++ & Python. The coding can be done using Windows, Android and iOS PCs/tablets
- The kit comes with well structured 24 sessions of video curriculum that is available in LMS (learning management service). We also conduct teacher training programs.
- Education topics covered: Electronics, Robotics, AI & IoT

Specification

- Contains 45 Module & Accessories
- It contain one Programmable Block called – NetLogic (WIFI & Bluetooth both)
- Basic electronics components like Light, Buzzer, NOT Gate, High Speed Motor, Push Button, Pulse Delay etc
- Two ON/OFF Motors with Mounted BO & Servo motor & Parts
- Some sensors like Light Sensor, Obstacle Sensor, Motion Sensor, Tilt Sensor, Sound Sensor & Moisture Sensor
- Rechargeable Battery with Charge & Cable & U-Right also

Sample Projects

- Automatic door alarm
- Pre-programmed path robot
- Cliff avoiding robot
- Obstacle avoiding robot
- Digital Key
- Salt-water conductivity……and many

IT-2013, Ramchandrapura Industrial Area, Sitapura Extension, Near Bombay Hospital, Vidhani Circle, Jaipur-302022, Rajasthan, India,
Tel: +91-9829132777; Email: info@tesca.in, tesca.technologies@gmail.com

TESCA™
www.tescaglobal.com

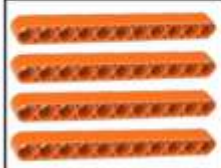
STEM LEARNING STSTEM (MEDIUM)
Order Code - STEM-002

Component	Qty	Details
	1	USB Rechargeable Battery
	2	Battery Power Block – Supply power to rest of the blocks
	2	Motor Blocks – make lot of robotics and other interesting projects with it
	1	High Speed DC Motor
	1	Buzzer – Give Sound to your projects
	1	Light – Make your project shine and light
	1	Connectivity Sensor
	1	Copy block
	1	Motion Sensor – sense Motion to make decisions

Compo-nent	Qty	Details
	1	Obstacle Sensor – Make your projects to take decision by sensing things around it
	1	Sensor Base – Connect variety of sensors to this base
	1	Light Sensor – Make your projects to sense light around it & take decisions
	1	Moisture Sensor – Sense moisture to make decisions
	1	NOT – Logic gate that give inverted output of its input
	1	Dimmer – Allows output to be increased or decreased as per project need
	1	Limit Switch – Provides door bell like push switch functionality
	1	Pulse Delay – Add timer function to your project to make smart decisions

Component	Qty	Details
	1	NetLogic – Code your kit Use Drag-n-drop coding/C++/python With Wi-Fi Connect to internet & explore the world of IoT
	1	Push Button – Provides door bell like push switch functionality
	1	Servo Motor + Driver
	1	Submersible water pump
	1	Switch
	1	U-Right: make your circuit compact with it
	1	Place your Cretile flexibly with wire

Construction Kit Component	Qty	Details
	2	Base Plate
	18	Connector
	4	Connector
	2	Motor Coupler
	1	Remover Tool

Construction Kit Component	Qty	Details
	6	1x5 Strip
	4	1x11 Strip
	1	Wheel Shaft
	3	Gear Wheels
	1	Big Gear
	1	Shaft

Construction Kit Component	Qty	Details
	2	Free Pipe
	3	Robotic Wheels
	2	Moving Connectors
	4	Free connectors

Tesca Technologies Pvt. Ltd.

Note: Specifications are subject to change.

01.07.2024

IT-2013, Ramchandrapura Industrial Area, Sitapura Extension, Near Bombay Hospital, Vidhani Circle, Jaipur-302022, Rajasthan, India,
Tel: +91-9829132777; Email: info@tesca.in, tesca.technologies@gmail.com

STEM LEARNING STSTEM (MEDIUM)
Order Code - STEM-002

Component	Qty	Details
	2	Robotic Wheel – Give power to your projects to move around
	1	Fan – Give power to your projects to blow air around
	1	Cretile pulley
	2	3 pin wire to connect sensor
	2	2 pin wire to motors
	1	USB
	1	Adapter
	1	Small Wheel

Component	Qty	Details
	1	AND Gate
	1	OR Gate
	1	Toggle
	1	Pipe

LMS FOR TEACHER`S & STUDENT`S

Student View

Teachars View

- Learning Resources – Videos & Documents
- Quizzes
- Scholarship

- Teaching Resources
- Session Power Point presentations
- Monitor students progress

Tesca Technologies Pvt. Ltd.

Note: Specifications are subject to change.

01.07.2024

TESCA™
www.tescaglobal.com

STEM LEARNING SYSTEM (ADVANCED)
Order Code - STEM-003

This kit is designed for schools to be able to roll out well structed STEM/Robotics/IoT/AI education programs. This is an awesome advance kit that offers modular Electronics, Robotics & Coding blocks. The kit can be used both with and without coding making the first step very easy for students. It has 63 blocks containing coding block, power supply, various inputs, sensors, outputs, motors, blocks for logic gates, transmitter, receiver, Smart Switch and much more. The kit also has plastic construction components.
The kit support Block coding, C++ & Python. The coding can be done using Windows, Android and iOS PCs/tablets
The kit comes with well structured 24 sessions of video curriculum that is available in LMS (learning management service). We also conduct teacher training programs.
Education topics covered: Electronics, Robotics, Automation, AI & IoT

SPECIFICATION

- Contains 63 Module & Accessories
- It contain one Programmable Block called – NetLogic (WIFI & Bluetooth both)
- Basic electronics components like Light, Buzzer, NOT Gate, High Speed Motor
- Two ON/OFF Motors with Mounted BO & Servo motor & Parts.
- 13 types of sensors, few are Light Sensor, Obstacle Sensor & Moisture Sensor, Motion, Vibration Sensor, Sound Sensor, Tilt Sensor
- Smart Switch – to control appliances
- Having Construction Kit which contains 100+ components

SAMPLE PROJECTS

- Morse code with buzzer
- Pre-programmed path robot
- Automatic plant watering
- Cliff avoiding robot
- Obstacle avoiding robot
- Salt water conductivity
- Digital Key
- Digital dimmer project ……and many more

Note: Specifications are subject to change.

01.07.2024

IT-2013, Ramchandrapura Industrial Area, Sitapura Extension, Near Bombay Hospital, Vidhani Circle, Jaipur-302022, Rajasthan, India,
Tel: +91-9829132777; Email: info@tesca.in, tesca.technologies@gmail.com

STEM LEARNING SYSTEM (ADVANCED)
Order Code - STEM-003

Component	Qty
Adapter/Charger	1
Battery Power	2
Buzzer	1
Connectivity sensor	1
Copy	1
Dimmer	1
High speed motor	1
Inverter	1
Light	1
Light Sensor	1
Limit Switch	2
Magnetic sensor	1
Mini Plastic Fan	1
Motion Sensor	1
Motor with mounted BO	2
NetLogic	1
Obstacle sensor	2
OTG Adapter	1
Pipe	1
Pulley	1
Pulse Delay	1

Component	Qty
Push Button	2
Receiver	1
Sensor Base with threshold	4
Servo Motor	2
Servo Motor part	2
Smart Switch	1
sound sensor	1
Submersible pump	1
Switch	2
Tilt sensor	1
Transmitter	1
U- Left	1
U- Right	1
USB Cable	3
Vibration Motor	1
Vibration sensor	1
Wheel	2
Small Wheel	1
Magnet	1
Wire	4

Component	Qty
AND	1
OR	1
Toggle	1
USB Rechargeable Battery	2
Plastic Building Block Set 100+ Pcs	1

Note: Specifications are subject to change.

01.07.2024

IT-2013, Ramchandrapura Industrial Area, Sitapura Extension, Near Bombay Hospital, Vidhani Circle, Jaipur-302022, Rajasthan, India,
Tel: +91-9829132777; Email: info@tesca.in, tesca.technologies@gmail.com

STEM LEARNING SYSTEM (ADVANCED)
Order Code - STEM-003

LMS FOR TEACHER`S & STUDENT`S

Teachers View

- Teaching Resources
- Session Power Point presentations
- Monitor students progress

Students View

- Learning Resources – Videos & Documents
- Quizzes
- Scholarship

TESCA™
www.tescaglobal.com

TINKER ORBITS
Order Code - STEM-004

Tinker Orbits is a STEAM Robotics kit for kids to explore the basic concepts of electronic circuits, sensors, Robotics, logics and programming with the help of plug 'n' play modules. It is an educational DIY kit for students which covers the learners' journey around Robotics from Beginner level to the advanced Robotics concepts. This contains both programmable and non-programmable activities. Also, Programmable activities are covered through Block Coding as well as Textual programming.

LEARNING OUTCOMES

1. Ability to Formulate Problem and Solutions
2. Analytical & Critical Thinking

PRODUCT FEATURES

1. Easy to Connect Plugs.
2. Curriculum Mapped with SDG.
3. Supports Graphical and Textual Programming.
4. Video Tutorial, User Manual and Learning

TECHNICAL SPECIFICATION

1. Android + Web Application
2. IOT
3. Color - Coded Modules

DIA KITS ACTIVITY

1. Weather Station
2. Smart Dustbin
3. Anti - Theft Alarm

30+ Activity

20+ Projects

Tesca Technologies Pvt. Ltd.

Note: Specifications are subject to change.

01.07.2024

IT-2013, Ramchandrapura Industrial Area, Sitapura Extension, Near Bombay Hospital, Vidhani Circle, Jaipur-302022, Rajasthan, India,
Tel: +91-9829132777; Email: info@tesca.in, tesca.technologies@gmail.com

TESCA™
www.tescaglobal.com

TINKER ORBITS
(Extended PBL Box)
Order Code - STEM-005

Tinker Orbits extended Project based kit offer students to create 12 unique projects around the the concepts of AI like Smart Home, Smart Irrigation System, Railway Crossing, Smart dustbin etc.

LEARNING OUTCOMES

1. Ability to Formulate Problem and Solutions
2. Analytical & Critical Thinking
3. Creative & Innovative Programming Skills
4. Concepts of Electronics, Logics Gates & Awareness about SDGs

PRODUCT FEATURES

1. Simple in Assembling/Disassembling.
2. Attractive Design.
3. Double-Layer Structure, Mauch of Mounting Holes, Enough Space.
4. Ideal for DIY Platform.
5. SDG Goal Mapped Projects.

TECHNICAL SPECIFICATION

1. Printed Board Cut Out
2. Thickness: 3-4mm

DIA KITS ACTIVITY

1. Solar Tracker
2. Railway Crossing
3. Automatic Pet Feeder
4. Smart Bin

10+ Activity

12+ Projects

Tesca Technologies Pvt. Ltd.

Note: Specifications are subject to change.

01.07.2024

IT-2013, Ramchandrapura Industrial Area, Sitapura Extension, Near Bombay Hospital, Vidhani Circle, Jaipur-302022, Rajasthan, India,
Tel: +91-9829132777; Email: info@tesca.in, tesca.technologies@gmail.com

TESCA™
www.tescaglobal.com

ELECTRONICS KIT
Order Code - STEM-006

Breadboard electronics allow kids to work with real electronics components without needing to use a soldering iron. Kids work with real electronics components. And breadboard is frequently used for prototyping real electronics projects – it's a useful skill to have.

- BASIC ELECTRONIC KIT
- MINI ELECTRONIC KIT

LEARNING OUTCOMES

1. Development of an Innovative Mindset
2. Circuit Building Skill
3. Innovators to Become Creators
4. Basic Electronics

PRODUCT FEATURES

1. Reusable Prototyping Board.
2. Endless Possibilities.
3. SDG Mapped Content.
4. Day-to-DAy Technology.

TECHNICAL SPECIFICATION

1. 800 Pin Solderless Bearboard
2. 5mm (20mA) LEDs
3. Sensor
4. Multi-Core Dupont (Jumper)Wires

DIA KITS ACTIVITY

1. Countdown Display
2. Mood Lighting
3. Smart Water Level System
4. Automatic Street Light

20+ Activity

10+ Projects

Tesca Technologies Pvt. Ltd.

Note: Specifications are subject to change.

01.07.2024

IT-2013, Ramchandrapura Industrial Area, Sitapura Extension, Near Bombay Hospital, Vidhani Circle, Jaipur-302022, Rajasthan, India,
Tel: +91-9829132777; Email: info@tesca.in, tesca.technologies@gmail.com

TESCA™
www.tescaglobal.com

TINKER N DESIGN KIT
Order Code - STEM-007

An **Augumented Reality Enabled** 3D Pen based prototyping kit for primary students to kick-start their 3D Prototyping journey without any programming.

LEARNING OUTCOMES

1. Augmented Reality
2. Design Thinking
3. Arts
4. Creative Mindset

PRODUCT FEATURES

1. Easy to Track Stencils.
2. Multicolored Filament.
3. Includes Mathematical and Science Concepts.
4. Augmented Reality Enabled.

TECHNICAL SPECIFICATION

1. Nozzle Diameter: 0.7mm
2. Filament Supported: ABS/PLA
3. Display: Built in LCD
4. Filament Diameter: 1.75mm

DIA KITS ACTIVITY

1. Magic Shape Maker
2. Butterfly Effect
3. Bicycle
4. Pyramid
5. Wind Runner

12+ Activity

05+ Projects

Tesca Technologies Pvt. Ltd.

Note: Specifications are subject to change.

01.07.2024

IT-2013, Ramchandrapura Industrial Area, Sitapura Extension, Near Bombay Hospital, Vidhani Circle, Jaipur-302022, Rajasthan, India,
Tel: +91-9829132777; Email: info@tesca.in, tesca.technologies@gmail.com

TESCA™
www.tescaglobal.com

STEAM PAPER CIRCUIT KIT
Order Code - STEM-008

A Paper Circuit is a low-voltage electronic circuit that is created on paper using conductive Copper Tape , LEDs, Buzzer , Switches and a power source such as Coin-Cell battery. It's a friendly way to learn, design and create your own electronics.

LEARNING OUTCOMES

1. Creativity
2. Design Thinking
3. Understanding of Electronics
4. Circuit Building Skill

PRODUCT FEATURES

1. Fun STEAM Learning.
2. Circuit Building With Art & Craft.
3. A Combined Platform Where Craft Meets Electronics.
4. Playing Learning & Creating with Electronics.

TECHNICAL SPECIFICATION

1. Operating Voltage: 3V
2. 5mm LEDs
3. Copper Tape
4. Designed Booklet

DIA KITS ACTIVITY

1. Table Lamp
2. Birthday Cake
3. Flower Birdy
4. Glowing Mind
5. Galaxy

25+ Activity

10+ Projects

Note: Specifications are subject to change.

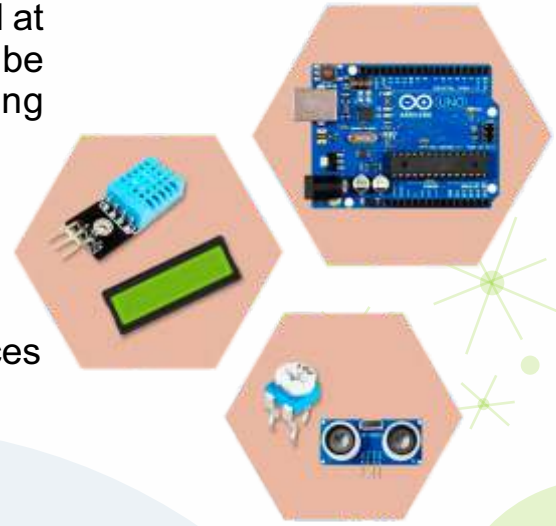
01.07.2024

Tesca Technologies Pvt. Ltd.
IT-2013, Ramchandrapura Industrial Area, Sitapura Extension, Near Bombay Hospital, Vidhani Circle, Jaipur-302022, Rajasthan, India,
Tel: +91-9829132777; Email: info@tesca.in, tesca.technologies@gmail.com

TESCA™
www.tescaglobal.com

ARDUINO ROBOTICS KIT
Order Code - STEM-009

End-To-End Platform for students to Kick start child's journey in Robotics. Students can learn Robotics programming through Block Coding and Textual Coding. Also, Interfacing of Sensors and actuators with Arduino controller.This kit is aimed at beginners to advanced level learners and can be used to jump start child' growth and learning towards DIY electronics and robotics system.



LEARNING OUTCOMES

1. Circuit Building & Coding Skills
2. Design Thinking
3. Overview of Robotics & Programmable Devices
4. Decision Making

PRODUCT FEATURES

1. Easy to Use Hardware.
2. Simple to Assemble Chassis with Motor and Wheels.
3. Projects Based Learning Modules.
4. Includes Compatible Sensors and Hardwares.

TECHNICAL SPECIFICATION

1. Bluetooth Frequency: 2.4GHz ISM Band
2. ATMega328 Based
3. Protocols Supported: I2C, SPI, UART, PWM
4. USB Programmable

DIA KITS ACTIVITY

1. Black and White Sorter
2. Automatic Street Light
3. Line Follower Car
4. Home Automation

35+ Activity

20+ Projects

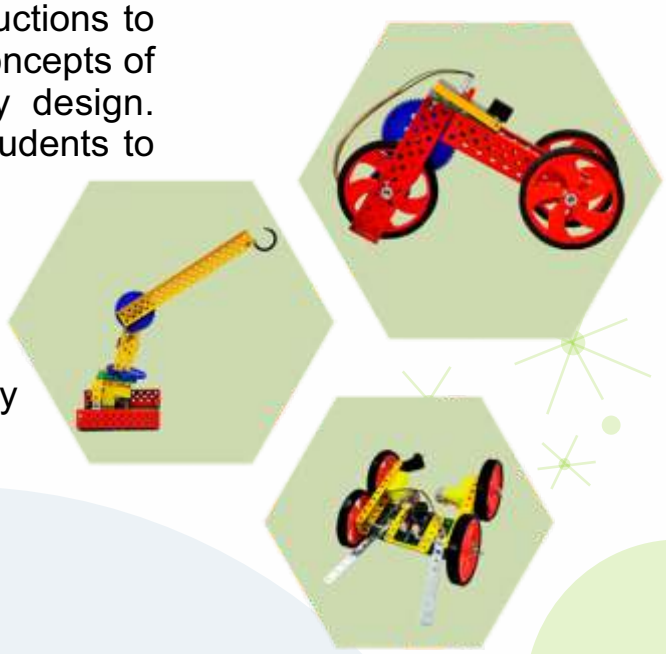
Note: Specifications are subject to change.

01.07.2024

TESCA™
www.tescaglobal.com

MECHATRON KIT
Order Code - STEM-010

MECHATRONICS Robotic Kit is for 6+ Age Kids.
Contains 150+ parts such as metallic strips, Remote control, control card, motors, gears, etc. Comes with an assembly guide with step-by-step instructions to help students build the robot-associated concepts of science and math mentioned with every design. Robotics kits for Kids & Robotic kits for students to make their own Robotics projects.



LEARNING OUTCOMES
1. Problem Solving ability
2. Design Thinking
3. Awareness of Day-to Day-Life Machinery
4. Concepts of Simple Machines

PRODUCT FEATURES
1. More Than 15+ Working Models.
2. SDG Mapped Real - Life Models.
3. Assembly Guide + Easy to Assemble.

TECHNICAL SPECIFICATION
1. Operating Voltage: 12V DC
2. 150 RPM Geared Motors
3. Remote Control

DIA KITS ACTIVITY
1. Table Fan Bot
2. Robo Car
3. Robo Crane
4. Robo Soccer
5. Tricycle

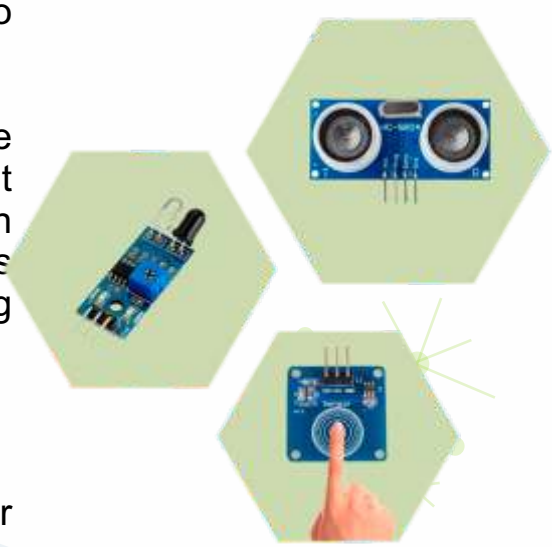
10+ Activity
05+ Projects

TESCA™
www.tescaglobal.com

SENSOR BOX
Order Code - STEM-011

This Sensor Kit compatible with Arduino is supplied with a variety of sensors that are compatible with Arduino Boards. This is the most complete performance starter kit with all the essential Arduino sensors.

This kit contains excellent sensors which are compatible with Arduino. You can find the best sensors, whether you're a beginner or an expert in this field, and use them to create the best DIY projects on your own. Prototyping will be easy and fun-loving with this Kit.



LEARNING OUTCOMES

1. Projects Base Learning
2. Working of Different Sensor and Their Applications
3. Analog & Digital Devices Innovative Mindset
4. Programming Skills

PRODUCT FEATURES

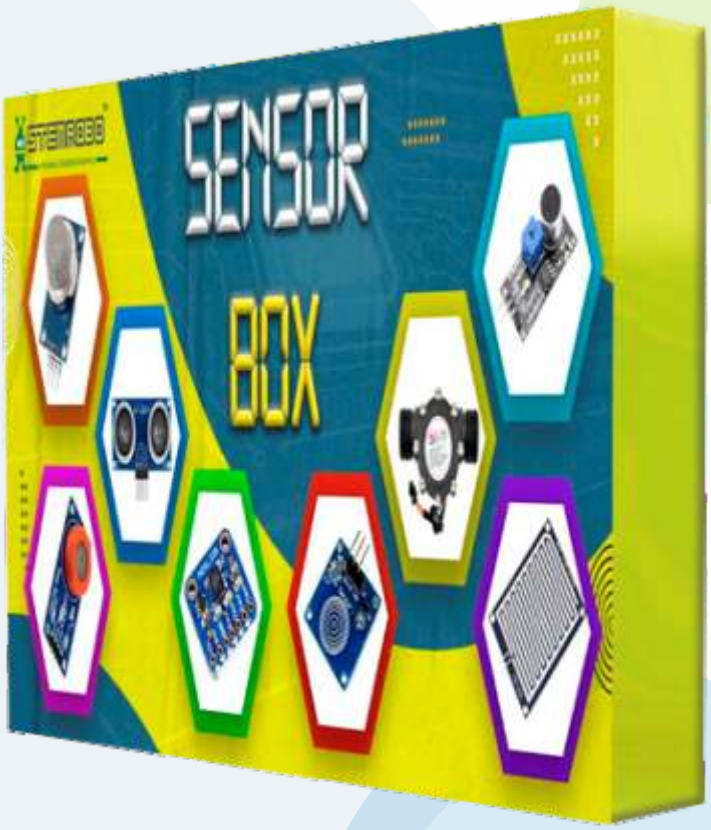
1. Handpicked Sensors.
2. Endless Innovative Thinking Possibilities.
3. Compact Modules.
4. Stable Performance.

TECHNICAL SPECIFICATION

1. Operating Voltage: 5V DC
2. UART Compatible
3. 12C Compatible
4. Arduino, Raspberry PI Compatible

DIA KITS ACTIVITY

1. Distance Calculator
2. Accelerometer
3. Light Sensor
4. Rain Sensor
5. Proximity Sensor



20+ Activity

15+ Projects

Tesca Technologies Pvt. Ltd.

Note: Specifications are subject to change.

01.07.2024

IT-2013, Ramchandrapura Industrial Area, Sitapura Extension, Near Bombay Hospital, Vidhani Circle, Jaipur-302022, Rajasthan, India,
Tel: +91-9829132777; Email: info@tesca.in, tesca.technologies@gmail.com

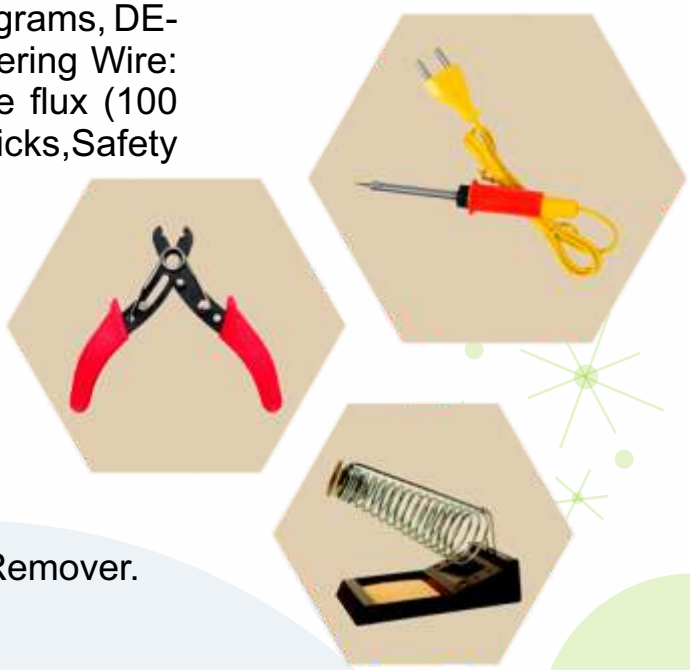
BLOCK BASED CONSTRUCTION KIT
Order Code - STEM-012

This course makes it easier for children to understand the basics of Physics. The concepts that they learn helps them throughout their learning process in science concepts. Children build complex machines and mechanisms and see the advantage of one over the other. Moreover, they develop tremendous creator confidence in imagining and executing the output of their machine.

TESCA™
www.tescaglobal.com

SOLDERING BOX
Order Code - STEM-013

Hookup Wire Roll (Red), Hookup Wire Roll (Black), Hot glue gun,Soldering Iron 30 watts/230 volts,De-Soldering Pump,Soldering Flux (Paste)- 50grams, DE-soldering Copper Braid(Solder Wick),Soldering Wire: 20/22 AWG soldering Wire with rosin core flux (100 Grams),Soldering Helping hand,Glue Sticks,Safety goggles,Safety Gloves Pairs,Safety Mask



LEARNING OUTCOMES

1. Soldering & Circuit Building Skill
2. Safety Practices
3. Handling Tools & Equipment
4. Basics of Electronics

PRODUCT FEATURES

1. Spring-Loaded Vacuum-Style Solder Remover.
2. Strong Alligator Clips.
3. Distortion-Free Magnifying Glass.
4. Safety Glasses with Polycarbonate Lenses.

TECHNICAL SPECIFICATION

1. Soldering Iron Wattage (W): 30W
   Max Temperature : 450C
2. De-solder Tool: Pump Tip Nozzle Length: 7.64” / Nozzle O.D.: 0.13”
3. Magnifying Lens: 2.5 x 90mm
4. Polycarbonate Safety Goggles

DIA KITS ACTIVITY

1. Soldering Fundamentals
2. PCB Designing
3. Circuit Designing
4. LED Matrix

10+ Activity

Endless Projects

Tesca Technologies Pvt. Ltd.

Note: Specifications are subject to change.

01.07.2024

IT-2013, Ramchandrapura Industrial Area, Sitapura Extension, Near Bombay Hospital, Vidhani Circle, Jaipur-302022, Rajasthan, India,
Tel: +91-9829132777; Email: info@tesca.in, tesca.technologies@gmail.com

TESCA™
www.tescaglobal.com

PICK & PLACE TANK
Order Code - STEM-014

The robotic tank DIY kit includes four motors, trackwheel, and a gripper arm. Two motors are used to power the track wheels. Other motors are used to control the movement of the robotic arm and the gripper. The size and shape of the robot make it suitable for pick and place robot application.
The robot can be easily be programmed to do different operations making it an all-in-one solution for kids to enjoy hands-on experience in building robots, programming, and electronics circuits.

LEARNING OUTCOMES

1. Robotic & Programming Skills
2. Logical, Critical & Creative Thinking
3. Wireless Communication Basics
4. Motor Controls

PRODUCT FEATURES

1. Arduino Programming.
2. Wireless Connectivity via Bluetooth.
3. Android App Compatible.
4. Wheel With Track Belt.
5. In Built Gripper

TECHNICAL SPECIFICATION

1. Operating Voltage: 12V DC
2. Protocols Supported: I2C, UART, PWM, Digital, Analog
3. USB Programmable
4. Material: Metal & Plastic

DIA KITS ACTIVITY

1. Wireless Controlled Tank
2. Materials Handling Robot
3. Handling Gripper
4. Bomb Diffusal Planning
5. Rescue Operations

05+ Activity

03+ Projects

Tesca Technologies Pvt. Ltd.

Note: Specifications are subject to change.

01.07.2024

IT-2013, Ramchandrapura Industrial Area, Sitapura Extension, Near Bombay Hospital, Vidhani Circle, Jaipur-302022, Rajasthan, India,
Tel: +91-9829132777; Email: info@tesca.in, tesca.technologies@gmail.com

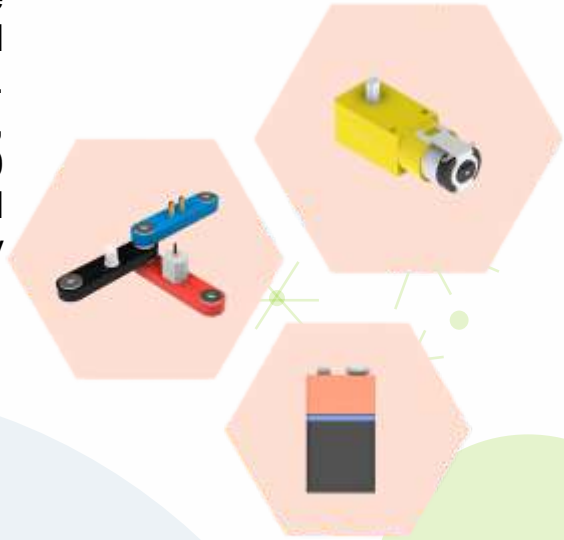
HUMANOID ROBOT
Order Code - STEM-015

Voice Intelligent RC Robot LED expression voice dialogue intelligent RC robot toy with lights. Robot can glide, dance, sing, tell stories, volume adjustments, and communicate with players according to the script. Increase the ingenuity of children, the cultivation of the independent personality. Robot toy inspires imaginative play and curiosity about science. Rotatable head, enjoy more fun. Flexible hand actions.

TESCA™
www.tescaglobal.com

MECHATRON KIT
Order Code - STEM-016

The Smart Circuit kit contains more than 50 DIY (Do It Yourself) projects with more than 40 interactive simulations and 10 real-world model templates and a colorful user manual with its easy-to-follow instructions, smart electronics kit gives a hands-on education in how electrical circuits work to run the everyday devices that they're familiar with. They'll also gain valuable lessons in building circuit design. This kit contains more than 12 electronic components, more than 30 magnetic blocks as well as more than 40 accessories for real model building along with dual power (USB + DC) which can be used to create many projects also no soldering is required.



LEARNING OUTCOMES

1. Basic Electronics
2. Develops Innovative Mindset
3. Knowledge of Day-to-Day Tech
4. Circuit Building Skills

PRODUCT FEATURES

1. Do it Yourself Projects.
2. Interactive Simulations.
3. Real World Model Templates.
4. SDG Mapped Content.

TECHNICAL SPECIFICATION

1. Operating Voltage: 5-9V DC
2. Connector Type: Magnetic
3. USB Power Connector
4. 9 X 7 Connector Board

DIA KITS ACTIVITY

1. Flash Light
2. Hand Trimmer
3. Car Music Volume Control
4. Lift Cabin Safety
5. Fire Alarm System

45+ Activity

30+ Projects

Tesca Technologies Pvt. Ltd.

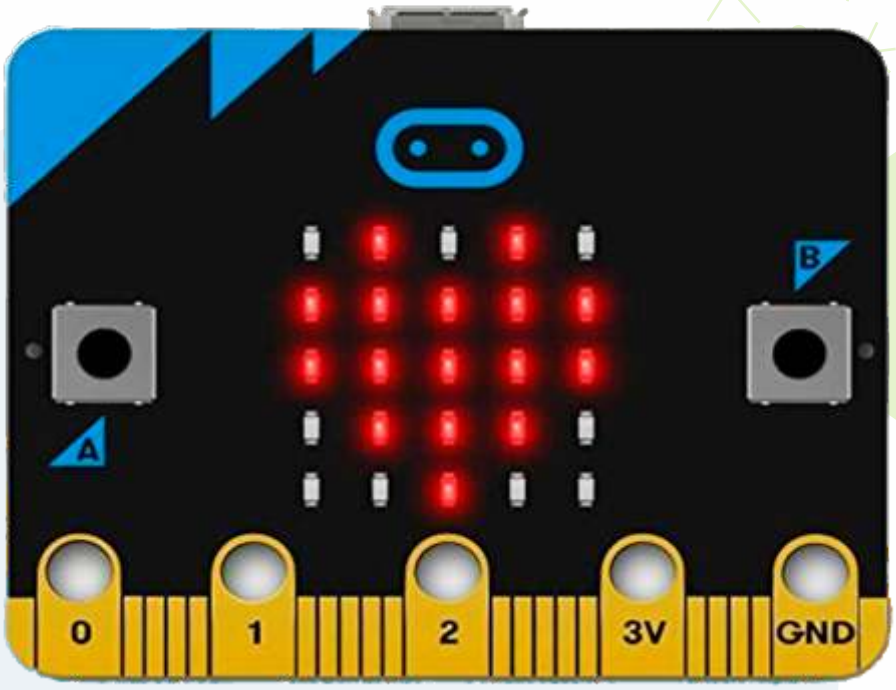
Note: Specifications are subject to change.

01.07.2024

MICROBIT EXPLORER KIT
Order Code - STEM-017

The BBC micro:bit is a pocket-sized computer that introduces you to how software and hardware work together. It has an LED light display, buttons, sensors and many input/output features that, when programmed, let it interact with you and your world.

The new micro:bit with sound adds a built-in microphone and speaker, as well as an extra touch input button and a power button



TESCA™
www.tescaglobal.com

STEMBOT
Order Code - STEM-018

StemBot is a graphical programming robot for STEM education, which inherits playability and simple operation on the micro:bit (Version 2). Includes various sensors like IR (Infrared Sensor), Ultrasonic sensor, and Light sensor to make DIY robotics projects. MakeCode is a free online coding platform available to code and learns advanced coding concepts.

LEARNING OUTCOMES

1. Concepts of AI & ML
2. Computer Vision
3. Overview of Robotics
4. Digital Literacy & IOT

PRODUCT FEATURES

1. Support of Make Code.
2. Arduino & Python Compatible.
3. Android Application.
4. Graphical Programming Interface.

TECHNICAL SPECIFICATION

1. Programming Method: Make Code Graphical Programming
2. Connector Type: Magnetic
3. Servo Motor Compatible
4. Maximum Speed: 200RPM

DIA KITS ACTIVITY

1. Night Light
2. Range Indicator
3. Obstacle Avoider Robot
4. RC Car
5. Range Indicator on OLED

30+ Activity

20+ Projects

Note: Specifications are subject to change.

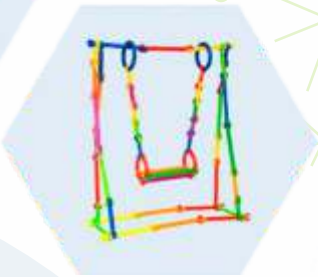
01.07.2024

Tesca Technologies Pvt. Ltd.
IT-2013, Ramchandrapura Industrial Area, Sitapura Extension, Near Bombay Hospital, Vidhani Circle, Jaipur-302022, Rajasthan, India,
Tel: +91-9829132777; Email: info@tesca.in, tesca.technologies@gmail.com

TESCA™
www.tescaglobal.com

3 IN 1 SET OF LINKERS
Order Code - STEM-019

Combination of 3 Kits for early Tinkerers to cultivate creativity, imagination, tactile skills, Logical Thinking and Hand-eye coordination. Students will be introduced to multiple types of links and Joint. Connecting components at different angles and create multiple objects.



LEARNING OUTCOMES

1. Hand to Eye Coordination
2. Construction Skills
3. Creative Learning
4. Ogranizational Skills

PRODUCT FEATURES

1. Made with Safe and Durable Materials.
2. Perfect Fitting.
3. No Share Edges.
4. Multicolor Sticks
5. Durable and Safe Colorful Parts.

TECHNICAL SPECIFICATION

1. Material Type: Polypropylene
2. Colorful Components
3. Adjustable Links

DIA KITS ACTIVITY

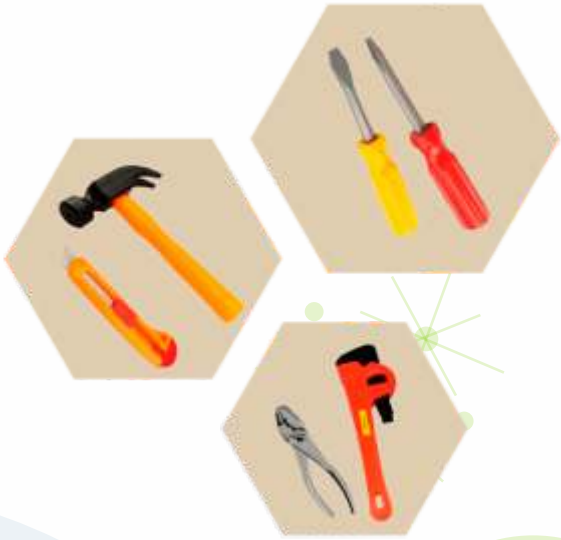
1. Rickshaw Frerris Wheel
2. Basket Ball Hoop
3. Supermarket
4. Space Rover
5. Multistory Building

28+
Activity

TESCA™
www.tescaglobal.com

MECHANICAL TOOLS BOX
Order Code - STEM-020

A must have toolbox for all innovators and creators. Your ideas need a right set of tools and this toolbox has got it covered. It includes all types of measurement, cutting, dismentelling and joining tools which can be used to measure thickness of wire, cutting or reshaping wooden pieces. This includes Long Nose Plier, Combination Plier, Wire Stripping Plier, Tweezer Set, Allen Key Set, Universal Multi Wrench Spanner, Screwdriver Set, Flexible Cutting Mat, PegBoard, measuring tape, Stainless Steel Rule, Digital Vernier Caliper.



LEARNING OUTCOMES
1. Handling Different Tools
2. Basic Workshop Practices
3. Safety Standards
4. Practices of Materials

PRODUCT FEATURES
1. Effective for Cutting Wires and Cables.
2. Electronics Tweezers with ESD.
3. Lightweight and Self Adjusting easily Fits.
4. Accurate Reading.
5. Vernier Caliper with LCD Display.

TECHNICAL SPECIFICATION
1. Combination Mini Plier Material: High-Carbon Steel
2. Tweezer Set Anti-Static, Curved
3. Adjustable Universal Multi Wrench Spanner Range: 22-32mm
4. Digital Vernier Caliper Measuring Range:

DIA KITS ACTIVITY
1. Length Measurement
2. Wire Cutting
3. Fixing Parts
4. Removing Parts

10+ Activity

Endless Projects

Tesca Technologies Pvt. Ltd.

Note: Specifications are subject to change.

01.07.2024

AGRITECH KIT
Order Code - STEM-021

The Agri-Tech kit v1.0 is a complete Internet of Things (IoT) based device which can be used to monitor as well as to control the agricultural parameters such as, soil moisture, rainfall, air quality around the crops, temperature and humidity on the field. In addition, the kit contains the flame detector which detects if there is any unfortunate fire scenario down the field. The kit contains the fully enabled Wi-Fi transceiver which facilitates the user to combine all the field parameters and uploaded to the cloud, which can be seen anytime and anywhere followed by monitoring and automatic control. The Wi-Fi transceiver also allows the user to remotely trigger actions like an alarm, pump etc on the field

TESCA™
www.tescaglobal.com

DRONE KIT
Order Code - STEM-022

Crash Resistant Smartphone Controlled DIY Nano-Drone Quadcopter with Rechargeable Battery for Coding and STEM

LEARNING OUTCOMES

1. Cognitive Learning
2. Concepts of UAVs and Drones
3. Computational & Observation Skills
4. Creative & Innovative Mindset

PRODUCT FEATURES

1. Wireless (Wi-Fi) Connectivity.
2. 10-Axis Stability.
3. Cygnus IDE.
4. Primus V4.

TECHNICAL SPECIFICATION

1. 10 DOF Sensor Suit
2. Camera: Photo, Vidoe@720p, SD Card
3. Battery: 1S 3.7V 600mAh LiPo with Inbuit Cahrger
4. Communication: Wi-Fi Interface Through Smartphone App

DIA KITS ACTIVITY

1. Concepts of Roll
2. Concepts of Yaw
3. Concepts of Pitch
4. UAV Concepts
5. Surveillance of an Area Using Drone

12+ Activity

05+ Projects

Note: Specifications are subject to change.

01.07.2024

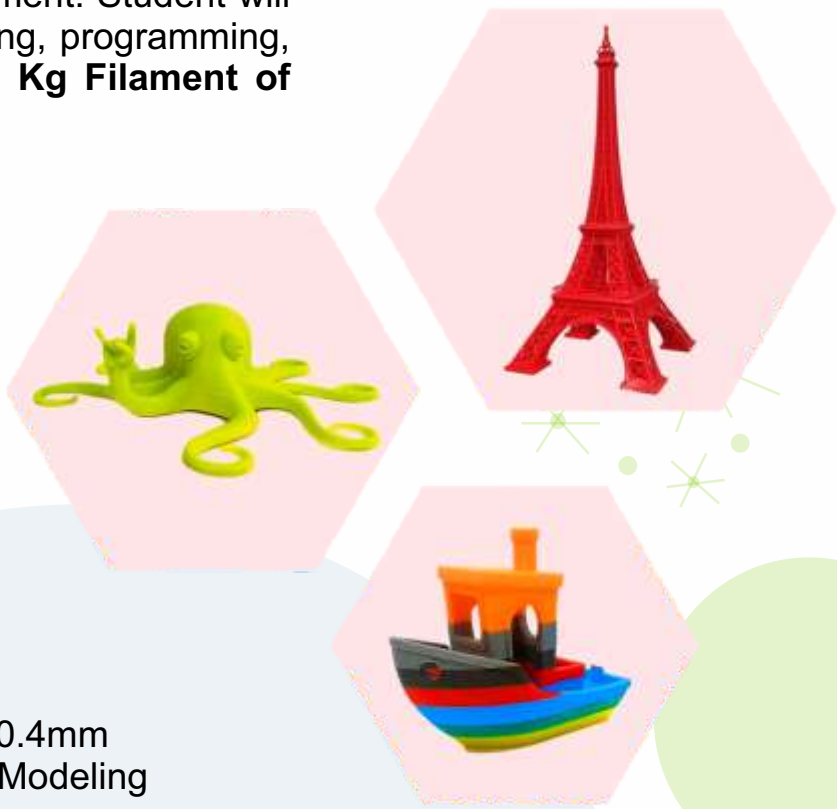
Tesca Technologies Pvt. Ltd.
IT-2013, Ramchandrapura Industrial Area, Sitapura Extension, Near Bombay Hospital, Vidhani Circle, Jaipur-302022, Rajasthan, India,
Tel: +91-9829132777; Email: info@tesca.in, tesca.technologies@gmail.com

AI CONNECT PLATFORM
Order Code - STEM-023

"Subscription of AI Connect platform for the programming of AI (Python,Python Bascis, Machine learning and AI) which will be covering 100% syllabus of CBSE and 50+ Extra Activities for 5th Onwards.

ARCTIC 3D PRINTER
Order Code - STEM-024

This 3D Printer is, an IoT-enabled FDM type 3D Printer, Loaded with exciting features, Arctic offers you the highest build volume in its segment. Student will learn the concept of Design Thinking, programming, and Prototyping. **It comes with 5 Kg Filament of different colors.**



LEARNING OUTCOMES

1. Design Thinking
2. 3D Designing
3. Additive Manufacturing
4. Rapid Phototyping

PRODUCT FEATURES

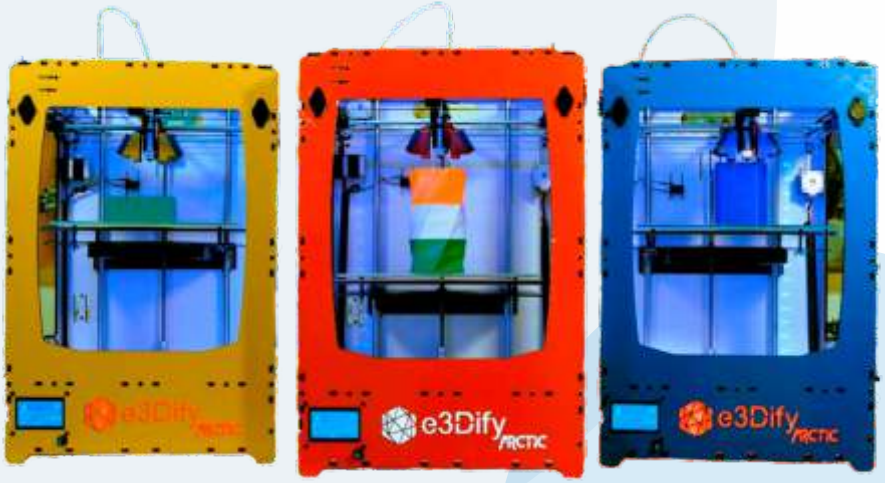
1. Full Graphics LCD.
2. Various Color Options.
3. Filament Runout Detection.
4. IOT Build Volume.

TECHNICAL SPECIFICATION

1. Extruder - Single Nozzle, Size-0.4mm
2. Technology: Fused Deposition Modeling (FDM)
3. Supported Materials: PLA, ABS, Nylon, Wood Fill and PETG
4. Media Interface: MMC, USB, IOT and Camera Monitoring Ready

DIA KITS ACTIVITY

1. Ludo Dice
2. Gear
3. Seal
4. Introduction of 3D Designing
5. Sword
6. Pokeball



Endless Activity

Note: Specifications are subject to change.

TESCA™
www.tescaglobal.com

BITLI
Order Code - STEM-027

Bitli is an innovative robot designed to engage young minds in both basic and advanced activities. Its block-based design allows for easy assembly and customization, making it an excellent tool for educational exploration.

Bitli empowers students to unleash their creativity by enabling them to build and program the robot using colorful blocks. From basic movements to complex AI-driven actions, Bitli adapts to student's skill levels and encourages them to experiment with new ideas.
Based on the Bitli V1 from TESCA, the micro: bit Bitli Bricks Pack contains 360 degrees servos, LED strips, and almost 200 pieces of bricks.

LEARNING OUTCOMES

1. Concept of AI & ML
2. Construction Skills
3. Organizatiocal Skills
4. Analytical & Critical Thinking

PRODUCT FEATURES

1. Support Microsoft MakeCod: Graphical Programming Interface.
2. No Sharpe Edge.
3. Durable and Safe Colorful Parts.
4. Develop Problem-Solving, Organization and Planning.
5. Develop Scientific and Technological Solution.

TECHNICAL SPECIFICATION

1. Operating Voltage: 4.5V
2. 2.4Ghz Radio Connectivity
3. 360 Degree Servo Motor
4. Protocol Supported: I2C, SPI, UART, PWM
5. Programming Method: MakeCode Graphical Programming
6. Material Type: High-Quality ABS Plastic

DIA KITS ACTIVITY

1. Traffic Light
2. CubeBot
3. Temperature Controlled Fan
4. Smart Desk Lamp
5. Wiper
6. Sky Slinger

30+ Activity **20+** Projects

Note: Specifications are subject to change.

01.07.2024

Tesca Technologies Pvt. Ltd.
IT-2013, Ramchandrapura Industrial Area, Sitapura Extension, Near Bombay Hospital, Vidhani Circle, Jaipur-302022, Rajasthan, India,
Tel: +91-9829132777; Email: info@tesca.in, tesca.technologies@gmail.com

DIY 0
Order Code - STEM-101

Unleash your creativity by building thousands of models and gift your loved ones this amazing set. You will have an everlasting experience with DIY 0 build mobile stand, keychain holder, goggles, etc.

SKU : Finished Goods1291
Categories : Non motorized 12%

CARS 1
Order Code - STEM-102

This Tesca robot kit for kids maybe be small in size but it's big in excitement. 4 large tyres and specially designed mudguards add tremendous appeal to your creation. This is a fantastic first step to introduce a child to the construction system and towards strengthening their cognitive skill.

SKU : Work In Progress1287
Categories : Non motorized 12%, Shop, Stem Toys

Specification

No. of Parts - 41
Models - 4
4 large tyres and specially designed mudguards

Note: Specifications are subject to change.
24.06.2024
IT-2013, Ramchandrapura Industrial Area, Sitapura Extension, Near Bombay Hospital, Vidhani Circle, Jaipur-302022, Rajasthan, India,
Tel: +91-9829132777; Email: info@tesca.in, tesca.technologies@gmail.com

BUDDY
Order Code - STEM-103

The Tesca robot kits for kids are perfect to work on construction and mechanism. Make a robot whose arms wave using links and joints, a moving horse that has a crank & slider mechanism, and many more creative models. Kids will enjoy building, learning, and exploring science concepts with this.

SKU : Inventory Asset1289
Categories : Non motorized 12%, Shop, Stem Toys

Specification

No. of Parts - 58
Models - 5

CARS 2
Order Code - STEM-104

This robot kit for kids takes the excitement of building cars to another level by the suspension system. Build 9 different types of vehicles from a Mono-shock racer to a Dual shock off-road buggy, all in this one set. Easy construction allows you to tinker with the models and build.

Categories : Non motorized 12%, Shop, Stem Toys

Specifications

No. of Parts - 76
Models - 9
Real working suspension system

Note: Specifications are subject to change.

24.06.2024

AARTI SET
Order Code - STEM-105

Tesca gets children involved in aarti sessions. Let them make the models and feel pride for their creator with gears and motors. Let them create beautiful models of light, agarbatti, and the little bell for a complete aarti session. BRAND Tesca Aarti set is a Tesca Robotix toy for children.

Specification

Categories : Shop, Stem Toys
No. of Parts - 86

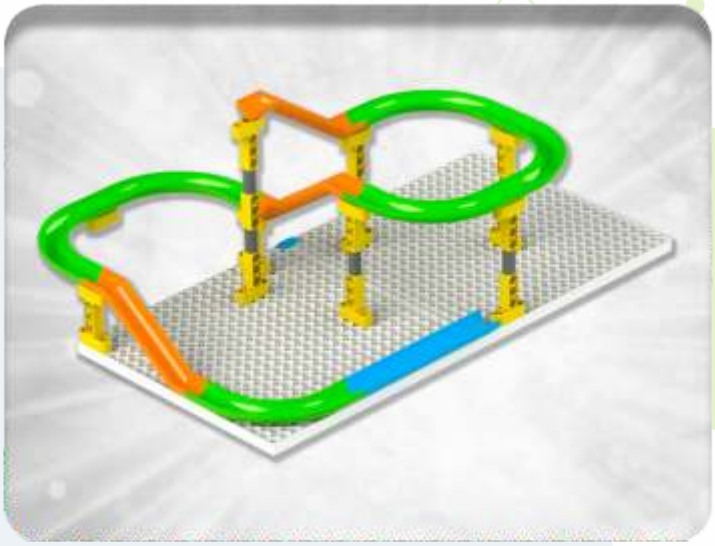
Note: Specifications are subject to change.

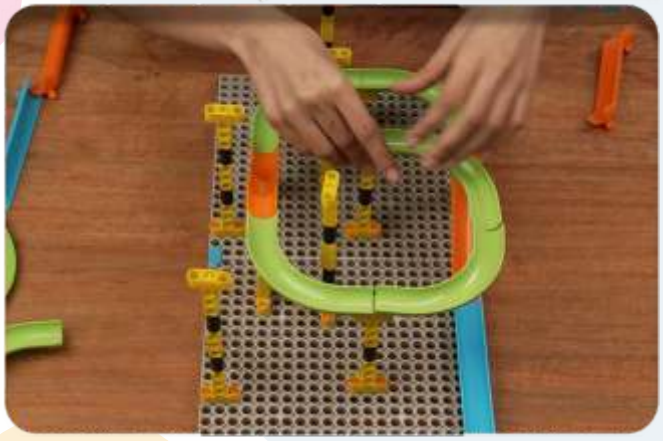
24.06.2024

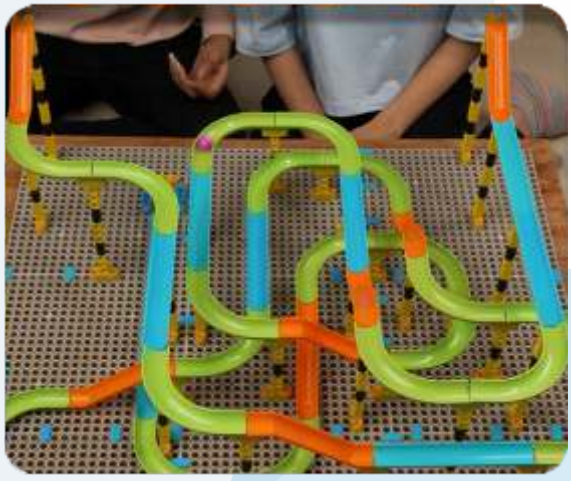
MARBLE RUN 1
Order Code - STEM-106

Build these super fun and amazing roller coaster-like structures for your marble buddies and have unlimited hours of playtime. Use your creativity and building skills to build unlimited designs and make the marbles run on them.

SKU : Inventory Asset1288
Categories : Non motorized 12%, Shop, Stem Toys







Note: Specifications are subject to change.
24.06.2024
IT-2013, Ramchandrapura Industrial Area, Sitapura Extension, Near Bombay Hospital, Vidhani Circle, Jaipur-302022, Rajasthan, India,
Tel: +91-9829132777; Email: info@tesca.in, tesca.technologies@gmail.com

TESCA™
www.tescaglobal.com

CRAWLER
Order Code - STEM-107

A Tesca Crawler is designed for children aged 8+. With Tesca Crawlers, kids learn about the gears and walking mechanisms of two-legged and four-legged crawlers. It's time to put an end to your search for the best robot toys for kids! Build 8 cool motorised walking robots with this kit.

SKU : Finished Goods1293
Categories : Shop, Stem Toys

Specification

No. of Parts - 70+
Models - 8

Tesca Technologies Pvt. Ltd.

Note: Specifications are subject to change.

24.06.2024

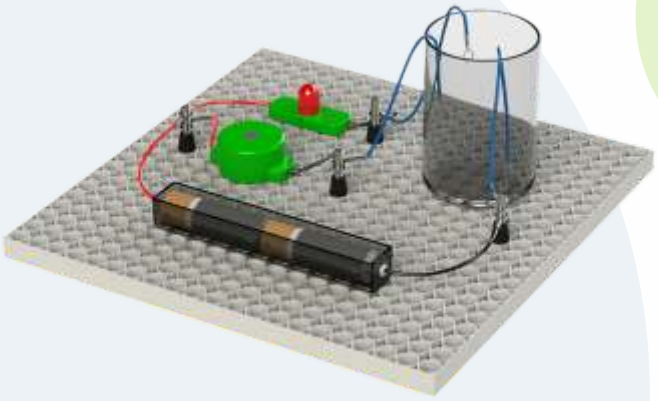
ELECTROMAGNETIC
Order Code - STEM-108

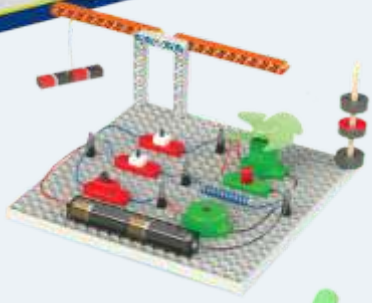
Tesca Electromagnetix is a robotic toy by Tesca Robotix for children between the age 8 to 15. The Tesca Electromagnetix kit is composed of 43 helps child to build 30 awesome projects such as Aero boat, String compass, and Magnet Football etc.

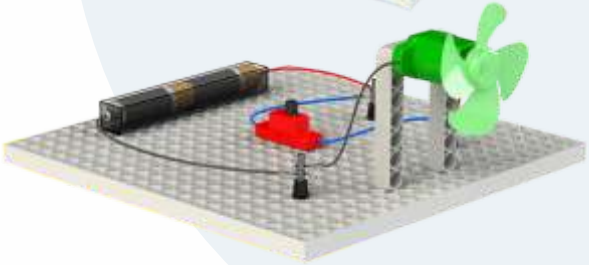
SKU : Inventory Asset1375
Categories : Shop, Stem Toys

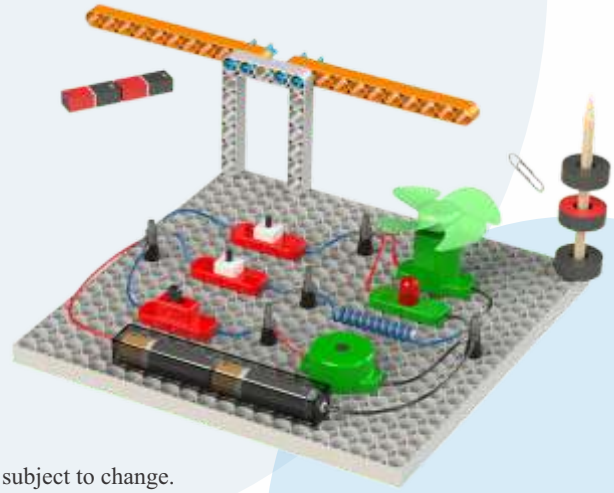
Specification

No. of Parts - 43
Models - 30









Note: Specifications are subject to change.

JUNIOR
Order Code - STEM-109

In Tesca Junior, go on an adventure with Kit, Laya & their robot Rob. In the Tesca junior , they will ride through the jungle, solve problems for the people in need, use suspensions to ride through the forest, make a bridge to cross a river filled with crocodiles,

SKU : Finished Goods1297
Categories : Non motorized 12%, REELUP (DO NOT DELETE), Robotix Sets, Shop

Specification

No. of Parts - 90+
Models - 10

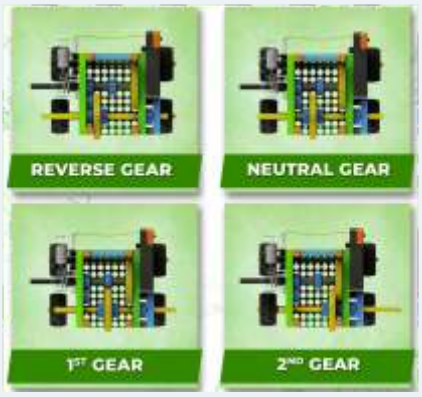
GEAR BOX
Order Code - STEM-110

Gears are the biggest invention after the wheel, we cannot live a normal day in our lives without gears. The fact ignites a spark in the brains of children and transforms them into leaders who can define the next phase of human evolution. With these robot toys for kids, children.

Categories : Shop, Stem Toys

Specification

No. of Parts - 100+
Models - 10
Gear changing car



Note: Specifications are subject to change.

24.06.2024

POWER SCREW
Order Code - STEM-111

The Tesca robot kits for kids are a complete package. In the manual, you will find instructions to build 7 different motorized models like a Dumper truck, a Scissor lift, A Pressing machine, and more. But that is just the beginning, with these robot toys for kids, you can build.

SKU : Finished Goods1294
Categories : Shop, Stem Toys

Specification

No. of Parts - 186+
Models - 7
Power screw mechanism, High torque motor

RACK AND PINION
Order Code - STEM-112

Rack and Pinion is one of the easiest ways to convert rotary motion (which is produced by motor) into linear motion. As you can build 6 incredible models from this set, you will see how this super mechanism is used in a forklift to lift up cargo, a garage.

Categories : Shop, Stem Toys

Note: Specifications are subject to change.

24.06.2024

IT-2013, Ramchandrapura Industrial Area, Sitapura Extension, Near Bombay Hospital, Vidhani Circle, Jaipur-302022, Rajasthan, India,
Tel: +91-9829132777; Email: info@tesca.in, tesca.technologies@gmail.com

MARBLE RUN 2
Order Code - STEM-113

Introducing Marble Run Part 2 Now with Motorized Models and More Pieces for Endless Fun! Get ready to take your marble racing experience to the next level with our upgraded and exhilarating Marble Run Part 2. With motorized models and an expanded set of pieces, the excitement never stops. Build,

SKU : 78765
Categories : New launch, Shop, Stem Toys

JUNIOR ELECTRONICS
Order Code - STEM-114

Dive into the world of "Junior Electronics" – where budding scientists in 1st, 2nd, and 3rd grade uncover the mysteries of electricity and electronics through hands-on projects! Say hello to Queaky, the buzzing sensation that sparks excitement as kids connect its terminals to create sounds. With Queaky and an array.

SKU : junelecto_222
Categories : Robotix Sets, Shop

AMUSEMENT PARK
Order Code - STEM-115

One of the best robot kits for kids, The Tesca Amusement park comes with more than 340 parts from which you can build 7 different Amusement Park robot toys for kids. These rides have entertained many in theme parks around the world, now with the best robot kits for kids,

Categories : Shop, Stem Toys

Specification

No. of Parts - 340+
Models - 7
Gear mechanism, High torque motor

Note: Specifications are subject to change.

RC EXPLORER
Order Code - STEM-116

Unleash endless fun and creativity with Tesca DIY Remote-Controlled Toy! Featuring a powerful 2.4GHz wireless transmitter and receiver, you'll experience seamless connection and control like never before. This versatile kit allows you to build over 6+ unique robot models, providing hours of entertainment and hands-on learning.

SKU :0
Categories : New launch, REELUP (DO NOT DELETE), Shop, Stem Toys

DISCOVERING MOTION
Order Code - STEM-118

Tesca Discovering Motions, one of the finest robotics for kids, makes it easier for children to understand the basics of Physics. Introduce robotics training for kids and let them learn complex scientific concepts with the Tesca Discovering Motions. Children build complex machines and mechanisms and see the advantage of one.

SKU : Finished Goods1332
Categories : Robotix Sets, Shop

Specification

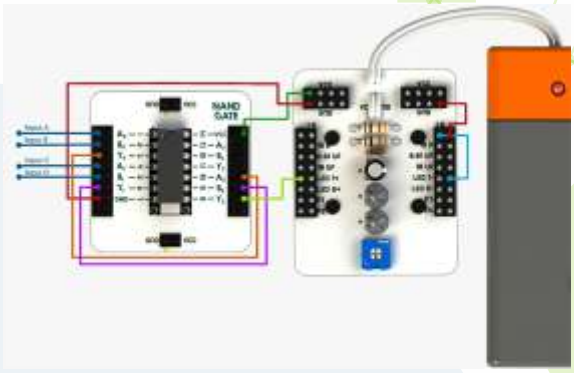
No. of Parts - 176
Models - 13

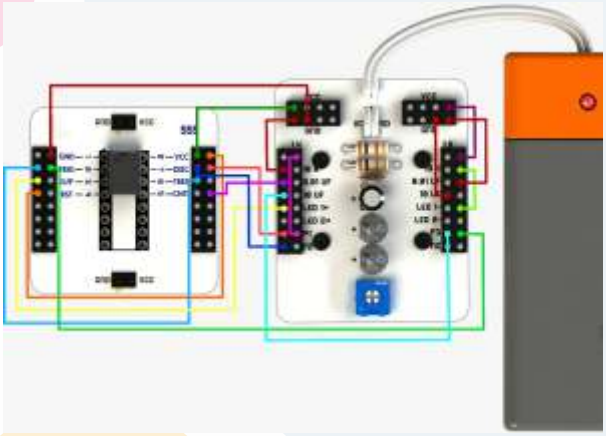
Note: Specifications are subject to change.

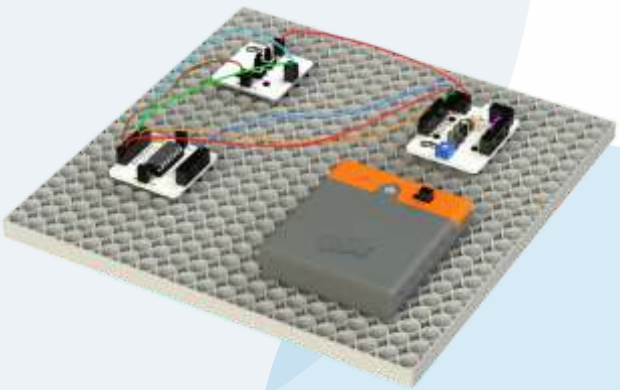
DISCOVERING ELECTRONICS
Order Code - STEM-119

Introducing "Discovering Electronics" – an engaging and educationaljourney into the world of electronics for kids aged 8 and above!Unleash creativity with PCBs featuring logic gates, a 555 timer IC,multiplexers, demultiplexers, and a 7-segment display. No complexbreadboard mastery required – simply connect wires to IC pins,following our easy manual for over...

Categories : Robotix Sets, Shop







Note: Specifications are subject to change.

24.06.2024

IT-2013, Ramchandrapura Industrial Area, Sitapura Extension, Near Bombay Hospital, Vidhani Circle, Jaipur-302022, Rajasthan, India,
Tel: +91-9829132777; Email: info@tesca.in, tesca.technologies@gmail.com

TESCA™
www.tescaglobal.com

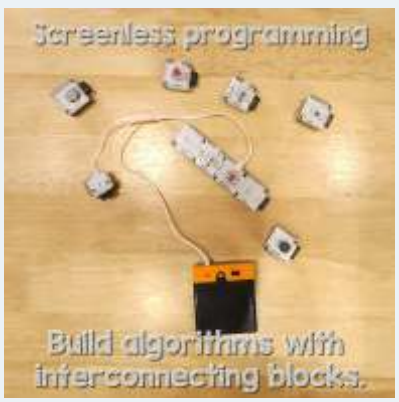
LOGIC BLOCK V2
Order Code - STEM-121

Introducing robotics for kids by Tesca for kids between the age of 8 to 14. In the Tesca Logic Blocks, the child will build robots using the Tesca construction parts, and add intelligence to them using the Logic blocks. Tesca Logic Blocks uses real engineering components like sensors, motors, gears,...

Categories : Robotix Sets, Shop

Specification

No. of Parts - 152+
Models - 10



Note: Specifications are subject to change.

AVIATOR
Order Code - STEM-124

Enjoy flying the aviator drone wirelessly using your mobile phone. Learn how the drone overcomes gravity by increasing the thrust and moves in 3 dimensions when its yaw and pitch are controlled. You can program your drone for a specific application. Learn to program it using the step-by-step manual included.

SKU : Finished Goods1333
Categories : Robotix Sets

BOFFIN LITE V2
Order Code - STEM-126

Boffin Lite kit comes with a variety of sensors, motors, and a wonderful controller companion “Boffin” to start your journey in the amazing world of Tesca Boffin. This kit has sensors like IR sensor, Limit Switch, Sound sensor, Light sensor, and ultrasonic sensor. Control output devices like LED, Buzzer, Servo.

Categories : Robotix Sets, Shop

Specification

No. of Parts - 120+
Models - 32
Age 14+

BOFFIN MASTER V2
Order Code - STEM-127

This kit has sensors like IR sensor, Limit Switch, Sound sensor, Light sensor, motion sensor, soil moisture sensor, temperature and humidity sensor, tilt sensor, encoders, and ultrasonic sensor. Control output devices like LED, Buzzer, Relay, Pump, Servo motor, DC motor that are a part of this kit.

Categories : Robotix Sets, Shop

Specification

Models 100+
Pieces 650+
Age 14+

Note: Specifications are subject to change.

24.06.2024

EDUCATOR SET VERSION 2.0
Order Code - STEM-128 TO STEM-130

Educator Set V2.0

Features

- Educator Set is a One-Stop Solution.
- This one set covers every project from Grade 1 to Grade 8.
- This includes construction set, junior electronics set, Logic blocks, Discovering Electricity, Boffin-controlled based kit , Discoveringelectronics - with different ICs and other accessories set.
- The above kit comes with Grade wise manuals with 30 chapters each.

This includes

BOX-1

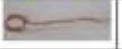
- Logic Blocks * (2)
- E-Circuits * (2)
- Junior Electronics * (2)

Logic Blocks (2) + E-Circuits (2) + Junior electronics (2)

S.NO	Pieces Name	Picture	Quantity
1	Power Block		1
2	Motor Block		2
3	Distance Block		2
4	IR Block		2
5	Buzzer Block		1
6	Not Block		1
7	LED Block		1
8	Wire		2
9	Switch Block		1

1	Push Button		3
2	Green LED		1
3	Red LED		2
4	Buzzer		1
5	Slide Switch		1
6	Capacitor		2
7	10k ohm		1

S.NO	Pieces Name	Picture	Quantity
8	20k ohm		1
9	3.3k ohm		1
10	Potentiometer		1
11	LDR		1
12	Motor		1
13	Red Alligator Clips		1
14	Black Alligator Clips		1
15	Jumper wire		2
16	Battery Box		1
17	Connecting Tower		6
18	Rainbow disk		1

1	Queaky		1
2	Wire		1
3	Thread		1

EDUCATOR SET VERSION 2.0
Order Code - STEM-128 TO STEM-130

This Includes

Box-2

- Marble Stem * (1)

MARBLE STEM (1)

S.NO	Pieces Name	Picture	Quantity
1	MRS14 (Straight)		8
2	MRH5 (Slope)		6
3	MRB7 (Curve)		12

S.NO	Pieces Name	Picture	Quantity
1	P-3		25
2	P3C2		62
3	CT(1*2)		4
4	TW-2		44
5	MARBLES		10
6	Buckets		10
7	Paper Strips		3
8	Rubber Band		1
9	Wheel Without Tyre		1

S.NO	Pieces Name	Picture	Quantity
1	Power IC		1
2	555 IC		1
3	IC 7408		1
4	IC 7432		1
5	IC 7404		1
6	IC 7400		1
7	IC 7402		1
8	IC 7486		1
9	IC 7426		1
10	Multiplexer		1
11	Demux		1
12	7 segment display		1
13	Wire		40
14	LED		2
15	Resistor (1k , 10k)		2
16	Capacitors		2
17	Potentiometer		1
18	P21*21		1

S.NO	Pieces Name	Picture	Quantity
1	IR Sensor		2
2	ESP -32 Board		1
3	Limit Switch		1
4	DC motor board		2
5	LED		1
6	Programming Cable		1
7	Wires		6
8	Servo Motor		1

This Includes

Box-3

- Discovering Electronics * (2)
- Boffin Basic *

Note: Specifications are subject to change.

IT-2013, Ramchandrapura Industrial Area, Sitapura Extension, Near Bombay Hospital, Vidhani Circle, Jaipur-302022, Rajasthan, India,
Tel: +91-9829132777; Email: info@tesca.in, tesca.technologies@gmail.com

TESCA™
www.tescaglobal.com

EDUCATOR SET VERSION 2.0
Order Code - STEM-128 TO STEM-130

This Includes

Box-4

- Construction Set X * (1)
- Construction Set Y * (1)

S.NO	Pieces Name	Picture	Quantity
1	TW1		25+5
2	CT2		40+10
3	CL2		15+5
4	CH2		20+12
5	CT3		30+0
6	CT(1X2)		2+2
7	P3		12+0
8	P5		18+0
9	P7		10+2
10	P11		12+4
11	P3 plus		4+2
12	PC3		4+4
13	P5 NUT + Power Screw		1
14	G20 PLUS		4+2
15	G20 IDLER		3+3

S.NO	Pieces Name	Picture	Quantity
16	G60		3+0
17	SH60		2+2
18	SH100		3+2
19	SH 170		2+2
20	Rack		3+7
21	Remover Tool		1+0
22	MudGuard Left		2+1
23	MudGuard Right		2+1
24	Steering Wheel		1+0
25	Spoiler		1+0
26	Suspension		2+2
27	PU5X 7		0+5
28	PU5X13		0+8

S.NO	Pieces Name	Picture	Quantity
1	TW1		25+5
2	CT2		40+10
3	CL2		15+5
4	CH2		20+12
5	CT3		30+0
6	CT(1X2)		2+2
7	P3		12+0
8	P5		18+0
9	P7		10+2
10	P11		12+4
11	P3 plus		4+2
12	PC3		4+4
13	P5 NUT + Power Screw		1
14	G20 PLUS		4+2
15	G20 IDLER		3+3

S.NO	Pieces Name	Picture	Quantity
16	G60		3+0
17	SH60		2+2
18	SH100		3+2
19	SH 170		2+2
20	Rack		3+7
21	Remover Tool		1+0
22	MudGuard Left		2+1
23	MudGuard Right		2+1
24	Steering Wheel		1+0
25	Spoiler		1+0
26	Suspension		2+2
27	PU5X 7		0+5
28	PU5X13		0+8

This Includes

Box-5

- Construction Set X * (1)
- Construction Set Y * (1)

EDUCATOR SET VERSION 2.0
Order Code - STEM-128 TO STEM-130

S.NO	Pieces Name	Picture	Quantity
1	Band		2
2	Foam		2
3	Fan		2
4	Iron nail		2
5	Bar Magnets		2
6	Donut Magnets		3
7	Sand paper		1
8	Straw		2
9	Balloon		2
10	Chart Paper		1
11	Copper Wire		2
12	Black tape		1
13	Mechanix Screw Driver		1

S.NO	Pieces Name	Picture	Quantity
1	3 Volts Battery Box		2
2	6 Volts Battery Box		2
3	DC Gearbox		4

This Includes

Box-6

- Accessories * (1)
- Batteries & Motors * (1)

This Includes

Box-7

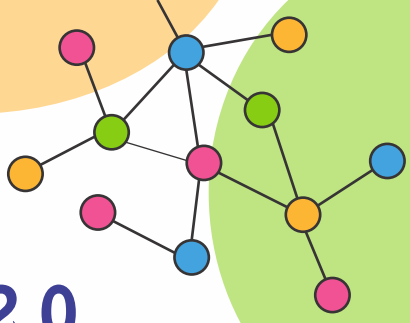
- Base Plated * (1)
- Wheels * (1)

S.NO	Pieces Name	Picture	Quantity
1	P 21*21		5
2	P7*11		10
3	Wheels		10

Note: Specifications are subject to change.

24.06.2024

IT-2013, Ramchandrapura Industrial Area, Sitapura Extension, Near Bombay Hospital, Vidhani Circle, Jaipur-302022, Rajasthan, India,
Tel: +91-9829132777; Email: info@tesca.in, tesca.technologies@gmail.com



EDUCATOR SET VERSION 2.0
Order Code - STEM-128 TO STEM-130

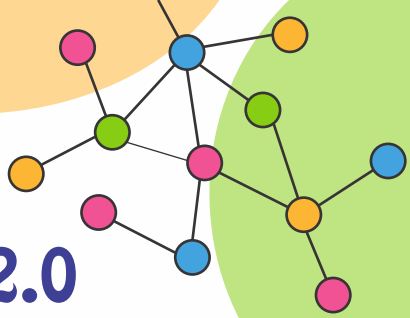
Number of Chapters/Grade/Course

GRADE	G-1	G-2	G-3	G-4	G-5	G-6	G-7	G-8	TOTAL
Junior	26	26	-	-	-	-	-	-	52 Chapters
Logic Blocks	-	-	-	3	8	-	-	-	11Chapters
Discovering Motion	-	-	15	7	10	-	-	-	32 Chapters
Discovering Electricity	-	-	7	15	7	-	-	-	29 Chapters
Discovering Electronics	-	-	-	-	-	8	12	14	34 Chapters
Boffin Phase 2	-	-	-	-	-	12	10	8	30 Chapters
Coding & AI/ML	-	-	-	-	-	6	8	8	22 Chapters
Marble STEM	-	-	3	5	-	-	-	-	08 Chapters
Arvr	-	-	-	-	2	2	-	-	04 Chapters
3D Designing	-	-	-	-	3	2	-	-	05 Chapters
Junior Electronics	2	2	5	-	-	-	-	-	09 Chapters
Junior Aviation	2	2	-	-	-	-	-	-	04 Chapters

Total Chapters/ Grade = 30

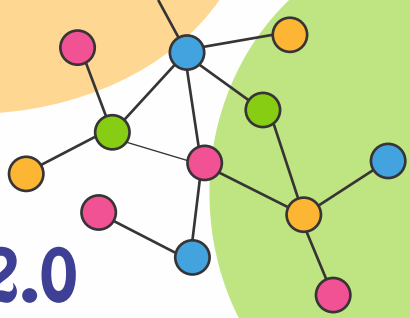
Educator set Family

Technology	G(1-2)	G(6-8)	G(1-5)	G(1-8)
Construction Set X	1	2	2	2
Construction Set Y	1	2	2	2
Junior Electronics	1	-	2	2
Logic Blocks V2	-	-	2	2
Marble Stem	-	-	1	2
Discovering Electronics	-	2	-	2
Boffin Basic V2	-	1	-	1
Accessories	1	1	1	1
Base Plate & Wheels	1	1	1	1



EDUCATOR SET VERSION 2.0
Order Code - STEM-128 TO STEM-130

Grade 1				
SN	Course	Project names	Concepts	Skills Developed
1	Junior Robotics	Wheeling Cart	JR - Simple Machines	Scientific Literacy Problem Solving
2	Junior Robotics	Aerodynamics Car	JR - Air Friction	Scientific Literacy Problem Solving Critical Thinking
3	Junior Robotics	Challenge: Ladder	Checkpoint -1	Problem solving Creativity Initiative
4	Junior Robotics	Trebuchet	JR - Action & Reactions	Scientific Literacy Problem Solving Critical Thinking
5	Junior Robotics	Sign Board	JR - Coding & Decoding	Problem solving Creativity Communication
6	Junior Robotics	Single suspension Car	JR - Construction Skill	Scientific Literacy Critical Thinking
7	Junior Robotics	Most stable tower	JR - Structure & Base	Creativity Initiative
8	Junior Robotics	Lift	JR - Construction Skill	Scientific Literacy
9	Junior Robotics	Money	JR - Counting	Numeracy
10	Junior Robotics	Car jack	JR - Power	Problem solving
11	Junior Robotics	Bear trap	JR - Elasticity	Social awareness
12	Junior Robotics	Challenge: Pasta Ma	Checkpoint -2	Problem solving Creativity Initiative
13	Junior Robotics	Merry Go round	JR - Rotation	Scientific Literacy Social awareness
14	Junior Robotics	Spinning Top	JR - Energy Transfer	Scientific Literacy Critical Thinking
15	Junior Robotics	Lock & Key	JR - Meshing of Gears	Scientific literacy Critical Thinking Creativity
16	Junior Robotics	Trundle Wheel	JR - Motion Conversion	Social Awareness Critical Thinking
17	Junior Robotics	Zipline Ride	JR - Gravity	Problem Solving
18	Junior Robotics	Dancing Robot	JR - Types of movements	Scientific literacy Critical Thinking Creativity
19	Junior Robotics	Digital Clock	JR - Display	Social Awareness Critical Thinking
20	Junior Robotics	Earth, Moon & Sun	JR - Orbit	Scientific literacy Social awareness
21	Junior Robotics	Find the path	JR - Sequence	Numeracy
22	Junior Robotics	Challenge: Foldable Scale	Checkpoint -3	Creativity Initiative Numeracy
23	Junior Robotics	Weight Measuring Device	JR - Balance	Social Awareness Critical Thinking
24	Junior Robotics	Plowing Machine	JR - Motor	Scientific Literacy
25	Junior Robotics	Challenge: Goal keeper &	Checkpoint -4	Problem solving Creativity Initiative
26	Junior Robotics	Clock	JR - Time	Social awareness
27	Junior Electronics	Make your First Circuit	JE - Introduction to electricity	Curiosity Critical thinking
28	Junior Electronics	Conductors & Insulators	JE - Loops	Curiosity Scientific Literacy
29	Junior Aviation	Paper plane	JA - Parts of plane	Scientific literacy Social awareness Curiosity
30	Junior Aviation	Balloon Rockets	JA- Forces on plane	Scientific literacy Critical Thinking



EDUCATOR SET VERSION 2.0
Order Code - STEM-128 TO STEM-130

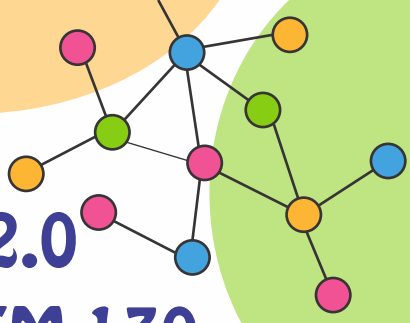
Grade 2				
SN	Course	Project names	Concepts	Skills Developed
1	Junior Robotics	Wheeling Cart	JR - Simple Machines	Scientific literacy Problem Solving
2	Junior Robotics	Car	JR - Structure & Base	Scientific literacy Problem Solving Critical Thinking
3	Junior Robotics	Scarecrow	JR-Links	Problem solving Creativity Initiative
4	Junior Robotics	Double Suspension Car	JR- Shock	Scientific literacy Problem Solving Critical Thinking
5	Junior Robotics	Challenge: Bridge	Checkpoint-1	Problem solving Creativity Communication
6	Junior Robotics	Single suspension Car	JR - Construction Skill	Scientific literacy Critical Thinking
7	Junior Robotics	Maze	JR - Direction	Creativity Initiative
8	Junior Robotics	Challenge- Tower	Checkpoint-2	Scientific literacy
9	Junior Robotics	Scissor Arm	JR- Pivot	Numeracy
10	Junior Robotics	Coding & Decoding	JR- Intro to Binary	Problem solving
11	Junior Robotics	Bear trap	JR - Elasticity	Social awareness
12	Junior Robotics	Challenge: Pasta Maker	Checkpoint -2	Problem solving Creativity Initiative
13	Junior Robotics	Merry Go round	JR - Rotation	Scientific literacy Social awareness
14	Junior Robotics	Spinning Top	JR - Energy Transfer	Scientific literacy Critical Thinking
15	Junior Robotics	Lock & Key	JR - Meshing of Gears	Scientific literacy Critical Thinking Creativity
16	Junior Robotics	Trundle Wheel	JR - Motion Conversion	Social Awareness Critical Thinking
17	Junior Robotics	Zipline Ride	JR - Gravity	Problem Solving
18	Junior Robotics	Dancing Robot	JR - Types of movements	Scientific literacy Critical Thinking Creativity
19	Junior Robotics	Digital Clock	JR - Display	Social Awareness Critical Thinking
20	Junior Robotics	Earth, Moon & Sun	JR - Orbit	Scientific literacy Social awareness
21	Junior Robotics	Find the path	JR - Sequence	Numeracy
22	Junior Robotics	Challenge: Foldable Scale	Checkpoint -3	Creativity Initiative Numeracy
23	Junior Robotics	Weight Measuring Device	JR - Balance	ocial Awareness Critical Thinking
24	Junior Robotics	Plowing Machine	JR - Motor	Scientific Literacy
25	Junior Robotics	Challenge: Goal keeper &	Checkpoint -4	Problem solving Creativity Initiative
26	Junior Robotics	Clock	JR - Time	Social awareness
27	Junior Electronics	Make your First Circuit	JE - Introduction to electricity	Curiosity Critical thinking
28	Junior Electronics	Conductors & Insulators	JE - Loops	Curiosity Scientific Literacy
29	Junior Aviation	Paper plane	JA -Parts of plane	Scientific literacy Social awareness Curiosity
30	Junior Aviation	Balloon Rockets	JA-Forces on plane	Scientific literacy Critical Thinking

EDUCATOR SET VERSION 2.0
Order Code - STEM-128 TO STEM-130

Grade 3				
SN	Course	Project names	Concepts	Skills Developed
1	Discovering Motion	Counter Balance Model	DM- Lever	Scientific literacy Problem Solving Critical Thinking Social Awareness
2	Discovering Motion	Ramp Working Model	DM- Inclined plane	Scientific literacy Problem Solving Critical Thinking SocialAwareness
3	Discovering Motion	Pulley system	DM- Pulley	Scientific literacy Problem Solving Critical Thinking SocialAwareness
4	Discovering Motion	Electronic Seat	DM- Screw	Scientific literacy Problem Solving Critical Thinking SocialAwareness
5	Discovering Motion	Basic Car	DM- Wheels & Axles	Scientific literacy Problem Solving Critical Thinking SocialAwareness
6	Discovering Motion	Trebuchet	DM- Energyconversion	Scientific literacy Problem Solving Critical Thinking SocialAwareness
7	Discovering Motion	Challenge: Finding The Range	Checkpoint-1	Scientific literacy Problem Solving Critical Thinking SocialAwareness
8	Discovering Motion	Launcher	DM- Elasticproperties	Problem solving Creativity Initiative
9	Discovering Motion	Locomotive Coach	DM- Joints & Pull	Scientific literacy Critical Thinking
10	Discovering Motion	Giant Wheel	DM- Rotation &Revolution	Application skills Critical Skills
11	iscovering Motion	Mono Rail	DM- Rack Gear	Scientific literacy Critical Thinking
12	Discovering Motion	Merry Go Round	DM - Application of motion	Problem solving Creativity Initiative
13	Discovering Motion	Crazy bot withVibration	DM- Randomness	Application skills Critical Skills
14	Discovering Motion	Balance Scale	DM- Counter weight	Construction Skills Problem Solving
15	Discovering Motion	Challenge: Grabber	Checkpoint-2	Problem solving Creativity Initiative
16	Discovering Electricity	Basic Circuits	DEC-Atom &Electrons	Curiosity Critical Thinking problem solving
17	Discovering Electricity	Conductors & Insulators	EC- Properties of Material	Social Awareness skills Curiosity
18	Discovering Electricity	Water Overflow Alarm	EC-Closed & Open loop	Scientific Skills Circuit Skills
19	Discovering Electricity	Polarity	EC- Uni &Bidirectional	Scientific Skills Circuit Skills
21	Discovering Electricity	Challenge: Party Doorbell	Checkpoint -3	Problem solving Creativity Initiative
22	Discovering Electricity	Piezoelectricity	EC- Energy Transformation	Scientific Skills Circuit Skills
23	Discovering Electricity	Challenge: House Supply system	Checkpoint -4	Scientific Skills Circuit Skills Social Awareness skills
24	Marble STEM	First marble track	MB- Structure &Planning	Construction Skills Problem Solving Critical Thinking Social Awareness
25	Marble STEM	Fastest & Slowest Tracks	MB- Construction technique	Construction Skills Problem Solving Critical Thinking
26	Marble STEM	Path Finder	MB- Possibilities	Construction Skills Problem Solving Critical Thinking Numeracy
27	Junior Electronics	Series & Parallel Circuits	JE- Human Circuits	Curiosity Circuit skills
28	Junior Electronics	Buzz Wire loop Game	JE- Continuity Testing	Curiosity Scientific Literacy Construction skills
29	Junior Electronics	Tone Generator Box	JE- Resistances Curiosity	Curiosity
31	Junior Electronics	The Biggest conductor ever- Eart	JE- Conducting Materials	Curiosity Scientific Literacy Construction skills
32	Junior Electronics	Challenge: Make your ownInstrume	Checkpoint -5	Problem solving Creativity Initiative

EDUCATOR SET VERSION 2.0
Order Code - STEM-128 TO STEM-130

Grade 4				
SN	Course	Project names	Concepts	Skills Developed
1	Discovering Motion	Balloon Powered Car	DM- Thrust	Scientific literacy Problem Solving Critical Thinking
2	Discovering Motion	Swing	DM- Periodic Motion	Scientific literacy Problem Solving Critical Thinking
3	Discovering Motion	Power Press Machine	DM- Crank & Slider	Scientific literacy Problem Solving Critical Thinking
4	Discovering Motion	4-wheel Drive car	DM- Introduction to Gears	Scientific literacy Problem Solving Critical Thinking
5	Discovering Motion	Make me fast , Make me slow	DM- Change of gear	Scientific literacy Problem Solving Critical Thinking
6	Discovering Motion	Spinning Top	DM- Applications of Gears	Scientific literacy Problem Solving Critical Thinking Creativity
7	Discovering Motion	Challenge: Fastest Car	DM- Checkpoint-1	Application skills Critical Skills
8	Logic Blocks	Follower Car	LB- Reflection	Scientific Literacy Application Skills ICT Skills
9	Logic Blocks	Automatic Dispenser	LB- Sensors & Actuators	Scientific Literacy Application Skills ICT Skills
10	Logic Blocks	Challenge: Shy Robot	Checkpoint -2	Problem solving Creativity Initiative
11	Discovering Electricity	Stroboscopic effect	DEC- Frequency	Circuits Skills Social Awareness skills
12	Discovering Electricity	Voltage & Current	DEC - Potential Difference	Circuits Skills Social Awareness skills
13	Discovering Electricity	Series & Parallel Circuit	DEC-Current &Voltage	Circuits Skills Applications Skills Social Awareness skills
14	Discovering Electricity	Secret Morse Codes	DEC- Binary Codes	Scientific Literacy Application Skills ICT Skills
15	Discovering Electricity	OHM's law	DEC- Resistance	Circuits Skills Applications Skills Scientific Literacy
16	Discovering Electricity	Short Not circuit	DEC- Short circuit	Circuits Skills Applications Skills Scientific Literacy
17	Discovering Electricity	AND & OR gates	DEC- Gates	Scientific Literacy Application Skills ICT Skills
18	Discovering Electricity	Universal Gates	DEC- NAND & NOR	Scientific Literacy Application Skills ICT Skills
19	Discovering Electricity	Challenge: Tone generator card	Checkpoint -1	Problem solving Creativity Initiative
20	Discovering Electricity	Resistance in Series & Parallel	DEC- Total Resistance	Circuits Skills Applications Skills Scientific Literacy
21	Discovering Electricity	Magnetic Compass	DEC- Magnetism & Polarity	Applications Skills Scientific
22				Literacy
23	Discovering Electricity	Dynamo	DEC- Motor & Itsfeatures	Circuits Skills Applications Skills Scientific Literacy
24	Discovering Electricity	Super Vibrator	DEC- Lever Circuits Skills	Construction Skills Scientific Literacy
25	Discovering Electricity	Big Bulley the Small	DEC- Current Bypass	Circuits Skills Applications Skills Scientific Literacy
26	Electronics Circuits	Fuse	DEC- Electrical Safety	Circuits Skills Applications Skills Scientific LiteracySocial Awareness
27	Marble STEM	First marble track	MB- Structure & Planning	Construction Skills Problem Solving Critical Thinking Social Awareness
28	Marble STEM	Propulsion Mechanism	MB- Newton's Cradle	Construction Skills Problem Solving
30	Marble STEM	Alternating Switch	MB- Mechanical Switch	Construction Skills Problem Solving Critical Thinking
31	Marble STEM	Lifting Mechanism -1	MB- Impact	Construction Skills Problem Solving Critical Thinking Scientific Literacy
32	Marble STEM	Concentric circle track	MB- Infinite Loop	Construction Skills Problem Solving Critical Thinking

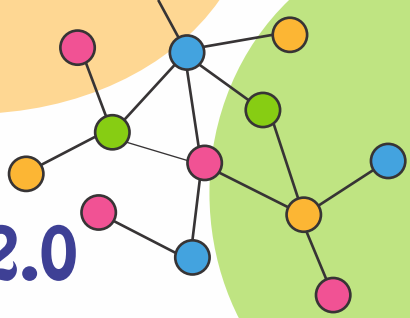


EDUCATOR SET VERSION 2.0
Order Code - STEM-128 TO STEM-130

Grade 5				
SN	Course	Project names	Concepts	Skills Developed
1	Discovering Motion	Smart Waving Robot	DM- Link & Joint Mechanism	Scientific literacy Problem Solving Critical Thinking ConstructionSkills Creativity
2	Discovering Motion	Power press machine	DM- Cam & Follower	Scientific literacy Problem Solving Critical Thinking ConstructionSkills Creativity
3	Discovering Motion	Scissor Lift	DM- Power & Velocity	Scientific literacy Problem Solving Critical Thinking ConstructionSkills Creativity
4	Discovering Motion	Rack & Pinion Lift	DM- Mechanical Advantage	Scientific literacy Problem Solving Critical Thinking ConstructionSkillsCreativity
5	Discovering Motion	Kicker Robot	LB –Digital Circuits	Problem solving Creativity Initiative
6	Discovering Motion	Challenge: Guard Robot	Checkpoint-1	Scientific literacy Problem Solving Critical Thinking ConstructionSkills Creativity
7	Discovering Motion	Make me Fast/ Make me Slow	DM- Gears	Scientific literacy Problem Solving Critical Thinking ConstructionSkills Creativity
8	Discovering Motion	Speed Multiplier	DM- Torque vs speed -1	Scientific literacy Problem Solving Application Skills
9	Discovering Motion	Speed Reduction	DM- Torque vs speed -2	Scientific literacy Problem Solving Application Skills
10	Discovering Motion	Gear Changing Car	DM- Three speed car	Scientific literacy Problem Solving Application Skills Social Awareness Skills
11	Discovering Electricity	AC vs DC	DEC- Intro etectricity	Circuits Skills Scientific Literacy Social Awareness skills
12	Discovering Electricity	ON & Fadeeee	DEC- Intro to Capacitors	Circuits Skills Scientific Literacy Social Awareness skills
13				Awareness skills
15	Discovering Electricity	Sound Effects	DEC- Components & its effect	Circuits Skills Scientific Literacy
16	Discovering Electricity	LDR operated	LED DEC- Light Spectrum	Circuits Skills Scientific Literacy Application skills
17	Discovering Electricity	Voltage Divider	DEC- Circuit Application	Circuits Skills Scientific Literacy Application skills
18	Discovering Electricity	Potentiometer	DEC- Variable Voltage	Circuits Skills Scientific Literacy Application skills
19	Logic Blocks	Monorail	LB – Switch Block	ICT Skills Scientific Literacy Application skills
20	Logic Blocks	Sliding Bed	LB - Rack Gear	ICT Skills Scientific Literacy Application skills
21	Logic Blocks	Refrigerator	LB - Light Spectrum	ICT Skills Scientific Literacy Application skills
22	Logic Blocks	SmartBox	LB: Application of Infrared.	Problem solving Creativity Initiative
23	Logic Blocks	Autonomous car	LB- Not gate	ICT Skills Scientific Literacy Application skills
24	Logic Blocks	Musical Robot	LB - Truth Table	ICT Skills Scientific Literacy Application skills
25	Logic Blocks	Challenge: Obstacle Avoider	Checkpoint-2	Problem solving Creativity Initiative
26	Logic Blocks	Line follower Robot	LB - Infrared decision making	Problem solving Creativity Initiative
27	Logic Blocks	Wheel SortingMachine	LB: Design thinking	Scientific Literacy Designing Skills Creativity Problem Solving
28	Tinkercad -3D	Harry Potter's Owl	TC – Hollow & Grouping	Scientific Literacy Designing Skills Creativity Problem Solving
29	Tinkercad -3D	Challenge: Designyour Avatar	Checkpoint-3	Scientific Literacy Designing Skills Creativity Problem Solving
30	Virtual Reality	Intro to ARVR	VR - Orbital Camera	Scientific Literacy Designing Skills Creativity Problem Solving
31	Virtual Reality	Hogwartz Calling	VR - Motion & Alignment	Scientific Literacy Designing Skills Creativity Problem Solving

EDUCATOR SET VERSION 2.0
Order Code - STEM-128 TO STEM-130

Grade 6				
SN	Course	Project names	Concepts	Skills Developed
1	Discovering Electronics	AND Gate	DE-Truth Table	ICT Skills Circuit Skills Scientific Literacy
2	Discovering Electronics	OR Gate	DE-Truth Table	ICT Skills Circuit Skills Scientific Literacy Application skills
3	Discovering Electronics	NOT Gate	DE-Truth Table	ICT Skills Circuit Skills Scientific Literacy Application skills
4	Discovering Electronics	NAND Gate	DE-Truth Table	ICT Skills Circuit Skills Scientific Literacy Application skills
5	Discovering Electronics	NOR Gate	DE-Truth Table	ICT Skills Circuit Skills Scientific Literacy Application skills
6	Discovering Electronics	XOR Gate	DE-Truth Table	ICT Skills Circuit Skills Scientific Literacy Application skills
7	Discovering Electronics	XNOR Gate	DE-Truth Table	ICT Skills Circuit Skills Scientific Literacy Application skills
8	Discovering Electronics	SOP Circuit	DE-Deduction of logical function	ICT Skills Circuit Skills Scientific Literacy Application skills
9	ESP-32	Introduction to Boffin v2	Boffin - Controllers	ICT Skills Scientific Literacy Application skills Construction SkillsCoding Skills
10	ESP-32	Blinky bot	Boffin - Events &Time sleep	ICT Skills Scientific Literacy Application skills Construction SkillsCoding Skills
11	ESP-32	What if you press a button	Boffin - Inputcontrolled output	ICT Skills Scientific Literacy Application skills Construction SkillsCoding Skills
12	ESP-32	ON & OFF switch using IR	Boffin - IR Sensor	ICT Skills Scientific Literacy Application skills Construction SkillsCoding Skills
13	ESP-32	Giant wheel with speedcontrol	Boffin - PWM & dutycycle	ICT Skills Scientific Literacy Application skills Construction
14				Skills Coding Skills
15	ESP-32	Giant wheel withcounter	Boffin - Variables	ICT Skills Scientific Literacy Application skills Construction Skills Coding Skills
16	ESP-32	Roll a dice	Boffin - Serial Monitor	ICT Skills Scientific Literacy Application skills Construction Skills Coding Skills
17	ESP-32	Game of Housey	Boffin - Lists	ICT Skills Scientific Literacy Application skills Construction Skills Coding Skills
18	ESP-32	Line follower Bot	Boffin - Calibration & Reflection	ICT Skills Scientific Literacy Application skills Construction Skills Coding Skills
19	ESP-32	Advance Line follower bot	Boffin - Two IR sensor	ICT Skills Scientific Literacy Application skills Construction Skills Coding Skills
20	ESP-32	Swing Controller	Boffin – Conveyor Belt	ICT Skills Scientific Literacy Application skills Construction Skills Coding Skills
21	ESP-32	Automatic Hand Sanitizer	Boffin – Conveyor Belt	ICT Skills Scientific Literacy Application skills Construction Skills Coding Skills
22	Artificial Intelligence	Home Automation	AI-Text Recognition Social Awareness	Skills ICT Skills Scientific Literacy Application skills CodingSkills Adaptability
23	Artificial Intelligence	Covid battle	AI-Sound Recognition	ICT Skills Scientific Literacy Application skills Coding Skills
24	Artificial Intelligence	Sign Language	AI-Gesture Recognition	ICT Skills Scientific Literacy Application skills Coding Skills AdaptabilityAwareness
25	Artificial Intelligence	Phone security app	AI-Face Recognition	ICT Skills Scientific Literacy Application skills Coding Skills Adaptability Social Awareness Behavioral Awareness
26	Artificial Intelligence	Challenge: Make a Snapchat filter for your face.	AI- Face Recognition	ICT Skills Scientific Literacy Application skills Coding Skills Adaptability Social Awareness Behavioral Awareness
27	Tinker cad -3D	Design a Fruit	TC-AngularDisplacement	Scientific Literacy Designing Skills Creativity Problem Solving
28	Tinkercad -3D	Human Heart	TC- Vertical Alignment	Scientific Literacy Designing Skills Creativity Problem Solving
29	Virtual Reality	Trip to the moon	VR - Camera as a sprite	Scientific Literacy Designing Skills Creativity Problem Solving
30	Virtual Reality	Human Displacement	VR- Lateral Displacement	Scientific Literacy Designing Skills Creativity Problem Solving

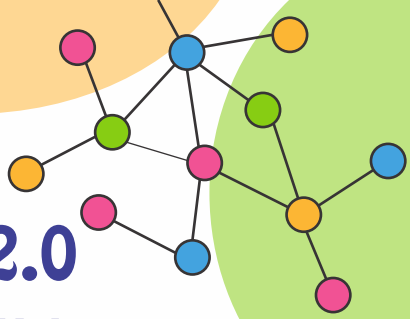


EDUCATOR SET VERSION 2.0
Order Code - STEM-128 TO STEM-130

Grade 7				
SN	Course	Project names	Concepts	Skills Developed
1	Discovering Electronics	Introduction to Gates	DE-Logic operations	ICT Skills Circuit Skills Scientific Literacy Problem Solving Application skills
2	Discovering Electronics	Multiplexer	DE-One to Many	ICT Skills Circuit Skills Scientific Literacy Problem Solving Application skills
3	Discovering Electronics	Demultiplexer	DE-Many to one	ICT Skills Circuit Skills Scientific Literacy Problem Solving Application skills
4	Discovering Electronics	SOP Circuit	DE-Deduction of logicfunctions	ICT Skills Circuit Skills Scientific Literacy Problem Solving Application skills
5	Discovering Electronics	POS Circuit	DE-Deduction of logicfunctions	ICT Skills Circuit Skills Scientific Literacy Problem Solving Application skills
6	Discovering Electronics	SOP using universal gates	DE-Representation of Gates	ICT Skills Circuit Skills Scientific Literacy Problem Solving Application skills
7	Discovering Electronics	POS using universal gates	DE-Application	ICT Skills Circuit Skills Scientific Literacy Problem Solving Application skills
8	Discovering Electronics	K- Map reduction - SOP	DE-Graphical Method	ICT Skills Circuit Skills Scientific Literacy Problem Solving Application skills
9	Discovering Electronics	K- Map reduction - POS	DE-Expression deduction	ICT Skills Circuit Skills Scientific Literacy Problem Solving
10				Application skills
11	Discovering Electronics	Combinational circuits using M	DE-Select lines forvarious Inputs	ICT Skills Circuit Skills Scientific Literacy Problem Solving Application skills
12	Discovering Electronics	Combinational circuits using	DE-MUX DE-Select lines forvariou	ICT Skills Circuit Skills Scientific Literacy Problem Solving Application skills
13	Discovering Electronics	Astable Multivibrator	DE- Trigger input	ICT Skills Circuit Skills Scientific Literacy Problem Solving Application skills
14	ESP-32	Swing controllerConveyorbelt	Boffin- Counter	ICT Skills Scientific Literacy Application skills ConstructionSkills Coding Skills
15	ESP-32	Automatic Hand sanitizer	Boffin- Limit & IR	ICT Skills Scientific Literacy Application skills Construction Skills Coding Skills
16	ESP-32	Turtle Programming	Boffin- Python.(draw)	ICT Skills Scientific Literacy Application skill Coding Skills
17	ESP-32	Snowflakes	Boffin- Variables	ICT Skills Scientific Literacy Application skill Coding Skills
18	ESP-32	Investment & Returns	Boffin- Input &Datatypes	ICT Skills Scientific Literacy Application skill Coding Skills
19	ESP-32	Guess the word	Boffin- List	ICT Skills Scientific Literacy Application skill Coding Skills
20	ESP-32	Locate me	Boffin-	ICT Skills Scientific Literacy Application skill Coding Skills Numeric
21	ESP-32	Challenge: Make acalculator	Checkpoint-2	ICT Skills Scientific Literacy Application skill Coding Skills Leadership Skills
22	Data Science	Introduction to Statistics	DS- Data Collection	ICT Skills Construction Skills Social Awareness Decision making Skills
23	Data Science	Descriptive & Inferential	DS- Data Representation	ICT Skills Construction Skills Social Awareness Decision making Skills
24	Data Science	Central Tendency	DS- Inferences	ICT Skills Construction Skills Social Awareness Decision making Skills
25	Data Science	Measure of Dispersion	DS- Outliers	ICT Skills Construction Skills Social Awareness Decision making Skills
26	Data Science	Covariance & Correlation	DS- Data Dependencies	ICT Skills Construction Skills Social Awareness
27				Decision making Skills
28	Data Science	Inter Quartile Range	DS- Maximum density of data	ICT Skills Construction Skills Social Awareness Decision making Skills
29	Data Science	Probability Theory	DS- Chances &occurrences	ICT Skills Construction Skills Social Awareness Decision making Skills
30	Data Science	Challenge:	DS- Chances &occurrences	ICT Skills Construction Skills Social Awareness Decision making Skills

EDUCATOR SET VERSION 2.0
Order Code - STEM-128 TO STEM-130

Grade 8				
SN	Course	Project names	Concepts	Skills Developed
1	Discovering Electronics	Introduction toGates & MUX	DE- Checkpoint-1	ICT Skills Circuit Skills Scientific Literacy Problem Solving Application skills
2	Discovering Electronics	Astable multivibrator	DE-No stablestate	Flop ICT Skills Circuit Skills Scientific Literacy Problem Solving Application skills
3	Discovering Electronics	Monostable multivibrator	DE-One stablestate Flip	Flip Flop ICT Skills Circuit Skills Scientific Literacy Problem Solving Application skills
4	Discovering Electronics	Bistable multivibrator	DE-Two stablestate	Flop ICT Skills Circuit Skills Scientific Literacy Problem Solving Application skills
5	Discovering Eletronics	555 Timer -1	DE- PulseGenerator	ICT Skills Circuit Skills Scientific Literacy Problem Solving Application skills
6	Discovering Electronics	556 Timer -2	DE- Two Timer inoperation	ICT Skills Circuit Skills Scientific Literacy Problem Solving Application skills
7	Discovering Electronics	557 Timer -3	DE- Applicationof timer	ICT Skills Circuit Skills Scientific Literacy Problem Solving Application skills
8	Discovering Electronics	Challenge-1	Checkpoint -2	ICT Skills Circuit Skills Scientific Literacy Problem Solving Application skills
9	Discovering Electronics	7 -Segment LED	DE- Digital Visualization	ICT Skills Circuit Skills Scientific Literacy Problem Solving
10				Application skills
11	Discovering Electronics	Decoders	DE- Truth Table	ICT Skills Circuit Skills Scientific Literacy Problem Solving Application skills
12	Discovering Electronics	Encoders	DE- Truth Table	ICT Skills Circuit Skills Scientific Literacy Problem Solving Application skills
13	Discovering Electronics	Half Adder (1-bit)	DE- Truth Table	ICT Skills Circuit Skills Scientific Literacy Problem Solving Application skills
14	Discovering Electronics	Full Adder (2-bit)	DE- Truth Table	ICT Skills Circuit Skills Scientific Literacy Problem Solving Application skills
15	Discovering Electronics	Challenge-2	Checkpoint-3	ICT Skills Scientific Literacy Application skill Coding Skills Leadership Skills
16	ESP-32	Automatic Metro	Boffin- Multi Input & Output devices	ICT Skills Circuit Skills Scientific Literacy Problem Solving Application skills
17	ESP-32	Challenge: Mouse Trap	Checkpoint-4	ICT Skills Scientific Literacy Application skill Coding Skills Leadership Skills”
18	ESP-32	Blinking LED	Boffin- Intro to Text	ICT Skills Scientific Literacy Application skill Coding Skills Leadership Skills



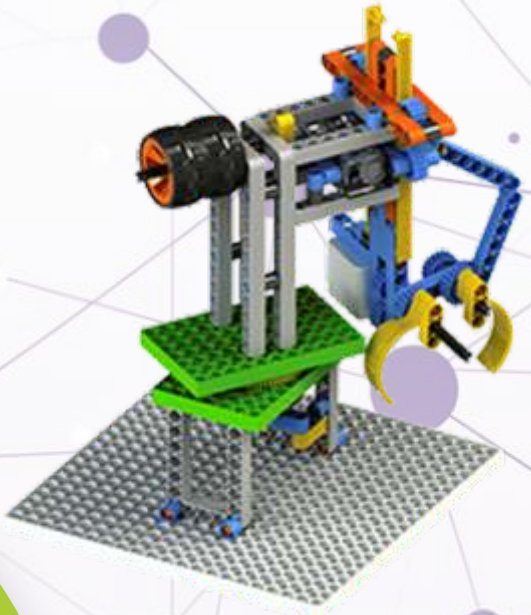
EDUCATOR SET VERSION 2.0
Order Code - STEM-128 TO STEM-130

Grade 8				
SN	Course	Project names	Concepts	Skills Developed
19	ESP-32	Make a Torch	Boffin- Interfacing Input	CT Skills Scientific Literacy Application skill Coding Skills Leadership Skills
20	ESP-32	Motor controls	Boffin- Interfacing output using python	CT Skills Scientific Literacy Application skill Coding Skills Leadership Skills
21	ESP-32	WIFI with	ESP-32 Boffin- Intro to IOT	ICT Skills Scientific Literacy Application skill Coding Skills Leadership SkillsSocial Awareness Skills
22	ESP-32	Create a web page	Boffin- Applications of IOT	ICT Skills Scientific Literacy Application skill Coding Skills Leadership SkillsSocial Awareness Skills
23	ESP-32	WIFI controlled LED	Checkpoint-4	ICT Skills Scientific Literacy Application skill Coding Skills Leadership SkillsSocial Awareness Skills
24	Hardware based AI	Face Controlled Toll Booth	Hardware based AI	ICT Skills Construction Skills Scientific Literacy Application skills Coding Skills Adaptability Behavioral Awareness
25	Hardware based AI	AI operated Food dispensing Stations	Hardware based AI	ICT Skills Construction Skills Scientific Literacy Application skills Coding Skills Adaptability Behavioral Awareness
26	Hardware based AI	Rock paper Scissor	Hardware based AI	ICT Skills Construction Skills Scientific Literacy Application skills Coding Skills Adaptability
27				Behavioral Awareness
28	Hardware based AI	Challenge -1	Checkpoint-5	ICT Skills Construction Skills Scientific Literacy Application skills Coding Skills Adaptability Behavioral Awareness
29	Hardware based AI	Voice operated Automatic Car	Hardware based AI	ICT Skills Construction Skills Scientific Literacy Application skills Coding Skills Adaptability Behavioral Awareness
30	Hardware based AI	Gesture controlled Robotic Arm	Hardware based AI	ICT Skills Construction Skills Scientific Literacy Application skills
31				Coding Skills Adaptability Behavioral Awareness
32	Hardware based AI	Challenge :4	Checkpoint-5	Scientific Literacy Application skill Coding Skills Social Awareness Skills
33	Hardware based AI	Traffic Rules following Bot	Hardware based AI	Scientific Literacy Application skill Coding Skills Social Awareness Skills

Thank you

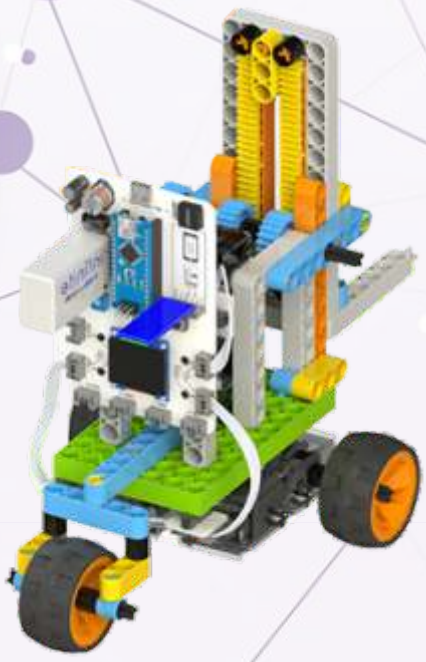
TESCA™

www.tescaglobal.com



BEGINNINGS

Stem Catalog



Tesca Technologies Pvt. Ltd.

IT-2013, Ramchandrapura Industrial Area, Sitapura Extension,
Near Bombay Hospital, Vidhani Circle, Jaipur-302022, Rajasthan, India,
Tel: +91-9829132777; Email: info@tesca.in, tesca.technologies@gmail.com
Website: www.tescaglobal.com