



Rajkiya Engineering College Banda, Atarra, Banda (U.P.) 210201

INVITATION LETTER

Package Code: TEQIP-III/2019/UP/recb/151

Current Date: 30-Dec-2019

Package Name: REC130

Method: Shopping Goods

To,

Sub: INVITATION LETTER FOR REC130

Dear Sir,

1. You are invited to submit your most competitive quotation for the following goods with item wise detailed specifications given at Annexure I,

Sr. No	Item Name	Quantity	Place of Delivery	Installation Requirement (if any)
1	Electronics Design and prototyping STEM Tinkering Kit	1	Rajkiya Engineering College Banda	Yes
2	Arduino Programming, Design and prototyping STEM Tinkering Kit	1	Rajkiya Engineering College Banda	Yes
3	Robotics Design and prototyping STEM Tinkering Kit "	1	Rajkiya Engineering College Banda	Yes
4	Trainer Kit for Android Phone Speech Recognition Sensed Voice Operated Notice Board Display	1	Rajkiya Engineering College Banda	Yes
5	Trainer Kit for Arduino Based 4 Quadrant DC Motor Control	1	Rajkiya Engineering College Banda	Yes
6	Trainer Kit for Auto Intensity Control of Street Lights "	1	Rajkiya Engineering College Banda	Yes
7	Trainer Kit for Auto Selection of any Available Phase, in 3 Phase Supply System	1	Rajkiya Engineering College Banda	Yes
8	Trainer Kit for Automatic Bell System For Institutions "	1	Rajkiya Engineering College Banda	
9	Trainer Kit for Automatic Irrigation System on	1	Rajkiya Engineering	Yes

	Sensing Soil Moisture Content "		College Banda	
10	Trainer Kit for Automatic Star Delta Starter using Relays and Adjustable Electronic Timer	1	Rajkiya Engineering College Banda	Yes
11	Trainer Kit for BLDC Motor Speed Control with RPM Display	1	Rajkiya Engineering College Banda	Yes
12	Trainer Kit for Cell Phone Controlled Robotic Vehicle "	1	Rajkiya Engineering College Banda	Yes
13	Trainer Kit for Density Based Traffic Signal with Remote Override in Emergency "	1	Rajkiya Engineering College Banda	Yes
14	Trainer Kit for Display of Underground Cable Fault Distance over Internet	1	Rajkiya Engineering College Banda	Yes
15	Trainer Kit for Electronic Soft Start For 3 Phase Induction Motor	1	Rajkiya Engineering College Banda	Yes
16	DIY High Voltage Dc Up to 2kv From Ac By Using Diode And Capacitors In Voltage Multiplier Circuit solderable product	1	Rajkiya Engineering College Banda	Yes
17	Trainer Kit for High Voltage Dc Up to 2kv From Ac By Using Diode And Capacitors In Voltage Multiplier Circuit	1	Rajkiya Engineering College Banda	Yes
18	Trainer Kit for Home Automation Under Wi-Fi Through Android Apps From Any Smart Phone	1	Rajkiya Engineering College Banda	Yes
19	Trainer Kit for Iot Based Home Automation Over The Cloud	1	Rajkiya Engineering College Banda	Yes
20	DIY Iot Based Load Control Over Standalone Wi-Fi solderable product.	1	Rajkiya Engineering College Banda	Yes
21	Trainer Kit for Iot Based Load Control Over Standalone Wi-Fi	1	Rajkiya Engineering College Banda	Yes
22	Trainer Kit for Metal Detector Robotic Vehicle	1	Rajkiya Engineering College Banda	Yes
23	Trainer Kit for Pc Based Electrical Load Control	1	Rajkiya Engineering College Banda	Yes
24	Trainer Kit for Phase Sequence Checker For Three Phase Supply	1	Rajkiya Engineering College Banda	Yes
25	Trainer Kit for Rfid Based Attendance System Trainer Kit	1	Rajkiya Engineering College Banda	Yes
26	Trainer Kit for Solar Energy Measurement System	1	Rajkiya Engineering College Banda	Yes

27	Trainer Kit for Street Light That Glows On Detecting Vehicle Movement Using Pic	1	Rajkiya Engineering College Banda	Yes
28	Trainer Kit for Three Phase Fault Analysis with Auto Reset On Temporary Fault And Permanent Trip Otherwise	1	Rajkiya Engineering College Banda	Yes
29	Trainer Kit for Ultra Fast Acting Electronic Circuit Breaker	1	Rajkiya Engineering College Banda	Yes
30	Trainer Kit for Voice Controlled Home Appliances	1	Rajkiya Engineering College Banda	Yes
31	Trainer Kit for Voice Controlled Robot By Cell Phone with Android App	1	Rajkiya Engineering College Banda	Yes
32	Trainer Kit for War Field Spying Robot with Night Vision Wireless Camera By Android Applications	1	Rajkiya Engineering College Banda	Yes
33	DIY Wireless Audio Transmitter	1	Rajkiya Engineering College Banda	Yes
34	Trainer Kit for Wireless Audio Transmitter	1	Rajkiya Engineering College Banda	Yes
35	DIY Wireless Power Transfer solderable product.	1	Rajkiya Engineering College Banda	Yes
36	Trainer Kit for Wireless Power Transfer	1	Rajkiya Engineering College Banda	Yes
37	Trainer Kit for Solar Power Charge Controller	1	Rajkiya Engineering College Banda	Yes
38	Microcontroller/Arduino based Sun Tracking Solar Panel with or without RTC(Real Time Clock)/Stepper Motor Control using Ldr using ULN2003 IC enabling multiple guided and open innovations using reusable breakout boards.	1	Rajkiya Engineering College Banda	Yes
39	Moisture and Rain Monitoring of several analog parameters by ADC interfaced programmed microcontroller	1	Rajkiya Engineering College Banda	Yes
40	IR sensor based Line Following / Wall Following / Obstacle Avoidance/ Accident Avoidance in Vehicle Robot using without and with Microcontroller	1	Rajkiya Engineering College Banda	Yes
41	Microcontroller/Arduino based War Field Spying Robot with Night Vision Wireless Camera	1	Rajkiya Engineering College Banda	Yes

42	Microcontroller/Arduino based Optimum Energy Management System /Object/ Visitor Counter Display / Overload Alarm Warning System by zero voltage triggered	1	Rajkiya Engineering College Banda	Yes
43	Arduino/Microcontroller based Ultrasonic Sensor for distance measurement/Stick	1	Rajkiya Engineering College Banda	Yes
44	Microcontroller/Arduino based Remote Controlled Robotic Operation with Robotic Arm control	1	Rajkiya Engineering College Banda	Yes
45	Microcontroller/Arduino based PWM controlled speed control of DC Motor over communication links	1	Rajkiya Engineering College Banda	Yes
46	Digital sensor on I2C link to programmed microcontroller/Arduino	1	Rajkiya Engineering College Banda	Yes
47	Microcontroller/Arduino based Time based operated Street Lights with Intensity Controlled / Automation	1	Rajkiya Engineering College Banda	Yes
48	Trainer Kit for Microcontroller fed ADC/Arduino interfaced dummy cable	1	Rajkiya Engineering College Banda	Yes
49	Program Burner For 8051 Controller	1	Rajkiya Engineering College Banda	Yes
50	Tool Kit Set	1	Rajkiya Engineering College Banda	Yes

2. Government of India has received a credit from the International Development Association (IDA) towards the cost of the **Technical Education Quality Improvement Programme [TEQIP]-Phase III** Project and intends to apply part of the proceeds of this credit to eligible payments under the contract for which this invitation for quotations is issued.

3. Quotation

- 3.1 The contract shall be for the full quantity as described above.
- 3.2 Corrections, if any, shall be made by crossing out, initialling, dating and re writing.
- 3.3 All duties and other levies payable by the supplier under the contract shall be included in the unit Price.
- 3.4 Applicable taxes shall be quoted separately for all items.
- 3.5 The prices quoted by the bidder shall be fixed for the duration of the contract and shall not be subject to adjustment on any account.
- 3.6 The Prices should be quoted in Indian Rupees only.

4. Each bidder shall submit only one quotation.
5. Quotation shall remain valid for a period not less than **65** days after the last date of quotation submission.
6. Evaluation of Quotations: The Purchaser will evaluate and compare the quotations determined to be Substantially responsive i.e. which
 - 6.1 are properly signed; and
 - 6.2 Confirm to the terms and conditions, and specifications.
7. The Quotations would be evaluated for all items together.
8. Award of contract The Purchaser will award the contract to the bidder whose quotation has been determined to be substantially responsive and who has offered the lowest evaluated quotation price.
 - 8.1 Notwithstanding the above, the Purchaser reserves the right to accept or reject any quotations and to cancel the bidding process and reject all quotations at any time prior to the award of Contract.
 - 8.2 *The bidder whose bid is accepted will be notified of the award of contract by the Purchaser prior to expiration of the quotation validity period. The terms of the accepted offer shall be Incorporated in the purchase order.*
9. Payment shall be made in Indian Rupees as follows:

Payment Description	Expected Delivery Period (in Days)	Payment Percentage
Satisfactory Delivery & Installation	30	90
Satisfactory Acceptance	30	10

10. Liquidated Damages will be applied as per the below:
Liquidated Damages Per Day Min %:N/A
Liquidated Damages Max %:N/A
11. All supplied items are under warranty of **12** months from the date of successful acceptance of items and AMC/Others is .
12. You are requested to provide your offer latest by **15:30** hours on **16-Jan-2020**.
13. Detailed specifications of the items are at Annexure I.
14. Training Clause (if any) **Yes**
15. Testing/Installation Clause (if any) **Yes**
16. Performance Security shall be applicable: **0%**

17. Information brochures/ Product catalogue, if any must be accompanied with the quotation clearly indicating the model quoted for.
18. Sealed quotation to be submitted/ delivered at the address mentioned below, **Director, Rajkiya Engineering College Banda, Atarra, Banda (U.P.) 210201**
19. We look forward to receiving your quotation and thank you for your interest in this project.

(Authorized Signatory)
Name & Designation


Nodal Officer (Procurement)
TEQIP-III


समन्वयक
TEQIP-III

Annexure-I

S.No.	Item Name with Brief specification	Detailed Specification
1	Electronics Design and prototyping STEM Tasking Kit - To Build 75+ Projects with reusable modules including basic components, sensors, inputs, outputs, wires, connectors and breadboard with detailed project guide and audio-visuals.	<p>Hardware Technical Specifications: Material: Double sided PTH glass epoxy PCB for each module. Each discrete component duly mounted on micro PCBs forming a functional module, with breadboard compatible male pins for easy reuse with desired items such as resistors, capacitors, switches, transistors to play around basic circuits etc. Each category of modules to have different color for easy identification such as input modules, output modules, accessories etc. Power supply module to accept 5V DC from any charger of smart cell phone. Breadboard: One 840 points type breadboard having 2 horizontal set of lines both at top and bottom for feeding power. Also having 64 in (5x2) section vertical lines for developing any electronic circuit to be wired together with jumper wires and the building blocks.</p> <p>List of Material: Power Indicator Module 10 No's Power Supply Connector Unit Module 10 No's Resistor 330R Module 30 No's Push Button Module 10 No's Jumper wires As per Requirement Connector Modules 70 No's Touch Point Module 10 No's Breadboard Module 10 No's Push Button Switch Module 30 No's White LED 10mm Module 10 No's BC 547 NPN Transistor Module 20 No's Micro USB Charger Module 10 No's RGB LED Module 10 No's Dual LED Module 10 No's DC motor Module 10 No's Motor fan Module 10 No's Slide Switch Module 30 No's Flashing LED Module 10 No's LDR Sensor Module 10 No's</p>
2	Arduino Programming, Design and prototyping STEM Tasking Kit - Generate primary and secondary colors using Arduino and reusable modules including basic components, inputs, outputs, wires, connectors, and breadboard with detailed project guide and audio-visuals.	<p>Hardware Technical Specifications: Material: Double sided PTH glass epoxy PCB for each module. Each discrete component duly mounted on micro PCBs forming a functional module, with breadboard compatible male pins for easy reuse with desired items such as resistors, capacitors, switches, transistors to play around basic circuits etc. Each category of modules to have different color for easy identification such as input modules, output modules, accessories etc. Power supply module to accept 5V DC from any charger of smart cell phone. Breadboard: One 840 points type breadboard having 2 horizontal set of lines both at top and bottom for feeding power. Also having 64 in (5x2) section vertical lines for developing any electronic circuit to be wired together with jumper wires and the building blocks. Controller Board: Breadboard compatible Arduino controller board with all of their I/O port pins in open ended form together with standard components for independent use.</p> <p>List of Material: Resistor 330R Module 30 No's Resistor 10K Module 10 No's Buzzer Module 10 No's Connector Module 50 No's Jumper Wires "As per Requirement" RGB LED Module 10 No's Arduino Nano + USB Mini Cord 10 No's Push Button Switch Module 10 No's Breadboard 10 No's Project Guide Book 1 No's</p> <p>Project Guide Technical Specification: Detailed documentation booklet covering all modules offered Circuit Diagram: Complete circuit diagram suggested for beginners with its full explanations of the modules used. Fritzing Diagram: Detailed Fritzing diagram with rows and columns duly numbered for mounting each module on the breadboard.</p>

3	<p>Robotics Design and prototyping STEM Tinkering Kit - Build multiple real time Robots and Remotes, in a one of its kind arrangement using reusable modules including basic components, inputs, outputs, wires, connectors, Electrical and Mechanical accessories and breadboard with detailed project guide and audiovisuals.</p>	<p>Hardware Technical Specifications: Material: Double sided PTH glass epoxy PCB for each module Each discrete component duly mounted on micro PCBs forming a functional module, with breadboard compatible male pins for easy reuse with desired items such as resistors, capacitors, switches, transistors to play around basic circuits etc Each category of modules to have different color for easy identification such as input modules, output modules, accessories etc Power supply module to accept 5V DC from any charger of smart cell phone. Breadboard: One 840 points type breadboard having 2 horizontal set of lines both at top and bottom for feeding power. Also having 64 in (5x2) section vertical lines for developing any electronic circuit to be weed together with jumper wires and the building blocks. Robotics Boards: The robotic board to have all the electro- mechanical items like motors and clamps to be mounted on the same PCB accommodating the control electronics preferably in SMD.</p> <p>List of Material: Transmitter Unit Module 10 No's Receiver Unit Module 10 No's Diode Module 20 No's L Clamps Module 20 No's Wheels Module 20 No's Geared Motor (6V, 60rpm) Module 20 No's Screw and Nuts Module 60 No's Matching Jumper 80 No's Jumper Wires "As per Requirement" Connector Module 50 No's Push Button Switch Module 40 No's Slide Switch Module 40 No's Reed Sensor Module 40 No's Touch Point Module 40 No's BC 547 NPN Transistor Module 80 No's Breadboard 10 No's Project Guide Book 10 No's</p>
4	<p>Trainer Kit for Android Phone Speech Recognition Sensed Voice Operated Notice Board Display For simple technical and functional understanding of the challenge.</p>	<p>Printed Circuit Board material should be glass epoxy. High quality through hole components to be supplied. Open Gerber files of all PCB supplied to be provided. PE projects: All PE DIY kits using power semiconductor devices should have appropriate inbuilt snubber, across the power devices & heat sink wherever necessary. All signal paths need to have galvanic isolation by use of proper Opto-isolator. Gates of all power devices need to have adequate protection with required components.</p> <p>List of Material: Resistor 22R 1 No's Resistor 330R 1 No's Resistor 10K 4 No's Preset 10K 1 No's Capacitor 470UF/35V 1 No's Capacitor 10UF/63V 2 No's Capacitor 33PF Ceramic 2 No's 7805 Voltage Regulator 1 No's AT89S52 1 No's 40 Pin Risc 1 No's Diode 1N4007 4 No's Red-LED 1 No's 3.3V Zener Diode 1 No's Bluetooth Device 1 No's Crystal 11.0592MHz 1 No's Transformer 0-12V 1 No's 2-Pin Push Button 1 No's Female Header 6-Pin 1 No's LCD 16x2 1 No's Heat Sink 1 No's Screw Nut For Heat-Sink 1 No's Female Header 16-Pin 1 No's Male Header 18-Pin (Included with LCD) 1 No's</p>

DA

5	<p>Trainer Kit for Arduino Based 4 Quadrant DC Motor Control For simple technical and functional understanding of the challenge.</p>	<p>Printed Circuit Board material should be glass epoxy. High quality through hole components to be supplied. Open Gerber files of all PCB supplied to be provided. PE projects: All PE DIY kits using power semiconductor devices should have appropriate inbuilt snubber, across the power devices & heat sink wherever necessary. All signal paths need to have galvanic isolation by use of proper Opto-isolator. Gates of all power devices need to have adequate protection with required components.</p> <p>List of Material:</p> <ul style="list-style-type: none"> Resistor 220R 1 No's Resistor 10K SIP 1 No's Capacitor 1000uF/35V 1 No's Capacitor 10uF/63V 1 No's Capacitor 0.1uF (104) Ceramic 2 No's 7805 Voltage Regulator 1 No's L293D IC 1 No's 16 Pin Base 1 No's Diode 1N4007 4 No's LED-Red 1 No's Arduino Module 1 No's Male Header 12-Pin 1 No's Female Reimant 1-Pin 2-Side 12 No's Transformer 0-12V 1 No's Power Cord 1 No's Male Header 2-Pin 1 No's Male Reimant 2-Pin 1 No's Female Reimant 2-Pin One Side 2 No's 12V High Speed Motor 1 No's High Speed Motor Fan 1 No's Dedicated PCB 1 No's <p>Project Guide Technical Specification:</p>
6	<p>Trainer Kit for Auto Intensity Control of Street Lights For simple technical and functional understanding of the challenge.</p>	<p>Printed Circuit Board material should be glass epoxy. High quality through hole components to be supplied. Open Gerber files of all PCB supplied to be provided. PE projects: All PE DIY kits using power semiconductor devices should have appropriate inbuilt snubber, across the power devices & heat sink wherever necessary. All signal paths need to have galvanic isolation by use of proper Opto-isolator. Gates of all power devices need to have adequate protection with required components.</p> <p>List of Material:</p> <ul style="list-style-type: none"> Resistor 330R 1 No's Resistor 1K 2 No's Resistor 10K 2 No's Resistor 2.2K 1 No's Resistor 10R/2W 1 No's Capacitor 470uF/35V 1 No's Capacitor 10uF/63V 2 No's Capacitor 33pF Ceramic 2 No's 7805 Voltage Regulator 1 No's AT09157 1 No's 40 Pin Base 1 No's Transistor BC547 1 No's MOSFET IRF244 1 No's Diode 1N4007 4 No's Crystal 11.0592MHz 1 No's LED-Red 1 No's LED-White 96 No's Transformer 0-12V 1 No's Power Cord 1 No's Heat Sink 1 No's Screw Nut For Heat-Sink 1 No's Male Header 2-Pin 1 No's Female Header 2-Pin (For Transformer) 1 No's



7	<p>Trainer Kit for Auto Selection of any Available Phase, in 3 Phase Supply System For simple technical and functional understanding of the challenge.</p>	<p>Printed Circuit Board material should be glass epoxy. High quality through hole components to be supplied. Open Gerber files of all PCB supplied to be provided. PE projects: All PE DIY kits using power semiconductor devices should have appropriate inbuilt snubber, across the power devices & heat sink wherever necessary. All signal paths need to have galvanic isolation by use of proper Opto-isolator. Gates of all power devices need to have adequate protection with required components.</p> <p>List of Material: Resistor 1K 8 No's Resistor 330R 1 No's Resistor 2.2K 4 No's Resistor 12K 1 No's Resistor 10K 4 No's Capacitor 100uF/35V 4 No's Capacitor 470uF/35V 1 No's Capacitor 10uF/63V 1 No's MCT 2E IC 4 No's 7805 Voltage Regulator 1 No's 4069 IC 1 No's 4081 IC 1 No's ULN2003 IC 1 No's 14 Pin Base 2 No's 16 Pin Base 1 No's 06 Pin Base 4 No's Diode 1N4007 10 No's LED-Red 2 No's LED- Yellow 1 No's LED- Green 1 No's LED- White 1 No's Transformer 0-12V 4 No's 3C/O Relay 4 No's</p>
8	<p>Trainer Kit for Automatic Bell System For Institutions For simple technical and functional understanding of the challenge.</p>	<p>Printed Circuit Board material should be glass epoxy. High quality through hole components to be supplied. Open Gerber files of all PCB supplied to be provided. PE projects: All PE DIY kits using power semiconductor devices should have appropriate inbuilt snubber, across the power devices & heat sink wherever necessary. All signal paths need to have galvanic isolation by use of proper Opto-isolator. Gates of all power devices need to have adequate protection with required components.</p> <p>List of Material: Resistor 330R 1 No's Resistor 10K 3 No's Resistor 1K 2 No's Resistor 2.2K 5 No's Resistor 100R 8 No's Capacitor 470uF/35V 1 No's Capacitor 10uF/63V 2 No's Capacitor 33pF Ceramic 2 No's Capacitor 1uF/25V 1 No's 7805 Voltage Regulator 1 No's AT89S52 1 No's DS1307 IC 1 No's 40-Pin Base 1 No's 08-Pin Base 1 No's Diode 1N4007 5 No's Transistor BC547 5 No's Crystal 11.0592Mhz 1 No's Crystal 32.768KHz 1 No's Keypad 4X3 1 No's Calling Bell 1 No's LED-Red 2 No's 12V Relay 1 No's 7-Segment Common Anode 4 No's</p>

9	<p>Trainer Kit for Automatic Irrigation System on Sensing Soil Moisture Content For simple technical and functional understanding of the challenge.</p>	<p>Printed Circuit Board material should be glass epoxy. High quality through hole components to be supplied. Open Gerber files of all PCB supplied to be provided. PE projects: All PE DIY kits using power semiconductor devices should have appropriate inbuilt snubber, across the power devices & heat sink wherever necessary. All signal paths need to have galvanic isolation by use of proper Opto-isolator. Gates of all power devices need to have adequate protection with required components.</p> <p>List of Material: Resistor 330R 1 No's Resistor 10K 3 No's Resistor 47K 1 No's Resistor 1K 3 No's Resistor 2.2K 1 No's Preset 10K 1 No's Capacitor 1000uF /35V 1 No's Capacitor 10uF/63V 2 No's Capacitor 33pF Ceramic 2 No's 7005 Voltage Regulator 1 No's AT89S52 1 No's LM358 IC 1 No's 40-Pin Base 1 No's 8-Pin Base 1 No's Diode 1N4007 5 No's Transistor BC547 1 No's Crystal 11.0592MHz 1 No's LCD 16X2 1 No's LED-Red 2 No's PCB Connector 2 Pin 3 No's Pump Motor 1 No's 12V Relay 1 No's 4-Pin Push Button 1 No's</p>
10	<p>Trainer Kit for Automatic Star Delta Starter using Relays and Adjustable Electronic Timer For Induction Motor For simple technical and functional understanding of the challenge.</p>	<p>Printed Circuit Board material should be glass epoxy. High quality through hole components to be supplied. Open Gerber files of all PCB supplied to be provided. PE projects: All PE DIY kits using power semiconductor devices should have appropriate inbuilt snubber, across the power devices & heat sink wherever necessary. All signal paths need to have galvanic isolation by use of proper Opto-isolator. Gates of all power devices need to have adequate protection with required components.</p> <p>List of Material: Resistor 1K 6 No's Resistor 10K 1 No's Preset 10K 1 No's Capacitor 1000uF/35V 1 No's Capacitor 470uF/35V 1 No's Capacitor 10uF/63V 3 No's 555 Timer 1 No's 8 Pin Base 1 No's Diode 1N4007 16 No's Diode 1N4148 1 No's Transistor BC547 1 No's Transistor BC557 1 No's LED-Red 3 No's LED-Green 1 No's Transformer 0-12V 3 No's 12V Relay 2 No's 3C/O-Relay 2 No's Male Header 2 Pin 3 No's Female Header 2 Pin (For Transformers) 3 No's PCB Connector 3 Pin 1 No's PCB Connectors 2-Pin 3 No's Lamps 6 No's Lamp Holders 6 No's</p>

A

11	<p>Trainer Kit for BLDC Motor Speed Control with RPM Display For simple technical and functional understanding of the challenge.</p>	<p>Printed Circuit Board material should be glass epoxy. High quality through hole components to be supplied Open Gerber files of all PCB supplied to be provided PE projects: All PE DIY kits using power semiconductor devices should have appropriate inbuilt snubber, across the power devices & heat sink wherever necessary. All signal paths need to have galvanic isolation by use of proper Opto-isolator. Gates of all power devices need to have adequate protection with required components.</p> <p>List of Material: Resistor 22R 1 No's Resistor 220R 1 No's Resistor 330R 2 No's Resistor 1K 1 No's Resistor 2.2K 1 No's Resistor 10K 3 No's Preset 10K 2 No's Resistor 100K 1 No's Capacitor 470uF/35V 1 No's Capacitor 10uF/16V 2 No's Capacitor 33pF Ceramic 2 No's AT89S52 1 No's MCT2E IC 1 No's 40-Pin Base 1 No's 08-Pin Base 1 No's Diode 1N4007 5 No's Diode 1N4148 1 No's IR LED 1 No's Photo Diode 1 No's Red LED 1 No's 7805 Voltage Regulator 1 No's Transistor BC557 1 No's Transistor BC547 1 No's</p>
12	<p>Trainer Kit for Cell Phone Controlled Robotic Vehicle For simple technical and functional understanding of the challenge.</p>	<p>Printed Circuit Board material should be glass epoxy. High quality through hole components to be supplied. Open Gerber files of all PCB supplied to be provided. PE projects: All PE DIY kits using power semiconductor devices should have appropriate inbuilt snubber, across the power devices & heat sink wherever necessary. All signal paths need to have galvanic isolation by use of proper Opto-isolator. Gates of all power devices need to have adequate protection with required components.</p> <p>List of Material: Resistor 330R 1 No's Resistor 10K 5 No's Resistor 330K 1 No's Resistor 100K 1 No's Resistor 22K 1 No's Capacitor 470uF/35V 1 No's Capacitor 10uF/63V 2 No's Capacitor 33pF Ceramic 2 No's Capacitor 0.1uF (104) Ceramic 2 No's Capacitor 0.47uF (470nF) Polyester 1 No's Capacitor 22pF Ceramic 2 No's AT89S52 1 No's L293D IC 1 No's MT8870/HT9170 IC 1 No's 7404 IC 1 No's 40-Pin Base 1 No's 18-Pin Base 1 No's 16-Pin Base 1 No's 14 Pin Base 1 No's Diode 1N4007 1 No's Cell Cover 1 No's Pencil Cell Battery (4 X 1.5V=6V) 4 No's Crystal 11.0592MHz 1 No's</p>

A

13	<p>Trainer Kit for Density Based Traffic Signal with Remote Override in Emergency For simple technical and functional understanding of the challenge.</p>	<p>Printed Circuit Board material should be glass epoxy High quality through hole components to be supplied. Open Gerber files of all PCB supplied to be provided PE projects. All PE DIY kits using power semiconductor devices should have appropriate inbuilt snubber, across the power devices & heat sink wherever necessary. All signal paths need to have galvanic isolation by use of proper Opto-isolator. Gates of all power devices need to have adequate protection with required components.</p> <p>List of Material: Transmitter Resistor 220R 4 No's Resistor 10K 4 No's Resistor 1K 4 No's Resistor 1M 1 No's Resistor 100K 1 No's Capacitor 10uF/63V 1 No's H112 IC 1 No's 18-Pin Base 1 No's Diode 1N4007 1 No's LED-Red 4 No's LED-Green 4 No's Slide Switch 4 No's Female Header 4-Pin 1 No's 2-Pin Male Reliment 1 No's 2-Pin 1-Side Female Reliment 1 No's 1.5V Battery with Clip 4 No's Cell Case 1 No's Dedicated PCB 1 No's Receiver Resistor 330R 18 No's Resistor 10K 7 No's Resistor 1K 12 No's</p>
14	<p>Trainer Kit for Display of Underground Cable Fault Distance over Internet For simple technical and functional understanding of the challenge.</p>	<p>Printed Circuit Board material should be glass epoxy. High quality through hole components to be supplied. Open Gerber files of all PCB supplied to be provided PE projects. All PE DIY kits using power semiconductor devices should have appropriate inbuilt snubber, across the power devices & heat sink wherever necessary. All signal paths need to have galvanic isolation by use of proper Opto-isolator. Gates of all power devices need to have adequate protection with required components.</p> <p>List of Material: Resistor 1K 20 No's Resistor 10K 6 No's Resistor 2.2K 1 No's Resistor 330R 1 No's Preset 10K 2 No's Capacitor 33pF Ceramic 2 No's Capacitor 56pF Ceramic 1 No's Capacitor 10uF/63V 2 No's Capacitor 1uF/63V 4 No's Capacitor 470uF/35V 1 No's AT89S52 1 No's ADC0804 IC 1 No's ULN2003 IC 1 No's MAX232 IC 1 No's 7805 Voltage Regulator 1 No's 40 Pin Base 1 No's 20 Pin Base 1 No's 16 Pin Base 2 No's LCD-Red 4 No's Diode 1N4007 4 No's 12V Relay 3 No's Crystal 11.0592MHz 1 No's 2-Pin Push Button 1 No's</p>



15	Trainer Kit for Electronic Soft Start For 3 Phase Induction Motor For simple technical and functional understanding of the challenge.	<p>Printed Circuit Board material should be glass epoxy. High quality through hole components to be supplied. Open Gerber files of all PCB supplied to be provided. PE projects: All PE DIY kits using power semiconductor devices should have appropriate inbuilt snubber, across the power devices & heat sink wherever necessary. All signal paths need to have galvanic isolation by use of proper Opto-isolator. Gates of all power devices need to have adequate protection with required components:</p> <p>List of Material:</p> <table border="0"> <tr><td>Resistor 560R</td><td>6</td><td>No's</td></tr> <tr><td>Resistor 1K</td><td>7</td><td>No's</td></tr> <tr><td>Resistor 2.2K</td><td>3</td><td>No's</td></tr> <tr><td>Resistor 3.3K</td><td>3</td><td>No's</td></tr> <tr><td>Resistor 4.7K</td><td>9</td><td>No's</td></tr> <tr><td>Resistor 10K</td><td>6</td><td>No's</td></tr> <tr><td>Resistor 22K</td><td>8</td><td>No's</td></tr> <tr><td>Resistor 27K</td><td>1</td><td>No's</td></tr> <tr><td>Resistor 100K</td><td>3</td><td>No's</td></tr> <tr><td>Resistor 2.2M</td><td>2</td><td>No's</td></tr> <tr><td>Resistor 100R/2W</td><td>3</td><td>No's</td></tr> <tr><td>Capacitor 470uF/35V</td><td>1</td><td>No's</td></tr> <tr><td>Capacitor 10uF/63V</td><td>1</td><td>No's</td></tr> <tr><td>Capacitor 2.2uF/25V</td><td>4</td><td>No's</td></tr> <tr><td>Capacitor 0.47uF (470nF) Polyester</td><td>2</td><td>No's</td></tr> <tr><td>Capacitor 0.1uF/400V Polyester</td><td>3</td><td>No's</td></tr> <tr><td>Diode 1N4007</td><td>21</td><td>No's</td></tr> <tr><td>Diode 1N4148</td><td>5</td><td>No's</td></tr> <tr><td>7812 Voltage Regulator</td><td>1</td><td>No's</td></tr> <tr><td>LM339 IC</td><td>2</td><td>No's</td></tr> <tr><td>LM324 IC</td><td>1</td><td>No's</td></tr> <tr><td>MUC3021 IC</td><td>6</td><td>No's</td></tr> <tr><td>14-Pin Base</td><td>3</td><td>No's</td></tr> </table>	Resistor 560R	6	No's	Resistor 1K	7	No's	Resistor 2.2K	3	No's	Resistor 3.3K	3	No's	Resistor 4.7K	9	No's	Resistor 10K	6	No's	Resistor 22K	8	No's	Resistor 27K	1	No's	Resistor 100K	3	No's	Resistor 2.2M	2	No's	Resistor 100R/2W	3	No's	Capacitor 470uF/35V	1	No's	Capacitor 10uF/63V	1	No's	Capacitor 2.2uF/25V	4	No's	Capacitor 0.47uF (470nF) Polyester	2	No's	Capacitor 0.1uF/400V Polyester	3	No's	Diode 1N4007	21	No's	Diode 1N4148	5	No's	7812 Voltage Regulator	1	No's	LM339 IC	2	No's	LM324 IC	1	No's	MUC3021 IC	6	No's	14-Pin Base	3	No's
Resistor 560R	6	No's																																																																					
Resistor 1K	7	No's																																																																					
Resistor 2.2K	3	No's																																																																					
Resistor 3.3K	3	No's																																																																					
Resistor 4.7K	9	No's																																																																					
Resistor 10K	6	No's																																																																					
Resistor 22K	8	No's																																																																					
Resistor 27K	1	No's																																																																					
Resistor 100K	3	No's																																																																					
Resistor 2.2M	2	No's																																																																					
Resistor 100R/2W	3	No's																																																																					
Capacitor 470uF/35V	1	No's																																																																					
Capacitor 10uF/63V	1	No's																																																																					
Capacitor 2.2uF/25V	4	No's																																																																					
Capacitor 0.47uF (470nF) Polyester	2	No's																																																																					
Capacitor 0.1uF/400V Polyester	3	No's																																																																					
Diode 1N4007	21	No's																																																																					
Diode 1N4148	5	No's																																																																					
7812 Voltage Regulator	1	No's																																																																					
LM339 IC	2	No's																																																																					
LM324 IC	1	No's																																																																					
MUC3021 IC	6	No's																																																																					
14-Pin Base	3	No's																																																																					
16	DIY High Voltage Dc Up to 2kV From Ac By Using Diode And Capacitors In Voltage Multiplier Circuit solderable product.	<p>Printed Circuit Board material should be glass epoxy. High quality through hole components to be supplied. Open Gerber files of all PCB supplied to be provided. PE projects: All PE DIY kits using power semiconductor devices should have appropriate inbuilt snubber, across the power devices & heat sink wherever necessary. All signal paths need to have galvanic isolation by use of proper Opto-isolator. Gates of all power devices need to have adequate protection with required components.</p> <p>List of Material:</p> <table border="0"> <tr><td>Resistor 1M</td><td>10</td><td>No's</td></tr> <tr><td>Resistor 470K</td><td>8</td><td>No's</td></tr> <tr><td>Resistor 100K</td><td>1</td><td>No's</td></tr> <tr><td>Capacitor 100uF/400V</td><td>16</td><td>No's</td></tr> <tr><td>Diode 1N4007</td><td>11</td><td>No's</td></tr> <tr><td>Red LED</td><td>1</td><td>No's</td></tr> <tr><td>PCB Connectors 2-Pin</td><td>1</td><td>No's</td></tr> <tr><td>Bulb Holder</td><td>1</td><td>No's</td></tr> <tr><td>Bulb 0W</td><td>1</td><td>No's</td></tr> <tr><td>Multimeter</td><td>1</td><td>No's</td></tr> <tr><td>Power Cord</td><td>1</td><td>No's</td></tr> <tr><td>Copper Wire For Load</td><td>1</td><td>No's</td></tr> <tr><td>Dedicated PCB</td><td>1</td><td>No's</td></tr> </table> <p>Project Guide Technical Specification: Problem Definition Project Abstract Circuit diagram of the project with full explanation Layout diagram of the project Self explained program codes Physical image together with functional explanations Soldering and Assembly procedure Troubleshooting document</p>	Resistor 1M	10	No's	Resistor 470K	8	No's	Resistor 100K	1	No's	Capacitor 100uF/400V	16	No's	Diode 1N4007	11	No's	Red LED	1	No's	PCB Connectors 2-Pin	1	No's	Bulb Holder	1	No's	Bulb 0W	1	No's	Multimeter	1	No's	Power Cord	1	No's	Copper Wire For Load	1	No's	Dedicated PCB	1	No's																														
Resistor 1M	10	No's																																																																					
Resistor 470K	8	No's																																																																					
Resistor 100K	1	No's																																																																					
Capacitor 100uF/400V	16	No's																																																																					
Diode 1N4007	11	No's																																																																					
Red LED	1	No's																																																																					
PCB Connectors 2-Pin	1	No's																																																																					
Bulb Holder	1	No's																																																																					
Bulb 0W	1	No's																																																																					
Multimeter	1	No's																																																																					
Power Cord	1	No's																																																																					
Copper Wire For Load	1	No's																																																																					
Dedicated PCB	1	No's																																																																					

17	<p>Trainer Kit for High Voltage Dc Up to 2kv From Ac By Using Diode And Capacitors In Voltage Multiplier Circuit For simple technical and functional understanding of the challenge.</p>	<p>Printed Circuit Board material should be glass epoxy. High quality through hole components to be supplied. Open Gerber files of all PCB supplied to be provided. PE projects: All PE DIY kits using power semiconductor devices should have appropriate inbuilt snubber, across the power devices & heat sink wherever necessary. All signal paths need to have galvanic isolation by use of proper Opto-Isolator. Gates of all power devices need to have adequate protection with required components.</p> <p>List of Material:</p> <table border="0"> <tr><td>Resistor 1M</td><td>10</td><td>No's</td></tr> <tr><td>Resistor 470K</td><td>8</td><td>No's</td></tr> <tr><td>Resistor 100K</td><td>1</td><td>No's</td></tr> <tr><td>Capacitor 100uF/400V</td><td>16</td><td>No's</td></tr> <tr><td>Diode 1N4007</td><td>11</td><td>No's</td></tr> <tr><td>Red LED</td><td>1</td><td>No's</td></tr> <tr><td>PCB Connectors 2-Pin</td><td>1</td><td>No's</td></tr> <tr><td>Bulb Holder</td><td>1</td><td>No's</td></tr> <tr><td>Bulb 0W</td><td>1</td><td>No's</td></tr> <tr><td>Multimeter</td><td>1</td><td>No's</td></tr> <tr><td>Power Cord</td><td>1</td><td>No's</td></tr> <tr><td>Copper Wire For Load</td><td>1</td><td>No's</td></tr> <tr><td>Dedicated PCB</td><td>1</td><td>No's</td></tr> </table> <p>Project Guide Technical Specification:</p> <p>Problem Definition Project Abstract Circuit diagram of the project with full explanation Layout diagram of the project Self explained program codes Physical image together with functional explanations Soldering and Assembly procedure Troubleshooting document</p>	Resistor 1M	10	No's	Resistor 470K	8	No's	Resistor 100K	1	No's	Capacitor 100uF/400V	16	No's	Diode 1N4007	11	No's	Red LED	1	No's	PCB Connectors 2-Pin	1	No's	Bulb Holder	1	No's	Bulb 0W	1	No's	Multimeter	1	No's	Power Cord	1	No's	Copper Wire For Load	1	No's	Dedicated PCB	1	No's																														
Resistor 1M	10	No's																																																																					
Resistor 470K	8	No's																																																																					
Resistor 100K	1	No's																																																																					
Capacitor 100uF/400V	16	No's																																																																					
Diode 1N4007	11	No's																																																																					
Red LED	1	No's																																																																					
PCB Connectors 2-Pin	1	No's																																																																					
Bulb Holder	1	No's																																																																					
Bulb 0W	1	No's																																																																					
Multimeter	1	No's																																																																					
Power Cord	1	No's																																																																					
Copper Wire For Load	1	No's																																																																					
Dedicated PCB	1	No's																																																																					
18	<p>Trainer Kit for Home Automation Under Wi-Fi Through Android Apps From Any Smart Phone For simple technical and functional understanding of the challenge.</p>	<p>Printed Circuit Board material should be glass epoxy. High quality through hole components to be supplied. Open Gerber files of all PCB supplied to be provided. PE projects: All PE DIY kits using power semiconductor devices should have appropriate inbuilt snubber, across the power devices & heat sink wherever necessary. All signal paths need to have galvanic isolation by use of proper Opto-Isolator. Gates of all power devices need to have adequate protection with required components.</p> <p>List of Material:</p> <table border="0"> <tr><td>Resistor 100R</td><td>1</td><td>No's</td></tr> <tr><td>Resistor 330R</td><td>1</td><td>No's</td></tr> <tr><td>Resistor 1K</td><td>7</td><td>No's</td></tr> <tr><td>Resistor 10K</td><td>1</td><td>No's</td></tr> <tr><td>Resistor 10K SIP</td><td>1</td><td>No's</td></tr> <tr><td>Presel 10K</td><td>1</td><td>No's</td></tr> <tr><td>Capacitor 1000uF/35V</td><td>1</td><td>No's</td></tr> <tr><td>Capacitor 100uF/35V</td><td>1</td><td>No's</td></tr> <tr><td>Capacitor 10uF/63V</td><td>2</td><td>No's</td></tr> <tr><td>Capacitor 33pF Ceramic</td><td>2</td><td>No's</td></tr> <tr><td>7805 Voltage Regulator</td><td>1</td><td>No's</td></tr> <tr><td>LM1117 Voltage Regulator</td><td>1</td><td>No's</td></tr> <tr><td>AT89S52</td><td>1</td><td>No's</td></tr> <tr><td>ULN2003 IC</td><td>1</td><td>No's</td></tr> <tr><td>40 Pin Base</td><td>1</td><td>No's</td></tr> <tr><td>16 Pin Base</td><td>1</td><td>No's</td></tr> <tr><td>Diode 1N4007</td><td>4</td><td>No's</td></tr> <tr><td>3.3V Zener Diode</td><td>1</td><td>No's</td></tr> <tr><td>ESP8200 WIFI Module</td><td>1</td><td>No's</td></tr> <tr><td>Slide Switch</td><td>1</td><td>No's</td></tr> <tr><td>Female Header 4-Pin</td><td>2</td><td>No's</td></tr> <tr><td>LED-Red</td><td>8</td><td>No's</td></tr> <tr><td>Crystal 11.0592MHz</td><td>1</td><td>No's</td></tr> </table>	Resistor 100R	1	No's	Resistor 330R	1	No's	Resistor 1K	7	No's	Resistor 10K	1	No's	Resistor 10K SIP	1	No's	Presel 10K	1	No's	Capacitor 1000uF/35V	1	No's	Capacitor 100uF/35V	1	No's	Capacitor 10uF/63V	2	No's	Capacitor 33pF Ceramic	2	No's	7805 Voltage Regulator	1	No's	LM1117 Voltage Regulator	1	No's	AT89S52	1	No's	ULN2003 IC	1	No's	40 Pin Base	1	No's	16 Pin Base	1	No's	Diode 1N4007	4	No's	3.3V Zener Diode	1	No's	ESP8200 WIFI Module	1	No's	Slide Switch	1	No's	Female Header 4-Pin	2	No's	LED-Red	8	No's	Crystal 11.0592MHz	1	No's
Resistor 100R	1	No's																																																																					
Resistor 330R	1	No's																																																																					
Resistor 1K	7	No's																																																																					
Resistor 10K	1	No's																																																																					
Resistor 10K SIP	1	No's																																																																					
Presel 10K	1	No's																																																																					
Capacitor 1000uF/35V	1	No's																																																																					
Capacitor 100uF/35V	1	No's																																																																					
Capacitor 10uF/63V	2	No's																																																																					
Capacitor 33pF Ceramic	2	No's																																																																					
7805 Voltage Regulator	1	No's																																																																					
LM1117 Voltage Regulator	1	No's																																																																					
AT89S52	1	No's																																																																					
ULN2003 IC	1	No's																																																																					
40 Pin Base	1	No's																																																																					
16 Pin Base	1	No's																																																																					
Diode 1N4007	4	No's																																																																					
3.3V Zener Diode	1	No's																																																																					
ESP8200 WIFI Module	1	No's																																																																					
Slide Switch	1	No's																																																																					
Female Header 4-Pin	2	No's																																																																					
LED-Red	8	No's																																																																					
Crystal 11.0592MHz	1	No's																																																																					

DA



19	<p>Trainer Kit for IoT Based Home Automation Over The Cloud For simple technical and functional understanding of the challenge.</p>	<p>Printed Circuit Board material should be glass epoxy. High quality through hole components to be supplied. Open Gerber files of all PCB supplied to be provided. PE projects: All PE DIY kits using power semiconductor devices should have appropriate inbuilt snubber, across the power devices & heat sink wherever necessary. All signal paths need to have galvanic isolation by use of proper Opto-isolator. Gates of all power devices need to have adequate protection with required components.</p> <p>List of Material:</p> <ul style="list-style-type: none"> Resistor 330R 1 No's Resistor 1K 1 No's Resistor 470R 1 No's Resistor 150R 1 No's Resistor 100R/2W 1 No's Capacitor 0.1uF/400V 1 No's LM1117 Voltage Regulator 1 No's MOC3021 IC 1 No's 06 Pin Base 1 No's ESP8266 1 No's 5V SMPS 1 No's Switch 1 No's Power Cord 1 No's Heat Sink 1 No's Screw Nut For Heat-Sink 1 No's PCB Connector 3-Pin 1 No's BT136 TRIAC 1 No's Female Header 4-Pin 2 No's Dedicated PCB 1 No's <p>Project Guide Technical Specification: Problem Definition Project Abstract</p>
20	<p>DIY IoT Based Load Control Over Standard Wi-Fi solderable project.</p>	<p>Printed Circuit Board material should be glass epoxy. High quality through hole components to be supplied. Open Gerber files of all PCB supplied to be provided. PE projects: All PE DIY kits using power semiconductor devices should have appropriate inbuilt snubber, across the power devices & heat sink wherever necessary. All signal paths need to have galvanic isolation by use of proper Opto-isolator. Gates of all power devices need to have adequate protection with required components.</p> <p>List of Material:</p> <ul style="list-style-type: none"> Resistor 330R 1 No's Resistor 1K 1 No's Resistor 470R 1 No's Resistor 150R 1 No's Resistor 100R/2W 1 No's Capacitor 0.1uF/400V 1 No's LM1117 Voltage Regulator 1 No's MOC3021 IC 1 No's 06 Pin Base 1 No's ESP8266 1 No's 5V SMPS 1 No's Switch 1 No's Power Cord 1 No's Heat Sink 1 No's Screw Nut For Heat-Sink 1 No's PCB Connector 3-Pin 1 No's BT136 TRIAC 1 No's Female Header 4-Pin 2 No's Dedicated PCB 1 No's <p>Project Guide Technical Specification: Problem Definition Project Abstract</p>

21	Trainer Kit for IoT Based Load Control Over Standalone Wi-Fi For simple technical and functional understanding of the challenge.	<p>Printed Circuit Board material should be glass epoxy. High quality through hole components to be supplied. Open Gerber files of all PCB supplied to be provided. PE projects: All PE DIY kits using power semiconductor devices should have appropriate inbuilt snubber, across the power devices & heat sink wherever necessary. All signal paths need to have galvanic isolation by use of proper Opto-isolator. Gates of all power devices need to have adequate protection with required components.</p> <p>List of Material:</p> <ul style="list-style-type: none"> Resistor 330R 1 No's Resistor 1K 1 No's Resistor 470R 1 No's Resistor 150R 1 No's Resistor 100R/2W 1 No's Capacitor 0.1uF/400V 1 No's LM1117 Voltage Regulator 1 No's MOC3021 IC 1 No's 06 Pin Base 1 No's ESP8266 1 No's 5V SMPS 1 No's Switch 1 No's Power Cord 1 No's Heat Sink 1 No's Screw Nut For Heat-Sink 1 No's PCB Connector 3-Pin 1 No's BT136 TRIAC 1 No's Female Header 4-Pin 2 No's Dedicated PCB 1 No's <p>Project Guide Technical Specification: Problem Definition Project Abstract</p>
22	Trainer Kit for Metal Detector Robotic Vehicle For simple technical and functional understanding of the challenge.	<p>Printed Circuit Board material should be glass epoxy. High quality through hole components to be supplied. Open Gerber files of all PCB supplied to be provided. PE projects: All PE DIY kits using power semiconductor devices should have appropriate inbuilt snubber, across the power devices & heat sink wherever necessary. All signal paths need to have galvanic isolation by use of proper Opto-isolator. Gates of all power devices need to have adequate protection with required components.</p> <p>List of Material:</p> <ul style="list-style-type: none"> Transmitter Resistor 330R 1 No's Resistor 10K 12 No's Resistor 100K 1 No's Resistor 1M 1 No's Capacitor 10uF/63V 2 No's Capacitor 33pF Ceramic 2 No's AT89C2051 1 No's HT12E IC 1 No's 20 Pin Base 1 No's 18 Pin Base 1 No's Diode 1N4007 1 No's Crystal 11.0592Mhz 1 No's LED-Red 1 No's 2-Pin Push Buttons 8 No's RF Transmitter Module (4-Pin) 1 No's Female Header 4-Pin 1 No's Male Reletment 2-Pin 1 No's Female Reletment 2-Pin One Side 1 No's Antenna 1 No's Slide Switch 1 No's Dedicated PCB 1 No's Connecting Wire 1 No's

23	Trainer Kit for Pe Based Electrical Load Control For simple technical and functional understanding of the challenge.	<p>Printed Circuit Board material should be glass epoxy. High quality through hole components to be supplied. Open Gerber files of all PCB supplied to be provided. PE projects: All PE DIY kits using power semiconductor devices should have appropriate inbuilt snubber, across the power devices & heat sink wherever necessary. All signal paths need to have galvanic isolation by use of proper Opto-isolator. Gates of all power devices need to have adequate protection with required components.</p> <p>List of Material:</p> <ul style="list-style-type: none"> Resistor 330R 1 No's Resistor 10K 1 No's Resistor 1K 4 No's Capacitor 1000uF/35V 1 No's Capacitor 10uF/53V 2 No's Capacitor 1uF/53V 4 No's Capacitor 33pF Ceramic 2 No's 7805 Voltage Regulator 1 No's AT89S52 1 No's MAX232 IC 1 No's ULN2003A IC 1 No's 40-Pin Base 1 No's 16-Pin Base 2 No's Diode 1N4007 4 No's Crystal 11.0592MHz 1 No's DB9 Female Connector 1 No's Lamp 4 No's Lamp Holder 4 No's LED-Red 5 No's 12V Relay 4 No's 4 Pin Push Button 1 No's Power Cord 1 No's Transformer D-12V 1 No's
24	Trainer Kit for Phase Sequence Checker For Three Phase Supply For simple technical and functional understanding of the challenge.	<p>Printed Circuit Board material should be glass epoxy. High quality through hole components to be supplied. Open Gerber files of all PCB supplied to be provided. PE projects: All PE DIY kits using power semiconductor devices should have appropriate inbuilt snubber, across the power devices & heat sink wherever necessary. All signal paths need to have galvanic isolation by use of proper Opto-isolator. Gates of all power devices need to have adequate protection with required components.</p> <p>List of Material:</p> <ul style="list-style-type: none"> Resistor 330R 1 No's Resistor 1K 2 No's Resistor 10K 3 No's Resistor 18K 12 No's Resistor 100K 3 No's Resistor 220R 8 No's Capacitor 470uF/35V 1 No's Capacitor 10uF/53V 3 No's Capacitor 1uF/25V 1 No's Capacitor 0.1uF (104) Ceramic 3 No's Capacitor 33PF 2 No's 7805 Voltage Regulator 1 No's 7812 Voltage Regulator 1 No's 4011 IC 1 No's 555 IC 1 No's AT89C2051 1 No's 14 Pin Base 1 No's 08 Pin Base 1 No's 20-Pin Base 1 No's Diode 1N4007 7 No's 12V Zener Diode 3 No's Crystal 11.0592 MHz 1 No's Transistor BC547 1 No's



25	<p>Trainer Kit for RFID Based Attendance System Trainer Kit for For simple technical and functional understanding of the challenge.</p>	<p>Printed Circuit Board material should be glass epoxy. High quality through hole components to be supplied. Open Gerber files of all PCB supplied to be provided. PE projects: All PE DIY kits using power semiconductor devices should have appropriate inbuilt snubber, across the power devices & heat sink wherever necessary. All signal paths need to have galvanic isolation by use of proper Opto-isolator. Gates of all power devices need to have adequate protection with required components.</p> <p>List of Material:</p> <table border="0"> <tr><td>Resistor 330R</td><td>1</td><td>No's</td></tr> <tr><td>Resistor 10K</td><td>5</td><td>No's</td></tr> <tr><td>Preset 10K</td><td>1</td><td>No's</td></tr> <tr><td>Capacitor 470uF/35V</td><td>1</td><td>No's</td></tr> <tr><td>Capacitor 10uF/63V</td><td>2</td><td>No's</td></tr> <tr><td>Capacitor 1uF/63V</td><td>4</td><td>No's</td></tr> <tr><td>Capacitor 33pF Ceramic</td><td>2</td><td>No's</td></tr> <tr><td>7805 Voltage Regulator</td><td>1</td><td>No's</td></tr> <tr><td>AT89S52</td><td>1</td><td>No's</td></tr> <tr><td>MAX232 IC</td><td>1</td><td>No's</td></tr> <tr><td>40-Pin Base</td><td>1</td><td>No's</td></tr> <tr><td>16-Pin Base</td><td>1</td><td>No's</td></tr> <tr><td>Diode 1N4007</td><td>4</td><td>No's</td></tr> <tr><td>Crystal</td><td>11.0592 MHz</td><td>1 No's</td></tr> <tr><td>LCD</td><td>16X2</td><td>1 No's</td></tr> <tr><td>LED-Red</td><td>1</td><td>No's</td></tr> <tr><td>2 Pin Push Button</td><td>2</td><td>No's</td></tr> <tr><td>DB9 Male Connector PCB Mount</td><td>1</td><td>No's</td></tr> <tr><td>DB9 Straight Cord</td><td>1</td><td>No's</td></tr> <tr><td>Adapter 9V</td><td>1</td><td>No's</td></tr> <tr><td>Power Cord</td><td>1</td><td>No's</td></tr> <tr><td>Transformer</td><td>0-12V</td><td>1 No's</td></tr> <tr><td>Female Header 16-Pin</td><td>1</td><td>No's</td></tr> </table>	Resistor 330R	1	No's	Resistor 10K	5	No's	Preset 10K	1	No's	Capacitor 470uF/35V	1	No's	Capacitor 10uF/63V	2	No's	Capacitor 1uF/63V	4	No's	Capacitor 33pF Ceramic	2	No's	7805 Voltage Regulator	1	No's	AT89S52	1	No's	MAX232 IC	1	No's	40-Pin Base	1	No's	16-Pin Base	1	No's	Diode 1N4007	4	No's	Crystal	11.0592 MHz	1 No's	LCD	16X2	1 No's	LED-Red	1	No's	2 Pin Push Button	2	No's	DB9 Male Connector PCB Mount	1	No's	DB9 Straight Cord	1	No's	Adapter 9V	1	No's	Power Cord	1	No's	Transformer	0-12V	1 No's	Female Header 16-Pin	1	No's
Resistor 330R	1	No's																																																																					
Resistor 10K	5	No's																																																																					
Preset 10K	1	No's																																																																					
Capacitor 470uF/35V	1	No's																																																																					
Capacitor 10uF/63V	2	No's																																																																					
Capacitor 1uF/63V	4	No's																																																																					
Capacitor 33pF Ceramic	2	No's																																																																					
7805 Voltage Regulator	1	No's																																																																					
AT89S52	1	No's																																																																					
MAX232 IC	1	No's																																																																					
40-Pin Base	1	No's																																																																					
16-Pin Base	1	No's																																																																					
Diode 1N4007	4	No's																																																																					
Crystal	11.0592 MHz	1 No's																																																																					
LCD	16X2	1 No's																																																																					
LED-Red	1	No's																																																																					
2 Pin Push Button	2	No's																																																																					
DB9 Male Connector PCB Mount	1	No's																																																																					
DB9 Straight Cord	1	No's																																																																					
Adapter 9V	1	No's																																																																					
Power Cord	1	No's																																																																					
Transformer	0-12V	1 No's																																																																					
Female Header 16-Pin	1	No's																																																																					
26	<p>Trainer Kit for Solar Energy Measurement System For simple technical and functional understanding of the challenge.</p>	<p>Printed Circuit Board material should be glass epoxy. High quality through hole components to be supplied. Open Gerber files of all PCB supplied to be provided. PE projects: All PE DIY kits using power semiconductor devices should have appropriate inbuilt snubber, across the power devices & heat sink wherever necessary. All signal paths need to have galvanic isolation by use of proper Opto-isolator. Gates of all power devices need to have adequate protection with required components.</p> <p>List of Material:</p> <table border="0"> <tr><td>Resistor 330R</td><td>1</td><td>No's</td></tr> <tr><td>Resistor 1K</td><td>1</td><td>No's</td></tr> <tr><td>Resistor 3.3K</td><td>1</td><td>No's</td></tr> <tr><td>Resistor 5.1K</td><td>1</td><td>No's</td></tr> <tr><td>Resistor 20K</td><td>1</td><td>No's</td></tr> <tr><td>Resistor 100R/5W</td><td>1</td><td>No's</td></tr> <tr><td>Resistor 10R/10W</td><td>1</td><td>No's</td></tr> <tr><td>Preset 10K</td><td>1</td><td>No's</td></tr> <tr><td>Preset 100K</td><td>1</td><td>No's</td></tr> <tr><td>Capacitor 1000uF/35V</td><td>1</td><td>No's</td></tr> <tr><td>Capacitor 10uF/63V</td><td>1</td><td>No's</td></tr> <tr><td>Capacitor 33pF Ceramic</td><td>2</td><td>No's</td></tr> <tr><td>Capacitor 0.1uF (104) Ceramic</td><td>1</td><td>No's</td></tr> <tr><td>Capacitor 22pF Ceramic</td><td>1</td><td>No's</td></tr> <tr><td>PIC16F877A</td><td>1</td><td>No's</td></tr> <tr><td>40 Pin Base</td><td>1</td><td>No's</td></tr> <tr><td>7805 Voltage Regulator</td><td>1</td><td>No's</td></tr> <tr><td>Diode 1N4007</td><td>4</td><td>No's</td></tr> <tr><td>5.1V Zener Diode</td><td>1</td><td>No's</td></tr> <tr><td>Red LED</td><td>1</td><td>No's</td></tr> <tr><td>LM35 Temperature Sensor</td><td>1</td><td>No's</td></tr> <tr><td>2-Pin Push Button</td><td>1</td><td>No's</td></tr> <tr><td>Crystal 4MHz</td><td>1</td><td>No's</td></tr> </table>	Resistor 330R	1	No's	Resistor 1K	1	No's	Resistor 3.3K	1	No's	Resistor 5.1K	1	No's	Resistor 20K	1	No's	Resistor 100R/5W	1	No's	Resistor 10R/10W	1	No's	Preset 10K	1	No's	Preset 100K	1	No's	Capacitor 1000uF/35V	1	No's	Capacitor 10uF/63V	1	No's	Capacitor 33pF Ceramic	2	No's	Capacitor 0.1uF (104) Ceramic	1	No's	Capacitor 22pF Ceramic	1	No's	PIC16F877A	1	No's	40 Pin Base	1	No's	7805 Voltage Regulator	1	No's	Diode 1N4007	4	No's	5.1V Zener Diode	1	No's	Red LED	1	No's	LM35 Temperature Sensor	1	No's	2-Pin Push Button	1	No's	Crystal 4MHz	1	No's
Resistor 330R	1	No's																																																																					
Resistor 1K	1	No's																																																																					
Resistor 3.3K	1	No's																																																																					
Resistor 5.1K	1	No's																																																																					
Resistor 20K	1	No's																																																																					
Resistor 100R/5W	1	No's																																																																					
Resistor 10R/10W	1	No's																																																																					
Preset 10K	1	No's																																																																					
Preset 100K	1	No's																																																																					
Capacitor 1000uF/35V	1	No's																																																																					
Capacitor 10uF/63V	1	No's																																																																					
Capacitor 33pF Ceramic	2	No's																																																																					
Capacitor 0.1uF (104) Ceramic	1	No's																																																																					
Capacitor 22pF Ceramic	1	No's																																																																					
PIC16F877A	1	No's																																																																					
40 Pin Base	1	No's																																																																					
7805 Voltage Regulator	1	No's																																																																					
Diode 1N4007	4	No's																																																																					
5.1V Zener Diode	1	No's																																																																					
Red LED	1	No's																																																																					
LM35 Temperature Sensor	1	No's																																																																					
2-Pin Push Button	1	No's																																																																					
Crystal 4MHz	1	No's																																																																					

DA



27	<p>Trainer Kit for Street Light That Glows On Detecting Vehicle Movement Using Pic For simple technical and functional understanding of the challenge.</p>	<p>Printed Circuit Board material should be glass epoxy. High quality through hole components to be supplied. Open Gerber files of all PCB supplied to be provided. PE projects: All PE DIY kits using power semiconductor devices should have appropriate inbuilt snubber, across the power devices & heat sink wherever necessary. All signal paths need to have galvanic isolation by use of proper Opto-isolator. Gates of all power devices need to have adequate protection with required components.</p> <p>List of Material:</p> <table border="0"> <tr><td>Resistor 330R</td><td>23</td><td>No's</td></tr> <tr><td>Resistor 10K</td><td>2</td><td>No's</td></tr> <tr><td>Resistor 1K</td><td>10</td><td>No's</td></tr> <tr><td>Preset 10K</td><td>8</td><td>No's</td></tr> <tr><td>Capacitor 470uF/35V</td><td>1</td><td>No's</td></tr> <tr><td>Capacitor 10uF/63V</td><td>2</td><td>No's</td></tr> <tr><td>Capacitor 33pF Ceramic</td><td>2</td><td>No's</td></tr> <tr><td>7805 Voltage Regulator</td><td>1</td><td>No's</td></tr> <tr><td>PIC16F877A</td><td>1</td><td>No's</td></tr> <tr><td>40-Pin Base</td><td>1</td><td>No's</td></tr> <tr><td>Transistor BC547</td><td>8</td><td>No's</td></tr> <tr><td>Diode 1N4007</td><td>4</td><td>No's</td></tr> <tr><td>PhotoDiode</td><td>8</td><td>No's</td></tr> <tr><td>Crystal 4MHz</td><td>1</td><td>No's</td></tr> <tr><td>LED-Red</td><td>1</td><td>No's</td></tr> <tr><td>LED-White</td><td>14</td><td>No's</td></tr> <tr><td>IR-LED</td><td>8</td><td>No's</td></tr> <tr><td>LED Spacers</td><td>14</td><td>No's</td></tr> <tr><td>Power Card</td><td>1</td><td>No's</td></tr> <tr><td>Transformer 0-12V</td><td>1</td><td>No's</td></tr> <tr><td>2 Pin Push Button</td><td>1</td><td>No's</td></tr> <tr><td>Slide Switch</td><td>1</td><td>No's</td></tr> <tr><td>Heat Sink</td><td>1</td><td>No's</td></tr> </table>	Resistor 330R	23	No's	Resistor 10K	2	No's	Resistor 1K	10	No's	Preset 10K	8	No's	Capacitor 470uF/35V	1	No's	Capacitor 10uF/63V	2	No's	Capacitor 33pF Ceramic	2	No's	7805 Voltage Regulator	1	No's	PIC16F877A	1	No's	40-Pin Base	1	No's	Transistor BC547	8	No's	Diode 1N4007	4	No's	PhotoDiode	8	No's	Crystal 4MHz	1	No's	LED-Red	1	No's	LED-White	14	No's	IR-LED	8	No's	LED Spacers	14	No's	Power Card	1	No's	Transformer 0-12V	1	No's	2 Pin Push Button	1	No's	Slide Switch	1	No's	Heat Sink	1	No's
Resistor 330R	23	No's																																																																					
Resistor 10K	2	No's																																																																					
Resistor 1K	10	No's																																																																					
Preset 10K	8	No's																																																																					
Capacitor 470uF/35V	1	No's																																																																					
Capacitor 10uF/63V	2	No's																																																																					
Capacitor 33pF Ceramic	2	No's																																																																					
7805 Voltage Regulator	1	No's																																																																					
PIC16F877A	1	No's																																																																					
40-Pin Base	1	No's																																																																					
Transistor BC547	8	No's																																																																					
Diode 1N4007	4	No's																																																																					
PhotoDiode	8	No's																																																																					
Crystal 4MHz	1	No's																																																																					
LED-Red	1	No's																																																																					
LED-White	14	No's																																																																					
IR-LED	8	No's																																																																					
LED Spacers	14	No's																																																																					
Power Card	1	No's																																																																					
Transformer 0-12V	1	No's																																																																					
2 Pin Push Button	1	No's																																																																					
Slide Switch	1	No's																																																																					
Heat Sink	1	No's																																																																					
28	<p>Trainer Kit for Three Phase Fault Analysis with Auto Reset On Temporary Fault And Permanent Trip Otherwise For simple technical and functional understanding of the challenge.</p>	<p>Printed Circuit Board material should be glass epoxy. High quality through hole components to be supplied. Open Gerber files of all PCB supplied to be provided. PE projects: All PE DIY kits using power semiconductor devices should have appropriate inbuilt snubber, across the power devices & heat sink wherever necessary. All signal paths need to have galvanic isolation by use of proper Opto-isolator. Gates of all power devices need to have adequate protection with required components.</p> <p>List of Material:</p> <table border="0"> <tr><td>Resistor 220R</td><td>3</td><td>No's</td></tr> <tr><td>Resistor 10K</td><td>5</td><td>No's</td></tr> <tr><td>Resistor 1K</td><td>8</td><td>No's</td></tr> <tr><td>Resistor 4.7K</td><td>1</td><td>No's</td></tr> <tr><td>Resistor 2.2K</td><td>2</td><td>No's</td></tr> <tr><td>Resistor 100K</td><td>1</td><td>No's</td></tr> <tr><td>Resistor 330R</td><td>1</td><td>No's</td></tr> <tr><td>Preset 10K</td><td>1</td><td>No's</td></tr> <tr><td>Capacitor 1000uF/35V</td><td>1</td><td>No's</td></tr> <tr><td>Capacitor 100uF/25V</td><td>7</td><td>No's</td></tr> <tr><td>Capacitor 220uF/25V</td><td>1</td><td>No's</td></tr> <tr><td>Capacitor 10uF/63V</td><td>2</td><td>No's</td></tr> <tr><td>Capacitor 100nF (0.1uF) (104) Ceramic</td><td>3</td><td>No's</td></tr> <tr><td>555 Timer IC</td><td>2</td><td>No's</td></tr> <tr><td>LM358 IC</td><td>1</td><td>No's</td></tr> <tr><td>7805 Voltage Regulator</td><td>1</td><td>No's</td></tr> <tr><td>8-Pin IC Base</td><td>3</td><td>No's</td></tr> <tr><td>Diode 1N4007</td><td>15</td><td>No's</td></tr> <tr><td>Transistor BC547</td><td>1</td><td>No's</td></tr> <tr><td>Transformer 0-12V, 500mA</td><td>6</td><td>No's</td></tr> <tr><td>2 Pin Push Buttons</td><td>6</td><td>No's</td></tr> <tr><td>Lamps</td><td>6</td><td>No's</td></tr> <tr><td>Lamp Holders</td><td>6</td><td>No's</td></tr> </table>	Resistor 220R	3	No's	Resistor 10K	5	No's	Resistor 1K	8	No's	Resistor 4.7K	1	No's	Resistor 2.2K	2	No's	Resistor 100K	1	No's	Resistor 330R	1	No's	Preset 10K	1	No's	Capacitor 1000uF/35V	1	No's	Capacitor 100uF/25V	7	No's	Capacitor 220uF/25V	1	No's	Capacitor 10uF/63V	2	No's	Capacitor 100nF (0.1uF) (104) Ceramic	3	No's	555 Timer IC	2	No's	LM358 IC	1	No's	7805 Voltage Regulator	1	No's	8-Pin IC Base	3	No's	Diode 1N4007	15	No's	Transistor BC547	1	No's	Transformer 0-12V, 500mA	6	No's	2 Pin Push Buttons	6	No's	Lamps	6	No's	Lamp Holders	6	No's
Resistor 220R	3	No's																																																																					
Resistor 10K	5	No's																																																																					
Resistor 1K	8	No's																																																																					
Resistor 4.7K	1	No's																																																																					
Resistor 2.2K	2	No's																																																																					
Resistor 100K	1	No's																																																																					
Resistor 330R	1	No's																																																																					
Preset 10K	1	No's																																																																					
Capacitor 1000uF/35V	1	No's																																																																					
Capacitor 100uF/25V	7	No's																																																																					
Capacitor 220uF/25V	1	No's																																																																					
Capacitor 10uF/63V	2	No's																																																																					
Capacitor 100nF (0.1uF) (104) Ceramic	3	No's																																																																					
555 Timer IC	2	No's																																																																					
LM358 IC	1	No's																																																																					
7805 Voltage Regulator	1	No's																																																																					
8-Pin IC Base	3	No's																																																																					
Diode 1N4007	15	No's																																																																					
Transistor BC547	1	No's																																																																					
Transformer 0-12V, 500mA	6	No's																																																																					
2 Pin Push Buttons	6	No's																																																																					
Lamps	6	No's																																																																					
Lamp Holders	6	No's																																																																					



29	<p>Trainer Kit for Ultra Fast Acting Electronic Circuit Breaker For simple technical and functional understanding of the challenge.</p>	<p>Printed Circuit Board material should be glass epoxy. High quality through hole components to be supplied. Open Gerber files of all PCB supplied to be provided. PE projects: All PE DIY kits using power semiconductor devices should have appropriate inbuilt snubber, across the power devices & heat sink wherever necessary. All signal paths need to have galvanic isolation by use of proper Opto-isolator. Gates of all power devices need to have adequate protection with required components.</p> <p>List of Material:</p> <ul style="list-style-type: none"> Resistor 330R 1 No's Resistor 150R 1 No's Resistor 1K 4 No's Resistor 2.2K 1 No's Resistor 10K 3 No's Resistor 10R/10W 1 No's Proct 10K 2 No's Resistor 10K S/P 1 No's Capacitor 1000uF/35V 1 No's Capacitor 10uF/50V 4 No's Capacitor 33pF Ceramic 2 No's 7805 Voltage Regulator 2 No's AT89S52 1 No's LM324 IC 1 No's MOSFET IRF744 1 No's 40 Pin IC Base 1 No's 14 Pin IC Base 1 No's Diode 1N4007 8 No's LED-Red 2 No's Bulb 100W 2 No's Bulb Holder 2 No's 4-Pin Push Button 1 No's Slide Switch 1 No's
30	<p>Trainer Kit for Voice Controlled Home Appliances For simple technical and functional understanding of the challenge.</p>	<p>Printed Circuit Board material should be glass epoxy. High quality through hole components to be supplied. Open Gerber files of all PCB supplied to be provided. PE projects: All PE DIY kits using power semiconductor devices should have appropriate inbuilt snubber, across the power devices & heat sink wherever necessary. All signal paths need to have galvanic isolation by use of proper Opto-isolator. Gates of all power devices need to have adequate protection with required components.</p> <p>List of Material:</p> <ul style="list-style-type: none"> Resistor 100R 4 No's Resistor 100R/2W 4 No's Resistor 150R 4 No's Resistor 330R 5 No's Resistor 10K 1 No's Capacitor 1000uF/35V 1 No's Capacitor 10uF/50V 2 No's Capacitor 33pF Ceramic 2 No's Capacitor 0.1uF/400V Polyester 4 No's 7805 Voltage Regulator 1 No's AT89S52 1 No's MOC3053 IC 4 No's 06 Pin IC Base 4 No's 40 Pin IC Base 1 No's Diode 1N4007 4 No's Bluetooth Device 1 No's LED-Red 5 No's Crystal 11.0592MHz 1 No's Transformer 0 12V 1 No's Power Cord 1 No's Male Header 2-Pin 1 No's Female Header 2-Pin 1 No's 4-Pin 1-Side Female Reletment 1 No's

AD



31	<p>Trainer Kit for Voice Controlled Robot By Cell Phone with Android App For simple technical and functional understanding of the challenge.</p>	<p>Printed Circuit Board material should be glass epoxy. High quality through hole components to be supplied. Open Gerber files of all PCB supplied to be provided. PE projects: All PE DIY kits using power semiconductor devices should have appropriate inbuilt snubber, across the power devices & heat sink wherever necessary. All signal paths need to have galvanic isolation by use of proper Opto-isolator. Gates of all power devices need to have adequate protection with required components.</p> <p>List of Material:</p> <ul style="list-style-type: none"> Resistor 22R 1 No's Resistor 330R 1 No's Resistor 10K 1 No's Capacitor 10uF/53V 2 No's Capacitor 33pF Ceramic 2 No's Capacitor 0.1uF Ceramic 2 No's AT89S52 1 No's L293D IC 1 No's 40-Pin IC Base 1 No's 16-Pin IC Base 1 No's Diode 1N4007 1 No's Bluetooth Device 1 No's Cell Case 1 No's Pencil Cell Battery (4 X 1.5V) 4 No's 2-Pin Female Reimment One Side 3 No's Crystal 11.0592MHz 1 No's LED-Red 1 No's 4-Pin Push Button 1 No's Male Header 2-Pin 2 No's Male Reimment 2-Pin 1 No's Female Header 6-Pin 1 No's Male Header 6-Pin (Included in Bluetooth Device) 1 No's Female Header 17-Pin 2 No's
32	<p>Trainer Kit for War Field Spring Robot with Night Vision Wireless Camera By Android Applications For simple technical and functional understanding of the challenge.</p>	<p>Printed Circuit Board material should be glass epoxy High quality through hole components to be supplied. Open Gerber files of all PCB supplied to be provided. PE projects: All PE DIY kits using power semiconductor devices should have appropriate inbuilt snubber, across the power devices & heat sink wherever necessary. All signal paths need to have galvanic isolation by use of proper Opto-isolator. Gates of all power devices need to have adequate protection with required components.</p> <p>List of Material:</p> <ul style="list-style-type: none"> Resistor 10R/2W 1 No's Resistor 22R 1 No's Resistor 330R 2 No's Resistor 1K 1 No's Resistor 10K 5 No's Capacitor 33pF Ceramic 2 No's Capacitor 0.1uF Ceramic 2 No's Capacitor 10uF /53V 2 No's Capacitor 100uF/35v 1 No's Capacitor 1000uF /35V 1 No's 7805 Voltage Regulator 1 No's 7809 Voltage Regulator 1 No's AT89S52 1 No's L293D IC 1 No's 40 Pin IC Base 1 No's 16 Pin IC Base 1 No's Diode 1N4007 1 No's 3.3V Zener Diode 1 No's Bluetooth Device 1 No's Battery 12V (6V X 2) 1 No's 2 Pin Push Button 1 No's Crystal 11.0592Mhz 1 No's 2 Pin Male Header 2 No's

AD



33	DIY Wireless Audio Transmitter For TV solderable product.	<p>Printed Circuit Board material should be glass epoxy. High quality through hole components to be supplied. Open Gerber files of all PCB supplied to be provided. PE projects: All PE DIY kits using power semiconductor devices should have appropriate inbuilt snubber, across the power devices & heat sink wherever necessary. All signal paths need to have galvanic isolation by use of proper Opto-isolator. Gates of all power devices need to have adequate protection with required components.</p> <p>List of Material:</p> <table border="0"> <tr><td>Resistor 330R</td><td>1</td><td>No's</td></tr> <tr><td>Resistor 470R</td><td>1</td><td>No's</td></tr> <tr><td>Resistor 1.5K</td><td>1</td><td>No's</td></tr> <tr><td>Resistor 2.2K</td><td>1</td><td>No's</td></tr> <tr><td>Resistor 3.9K</td><td>1</td><td>No's</td></tr> <tr><td>Resistor 10K</td><td>1</td><td>No's</td></tr> <tr><td>Resistor 47K</td><td>1</td><td>No's</td></tr> <tr><td>Resistor 150K</td><td>1</td><td>No's</td></tr> <tr><td>Preset 47K</td><td>1</td><td>No's</td></tr> <tr><td>Capacitor 1uF/25V</td><td>2</td><td>No's</td></tr> <tr><td>Capacitor 22uF/25V</td><td>1</td><td>No's</td></tr> <tr><td>Capacitor 100uF/25V</td><td>1</td><td>No's</td></tr> <tr><td>Capacitor 0.001uF (102) Ceramic</td><td>1</td><td>No's</td></tr> <tr><td>Capacitor 68pF Ceramic</td><td>1</td><td>No's</td></tr> <tr><td>Capacitor 4.7pF Ceramic</td><td>1</td><td>No's</td></tr> <tr><td>Capacitor 33pF Ceramic</td><td>1</td><td>No's</td></tr> <tr><td>Capacitor 10pF Ceramic</td><td>1</td><td>No's</td></tr> <tr><td>TRIMMER 20pF</td><td>1</td><td>No's</td></tr> <tr><td>Inductor 25 SWG, 4-8 TURNS OF ENABLED Copper Wire ON 4mm DIA.</td><td>1</td><td>No's</td></tr> <tr><td>Transistor BC547</td><td>1</td><td>No's</td></tr> <tr><td>Transistor BF494</td><td>1</td><td>No's</td></tr> <tr><td>Diode 1N4007</td><td>1</td><td>No's</td></tr> <tr><td>Male Header 2-Pin</td><td>1</td><td>No's</td></tr> </table>	Resistor 330R	1	No's	Resistor 470R	1	No's	Resistor 1.5K	1	No's	Resistor 2.2K	1	No's	Resistor 3.9K	1	No's	Resistor 10K	1	No's	Resistor 47K	1	No's	Resistor 150K	1	No's	Preset 47K	1	No's	Capacitor 1uF/25V	2	No's	Capacitor 22uF/25V	1	No's	Capacitor 100uF/25V	1	No's	Capacitor 0.001uF (102) Ceramic	1	No's	Capacitor 68pF Ceramic	1	No's	Capacitor 4.7pF Ceramic	1	No's	Capacitor 33pF Ceramic	1	No's	Capacitor 10pF Ceramic	1	No's	TRIMMER 20pF	1	No's	Inductor 25 SWG, 4-8 TURNS OF ENABLED Copper Wire ON 4mm DIA.	1	No's	Transistor BC547	1	No's	Transistor BF494	1	No's	Diode 1N4007	1	No's	Male Header 2-Pin	1	No's
Resistor 330R	1	No's																																																																					
Resistor 470R	1	No's																																																																					
Resistor 1.5K	1	No's																																																																					
Resistor 2.2K	1	No's																																																																					
Resistor 3.9K	1	No's																																																																					
Resistor 10K	1	No's																																																																					
Resistor 47K	1	No's																																																																					
Resistor 150K	1	No's																																																																					
Preset 47K	1	No's																																																																					
Capacitor 1uF/25V	2	No's																																																																					
Capacitor 22uF/25V	1	No's																																																																					
Capacitor 100uF/25V	1	No's																																																																					
Capacitor 0.001uF (102) Ceramic	1	No's																																																																					
Capacitor 68pF Ceramic	1	No's																																																																					
Capacitor 4.7pF Ceramic	1	No's																																																																					
Capacitor 33pF Ceramic	1	No's																																																																					
Capacitor 10pF Ceramic	1	No's																																																																					
TRIMMER 20pF	1	No's																																																																					
Inductor 25 SWG, 4-8 TURNS OF ENABLED Copper Wire ON 4mm DIA.	1	No's																																																																					
Transistor BC547	1	No's																																																																					
Transistor BF494	1	No's																																																																					
Diode 1N4007	1	No's																																																																					
Male Header 2-Pin	1	No's																																																																					
34	Trainer Kit for Wireless Audio Transmitter For TV For simple terminal and functional understanding of the challenge.	<p>Printed Circuit Board material should be glass epoxy. High quality through hole components to be supplied. Open Gerber files of all PCB supplied to be provided. PE projects: All PE DIY kits using power semiconductor devices should have appropriate inbuilt snubber, across the power devices & heat sink wherever necessary. All signal paths need to have galvanic isolation by use of proper Opto-isolator. Gates of all power devices need to have adequate protection with required components.</p> <p>List of Material:</p> <table border="0"> <tr><td>Resistor 330R</td><td>1</td><td>No's</td></tr> <tr><td>Resistor 470R</td><td>1</td><td>No's</td></tr> <tr><td>Resistor 1.5K</td><td>1</td><td>No's</td></tr> <tr><td>Resistor 2.2K</td><td>1</td><td>No's</td></tr> <tr><td>Resistor 3.9K</td><td>1</td><td>No's</td></tr> <tr><td>Resistor 10K</td><td>1</td><td>No's</td></tr> <tr><td>Resistor 47K</td><td>1</td><td>No's</td></tr> <tr><td>Resistor 150K</td><td>1</td><td>No's</td></tr> <tr><td>Preset 47K</td><td>1</td><td>No's</td></tr> <tr><td>Capacitor 1uF/25V</td><td>2</td><td>No's</td></tr> <tr><td>Capacitor 22uF/25V</td><td>1</td><td>No's</td></tr> <tr><td>Capacitor 100uF/25V</td><td>1</td><td>No's</td></tr> <tr><td>Capacitor 0.001uF (102) Ceramic</td><td>1</td><td>No's</td></tr> <tr><td>Capacitor 68pF Ceramic</td><td>1</td><td>No's</td></tr> <tr><td>Capacitor 4.7pF Ceramic</td><td>1</td><td>No's</td></tr> <tr><td>Capacitor 33pF Ceramic</td><td>1</td><td>No's</td></tr> <tr><td>Capacitor 10pF Ceramic</td><td>1</td><td>No's</td></tr> <tr><td>TRIMMER 20pF</td><td>1</td><td>No's</td></tr> <tr><td>Inductor 25 SWG, 4-8 turns of enabled Copper Wire on 4mm DIA.</td><td>1</td><td>No's</td></tr> <tr><td>Transistor BC547</td><td>1</td><td>No's</td></tr> <tr><td>Transistor BF494</td><td>1</td><td>No's</td></tr> <tr><td>Diode 1N4007</td><td>1</td><td>No's</td></tr> <tr><td>Male Header 2-Pin</td><td>1</td><td>No's</td></tr> </table>	Resistor 330R	1	No's	Resistor 470R	1	No's	Resistor 1.5K	1	No's	Resistor 2.2K	1	No's	Resistor 3.9K	1	No's	Resistor 10K	1	No's	Resistor 47K	1	No's	Resistor 150K	1	No's	Preset 47K	1	No's	Capacitor 1uF/25V	2	No's	Capacitor 22uF/25V	1	No's	Capacitor 100uF/25V	1	No's	Capacitor 0.001uF (102) Ceramic	1	No's	Capacitor 68pF Ceramic	1	No's	Capacitor 4.7pF Ceramic	1	No's	Capacitor 33pF Ceramic	1	No's	Capacitor 10pF Ceramic	1	No's	TRIMMER 20pF	1	No's	Inductor 25 SWG, 4-8 turns of enabled Copper Wire on 4mm DIA.	1	No's	Transistor BC547	1	No's	Transistor BF494	1	No's	Diode 1N4007	1	No's	Male Header 2-Pin	1	No's
Resistor 330R	1	No's																																																																					
Resistor 470R	1	No's																																																																					
Resistor 1.5K	1	No's																																																																					
Resistor 2.2K	1	No's																																																																					
Resistor 3.9K	1	No's																																																																					
Resistor 10K	1	No's																																																																					
Resistor 47K	1	No's																																																																					
Resistor 150K	1	No's																																																																					
Preset 47K	1	No's																																																																					
Capacitor 1uF/25V	2	No's																																																																					
Capacitor 22uF/25V	1	No's																																																																					
Capacitor 100uF/25V	1	No's																																																																					
Capacitor 0.001uF (102) Ceramic	1	No's																																																																					
Capacitor 68pF Ceramic	1	No's																																																																					
Capacitor 4.7pF Ceramic	1	No's																																																																					
Capacitor 33pF Ceramic	1	No's																																																																					
Capacitor 10pF Ceramic	1	No's																																																																					
TRIMMER 20pF	1	No's																																																																					
Inductor 25 SWG, 4-8 turns of enabled Copper Wire on 4mm DIA.	1	No's																																																																					
Transistor BC547	1	No's																																																																					
Transistor BF494	1	No's																																																																					
Diode 1N4007	1	No's																																																																					
Male Header 2-Pin	1	No's																																																																					

AD



35	DIY Wireless Power Transfer solderable product.	<p>Printed Circuit Board material should be glass epoxy. High quality through hole components to be supplied. Open Gerber files of all PCB supplied to be provided. PE projects: All PE DIY kits using power semiconductor devices should have appropriate inbuilt snubber, across the power devices & heat sink wherever necessary. All signal paths need to have galvanic isolation by use of proper Opto-isolator. Gates of all power devices need to have adequate protection with required components.</p> <p>List of Material: Primary Resistor 150R 1 No's Resistor 330R 1 No's Resistor 1K 3 No's Resistor 3.3K 2 No's Capacitor 1000uF/35V 1 No's Capacitor 10uF/35V 1 No's Capacitor 0.1uF(ceramic)104 1 No's Capacitor 0.1uF/400V Polyester 2 No's Capacitor 0.01uF(ceramic)103 2 No's Diode 1N4007 4 No's Diode 1N4148 1 No's Red LED 1 No's Yellow LED 1 No's 555 Timer IC 1 No's 7805 Voltage Regulator 1 No's 8 Pin IC Base 1 No's MOSFET IRFZ44 1 No's Heat Sink For MOSFET 1 No's Screw Nut For Heat Sink 1 No's Transistor BC547 1 No's PCB Connector 2-Pin 1 No's Male Reliment 2-Pin 1 No's</p>
36	Trainer Kit for Wireless Power Transfer For simple technical and functional understanding of the challenge.	<p>Printed Circuit Board material should be glass epoxy. High quality through hole components to be supplied. Open Gerber files of all PCB supplied to be provided. PE projects: All PE DIY kits using power semiconductor devices should have appropriate inbuilt snubber, across the power devices & heat sink wherever necessary. All signal paths need to have galvanic isolation by use of proper Opto-isolator. Gates of all power devices need to have adequate protection with required components.</p> <p>List of Material: Primary Resistor 150R 1 No's Resistor 330R 1 No's Resistor 1K 3 No's Resistor 3.3K 2 No's Capacitor 1000uF/35V 1 No's Capacitor 10uF/35V 1 No's Capacitor 0.1uF(ceramic)104 1 No's Capacitor 0.1uF/400V Polyester 2 No's Capacitor 0.01uF(ceramic)103 2 No's Diode 1N4007 4 No's Diode 1N4148 1 No's Red LED 1 No's Yellow LED 1 No's 555 Timer IC 1 No's 7805 Voltage Regulator 1 No's 8 Pin IC Base 1 No's MOSFET IRFZ44 1 No's Heat Sink For MOSFET 1 No's Screw Nut For Heat Sink 1 No's Transistor BC547 1 No's PCB Connector 2-Pin 1 No's Male Reliment 2-Pin 1 No's</p>

BP



37	<p>Trainer Kit for Solar Power Charge Controller For simple technical and functional understanding of the challenge.</p>	<p>Printed Circuit Board material should be glass epoxy. High quality through-hole components to be supplied Open Gerber files of all PCB supplied to be provided PE projects: All PE DIY kits using power semiconductor devices should have appropriate inbuilt snubber, across the power devices & heat sink wherever necessary. All signal paths need to have galvanic isolation by use of proper Opto-isolator. Gates of all power devices need to have adequate protection with required components.</p> <p>List of Material:</p> <table border="0"> <tr><td>Resistor 1K</td><td>3</td><td>No's</td></tr> <tr><td>Resistor 2K</td><td>1</td><td>No's</td></tr> <tr><td>Preced 5K</td><td>3</td><td>No's</td></tr> <tr><td>Resistor 18K</td><td>1</td><td>No's</td></tr> <tr><td>Resistor 82K</td><td>2</td><td>No's</td></tr> <tr><td>Resistor 15K</td><td>1</td><td>No's</td></tr> <tr><td>Resistor 10R</td><td>1</td><td>No's</td></tr> <tr><td>Resistor 680K</td><td>1</td><td>No's</td></tr> <tr><td>Resistor 120K</td><td>1</td><td>No's</td></tr> <tr><td>Resistor 100K</td><td>3</td><td>No's</td></tr> <tr><td>Resistor 270K</td><td>1</td><td>No's</td></tr> <tr><td>Resistor 22K</td><td>2</td><td>No's</td></tr> <tr><td>Preset 22K</td><td>1</td><td>No's</td></tr> <tr><td>Resistor 1M</td><td>1</td><td>No's</td></tr> <tr><td>Resistor 33K</td><td>1</td><td>No's</td></tr> <tr><td>Capacitor 0.1uF (104) Ceramic</td><td>1</td><td>No's</td></tr> <tr><td>Capacitor 2.2uF/50V</td><td>1</td><td>No's</td></tr> <tr><td>Capacitor 22uF/50V</td><td>1</td><td>No's</td></tr> <tr><td>LM324 IC</td><td>1</td><td>No's</td></tr> <tr><td>14Pin IC Base</td><td>1</td><td>No's</td></tr> <tr><td>Diode 1N4007</td><td>3</td><td>No's</td></tr> <tr><td>Diode 1N4148</td><td>8</td><td>No's</td></tr> <tr><td>Red LED</td><td>1</td><td>No's</td></tr> </table>	Resistor 1K	3	No's	Resistor 2K	1	No's	Preced 5K	3	No's	Resistor 18K	1	No's	Resistor 82K	2	No's	Resistor 15K	1	No's	Resistor 10R	1	No's	Resistor 680K	1	No's	Resistor 120K	1	No's	Resistor 100K	3	No's	Resistor 270K	1	No's	Resistor 22K	2	No's	Preset 22K	1	No's	Resistor 1M	1	No's	Resistor 33K	1	No's	Capacitor 0.1uF (104) Ceramic	1	No's	Capacitor 2.2uF/50V	1	No's	Capacitor 22uF/50V	1	No's	LM324 IC	1	No's	14Pin IC Base	1	No's	Diode 1N4007	3	No's	Diode 1N4148	8	No's	Red LED	1	No's
Resistor 1K	3	No's																																																																					
Resistor 2K	1	No's																																																																					
Preced 5K	3	No's																																																																					
Resistor 18K	1	No's																																																																					
Resistor 82K	2	No's																																																																					
Resistor 15K	1	No's																																																																					
Resistor 10R	1	No's																																																																					
Resistor 680K	1	No's																																																																					
Resistor 120K	1	No's																																																																					
Resistor 100K	3	No's																																																																					
Resistor 270K	1	No's																																																																					
Resistor 22K	2	No's																																																																					
Preset 22K	1	No's																																																																					
Resistor 1M	1	No's																																																																					
Resistor 33K	1	No's																																																																					
Capacitor 0.1uF (104) Ceramic	1	No's																																																																					
Capacitor 2.2uF/50V	1	No's																																																																					
Capacitor 22uF/50V	1	No's																																																																					
LM324 IC	1	No's																																																																					
14Pin IC Base	1	No's																																																																					
Diode 1N4007	3	No's																																																																					
Diode 1N4148	8	No's																																																																					
Red LED	1	No's																																																																					
38	<p>Microcontroller/Arduino based Sun Tracking Solar Panel with or without RTC(Real Time Clock) Stepper Motor Control using Ldr using ULN2003 IC enabling multiple guided and open innovations using reusable breakout boards.</p>	<p>Hardware Technical Specifications:</p> <p>Breakout Boards need to be Modular, open ended, reusable stand alone boards with a set of connectors for interconnecting them with jumper wires to many other boards including motherboards like microcontroller and Arduino</p> <p>Material: Double sided PTH glass epoxy PCB.</p> <p>Connectivity: Multiple number of header/ relement pins for input, output & power supply. All mains voltage terminals to be screw connector only.</p> <p>Power Indication: Every board to have power on indication LED to ensure DC power availability while connected properly.</p> <p>Components: Breakout boards to be mounted with high quality throughhole type wherever available with exact value printed on PCB to facilitate easy replacement in case of need.</p> <p>No component is on the back side of PCB excepting robotic chassis</p> <p>Mounting: Every board to have desired number of mounting holes for ease of fixing on a base board.</p> <p>Sensor Boards: All sensor boards to maintain uniform male and female pin connectivity arrangement on a 3 line bus concept i.e '+ve', '-ve' in sides and output/input at the center for connecting any number of boards in cascaded manner.</p> <p>Beginners boards: Each discrete component to be available duly mounted on micro PCBs with breadboard compatible male pins for easy reuse with desired items such as resistors, capacitors, switches, transistors to play around basic circuits etc.</p> <p>Power Electronics Boards: All PE boards using power semiconductor devices to have appropriate inbuilt snubber, across the power devices & heat sink wherever necessary. All signal path to have galvanic isolation by use of proper opto-isolator. Gates of all power devices have adequate protection with required components.</p> <p>Robotics Boards: The robotic board to have all the electro- mechanical items like motors and clamps to be mounted on the same PCB accommodating the control electronics preferably in SMD.</p> <p>IOT boards: All boards required for IOT applications to have provision for network connectivity arrangement to Wi-Fi, RF, RS232 and sensors.</p> <p>Controller Board: Each type of controller board to have all of their I/O port pins in open ended form together with standard components for independent use.</p> <p>Technical Manual Specification: Complete circuit schematic of breakout board and its full explanation</p>																																																																					



39	<p>Moisture and Rain Monitoring of several analog parameters by ADC interfaced programmed microcontroller/Arduino using communication link GSM network band and IoT over the cloud using GSM and IoT enabling multiple guided and open innovations using reusable breakout boards.</p>	<p>Hardware Technical Specifications: Breakout Boards need to be Modular, open ended, reusable stand alone boards with a set of connectors for interconnecting them with jumper wires to many other boards including motherboards like microcontroller and Arduino Material: Double sided PTH glass epoxy PCB. Connectivity: Multiple number of header/ releament pins for input, output & power supply. All mains voltage terminals to be screw connector only. Power Indication: Every board to have power on indication LED to ensure DC power availability while connected properly. Components: Breakout boards to be mounted with high quality throughhole type wherever available with exact value printed on PCB to facilitate easy replacement in case of need. No component is on the back side of PCB excepting robotic chassis Mounting: Every board to have desired number of mounting holes for ease of fixing on a base board. Sensor Boards: All sensor boards to maintain uniform male and female pin connectivity arrangement on a 3 line bus concept i.e. '+ve', '-ve' in sides and output/input at the center for connecting any number of boards in cascaded manner. Beginners boards: Each discrete component to be available duly mounted on micro PCBs with breadboard compatible male pins for easy reuse with desired items such as resistors, capacitors, switches, transistors to play around basic circuits etc. Power Electronics Boards: All PE boards using power semiconductor devices to have appropriate inbuilt snubber, across the power devices & heat sink wherever necessary. All signal path to have galvanic isolation by use of proper opto-isolator. Gates of all power devices have adequate protection with required components. Robotics Boards: The robotic board to have all the electro- mechanical items like motors and clamps to be mounted on the same PCB accommodating the control electronics preferably in SMD. IOT boards: All boards required for IOT applications to have provision for network connectivity arrangement to Wi-Fi, RF, RS232 and sensors. Controller Board: Each type of controller board to have all of their I/O port pins in open ended form together with standard components for independent use.</p> <p>Technical Manual Specification: Complete circuit schematic of breakout board and its full explanation</p>
40	<p>IR sensor based Line Following / Wall Following / Obstacle Avoidance/ Accident Avoidance in Vehicle Robot using without and with Microcontroller/Arduino enabling multiple guided and open innovations using reusable breakout boards.</p>	<p>Hardware Technical Specifications: Breakout Boards need to be Modular, open ended, reusable stand alone boards with a set of connectors for interconnecting them with jumper wires to many other boards including motherboards like microcontroller and Arduino Material: Double sided PTH glass epoxy PCB. Connectivity: Multiple number of header/ releament pins for input, output & power supply. All mains voltage terminals to be screw connector only. Power Indication: Every board to have power on indication LED to ensure DC power availability while connected properly. Components: Breakout boards to be mounted with high quality throughhole type wherever available with exact value printed on PCB to facilitate easy replacement in case of need. No component is on the back side of PCB excepting robotic chassis Mounting: Every board to have desired number of mounting holes for ease of fixing on a base board. Sensor Boards: All sensor boards to maintain uniform male and female pin connectivity arrangement on a 3 line bus concept i.e. '+ve', '-ve' in sides and output/input at the center for connecting any number of boards in cascaded manner. Beginners boards: Each discrete component to be available duly mounted on micro PCBs with breadboard compatible male pins for easy reuse with desired items such as resistors, capacitors, switches, transistors to play around basic circuits etc. Power Electronics Boards: All PE boards using power semiconductor devices to have appropriate inbuilt snubber, across the power devices & heat sink wherever necessary. All signal path to have galvanic isolation by use of proper opto-isolator. Gates of all power devices have adequate protection with required components. Robotics Boards: The robotic board to have all the electro- mechanical items like motors and clamps to be mounted on the same PCB accommodating the control electronics preferably in SMD. IOT boards: All boards required for IOT applications to have provision for network connectivity arrangement to Wi-Fi, RF, RS232 and sensors. Controller Board: Each type of controller board to have all of their I/O port pins in open ended form together with standard components for independent use.</p> <p>Technical Manual Specification: Complete circuit schematic of breakout board and its full explanation</p>

41	<p>Microcontroller/Arduino based War Field Spying Robot with Night Vision Wireless Camera using communication links over RF/Bluetooth/DIMB/IV Remote enabling multiple guided and open innovations using reusable breakout boards.</p>	<p>Hardware Technical Specifications: Breakout Boards need to be Modular, open ended, reusable stand alone boards with a set of connectors for interconnecting them with jumper wires to many other boards including motherboards like microcontroller and Arduino Material: Double sided PTH glass epoxy PCB. Connectivity: Multiple number of header/ relement pins for input, output & power supply. All mains voltage terminals to be screw connector only. Power Indication: Every board to have power on indication LED to ensure DC power availability while connected properly. Components: Breakout boards to be mounted with high quality throughhole type wherever available with exact value printed on PCB to facilitate easy replacement in case of need. No component is on the back side of PCB excepting robotic chassis. Mounting: Every board to have desired number of mounting holes for ease of fixing on a base board. Sensor Boards: All sensor boards to maintain uniform male and female pin connectivity arrangement on a 3 line bus concept in '+ve', '-ve' in sides and output/input at the center for connecting any number of boards in cascaded manner. Beginners boards: Each discrete component to be available duly mounted on micro PCBs with breadboard compatible male pins for easy reuse with desired items such as resistors, capacitors, switches, transistors to play around basic circuits etc. Power Electronics Boards: All PE boards using power semiconductor devices to have appropriate inbuilt snubber, across the power devices & heat sink wherever necessary. All signal path to have galvanic isolation by use of proper opto-isolator. Gates of all power devices have adequate protection with required components. Robotics Boards: The robotic board to have all the electro- mechanical items like motors and clamps to be mounted on the same PCB accommodating the control electronics preferably in SMD. IOT boards: All boards required for IOT applications to have provision for network connectivity arrangement to Wi-Fi, RF, RS232 and sensors. Controller Board: Each type of controller board to have all of their I/O port pins in open ended form together with standard components for independent use.</p> <p>Technical Manual Specification: Complete circuit schematic of breakout board and its full explanation</p>
42	<p>Microcontroller/Arduino based Optimum Energy Management System /Object Visitor Counter Display / Overload Alarm Warning System by zero voltage triggered through opto isolators SCR/TRIAC/Relay enabling multiple guided and open innovations using reusable breakout boards.</p>	<p>Hardware Technical Specifications: Breakout Boards need to be Modular, open ended, reusable stand alone boards with a set of connectors for interconnecting them with jumper wires to many other boards including motherboards like microcontroller and Arduino Material: Double sided PTH glass epoxy PCB. Connectivity: Multiple number of header/ relement pins for input, output & power supply. All mains voltage terminals to be screw connector only. Power Indication: Every board to have power on indication LED to ensure DC power availability while connected properly. Components: Breakout boards to be mounted with high quality throughhole type wherever available with exact value printed on PCB to facilitate easy replacement in case of need. No component is on the back side of PCB excepting robotic chassis. Mounting: Every board to have desired number of mounting holes for ease of fixing on a base board. Sensor Boards: All sensor boards to maintain uniform male and female pin connectivity arrangement on a 3 line bus concept in '+ve', '-ve' in sides and output/input at the center for connecting any number of boards in cascaded manner. Beginners boards: Each discrete component to be available duly mounted on micro PCBs with breadboard compatible male pins for easy reuse with desired items such as resistors, capacitors, switches, transistors to play around basic circuits etc. Power Electronics Boards: All PE boards using power semiconductor devices to have appropriate inbuilt snubber, across the power devices & heat sink wherever necessary. All signal path to have galvanic isolation by use of proper opto-isolator. Gates of all power devices have adequate protection with required components. Robotics Boards: The robotic board to have all the electro- mechanical items like motors and clamps to be mounted on the same PCB accommodating the control electronics preferably in SMD. IOT boards: All boards required for IOT applications to have provision for network connectivity arrangement to Wi-Fi, RF, RS232 and sensors. Controller Board: Each type of controller board to have all of their I/O port pins in open ended form together with standard components for independent use.</p> <p>Technical Manual Specification: Complete circuit schematic of breakout board and its full explanation</p>

43	<p>Arduino/Microcontroller based Ultrasonic Sensor for distance measurement/Stick for blind people/garage door opener/object detection liquid level control/cellar parking detection/Reverse parking assistant enabling multiple guided and open innovations using reusable breakout boards.</p>	<p>Hardware Technical Specifications: Breakout Boards need to be Modular, open ended, reusable stand alone boards with a set of connectors for interconnecting them with jumper wires to many other boards including motherboards like microcontroller and Arduino Material: Double sided PTH glass epoxy PCB. Connectivity: Multiple number of header/element pins for input, output & power supply. All mains voltage terminals to be screw connector only. Power Indication: Every board to have power on indication LED to ensure DC power availability while connected properly. Components: Breakout boards to be mounted with high quality throughhole type wherever available with exact value printed on PCB to facilitate easy replacement in case of need. No component is on the back side of PCB excepting robotic chassis. Mounting: Every board to have desired number of mounting holes for ease of fixing on a base board. Sensor Boards: All sensor boards to maintain uniform male and female pin connectivity arrangement on a 3 line bus concept i.e. '+ve', '-ve' in sides and output/input at the center for connecting any number of boards in cascaded manner. Beginners boards: Each discrete component to be available duly mounted on micro PCBs with breadboard compatible male pins for easy reuse with desired items such as resistors, capacitors, switches, transistors to play around basic circuits etc. Power Electronics Boards: All PE boards using power semiconductor devices to have appropriate inbuilt snubber, across the power devices & heat sink wherever necessary. All signal path to have galvanic isolation by use of proper opto-isolator. Gates of all power devices have adequate protection with required components. Robotics Boards: The robotic board to have all the electro- mechanical items like motors and clamps to be mounted on the same PCB accommodating the control electronics preferably in SMD. IOT boards: All boards required for IOT applications to have provision for network connectivity arrangement to Wi-Fi, RF, RS232 and sensors. Controller Board: Each type of controller board to have all of their I/O port pins in open ended form together with standard components for independent use.</p> <p>Technical Manual Specification: Complete circuit schematic of breakout board and its full explanation</p>
44	<p>Microcontroller/Arduino based Remote Controlled Robotic Operation with Robotic Arm control using communication link RF/Bleutooth/DTMF/TV Remote/PC/Voice and Auto Metro Train to Shuttle Between Stations enabling multiple guided and open innovations using reusable breakout boards.</p>	<p>Hardware Technical Specifications: Breakout Boards need to be Modular, open ended, reusable stand alone boards with a set of connectors for interconnecting them with jumper wires in many other boards including motherboards like microcontroller and Arduino Material: Double sided PTH glass epoxy PCB. Connectivity: Multiple number of header/element pins for input, output & power supply. All mains voltage terminals to be screw connector only. Power Indication: Every board to have power on indication LED to ensure DC power availability while connected properly. Components: Breakout boards to be mounted with high quality throughhole type wherever available with exact value printed on PCB to facilitate easy replacement in case of need. No component is on the back side of PCB excepting robotic chassis. Mounting: Every board to have desired number of mounting holes for ease of fixing on a base board. Sensor Boards: All sensor boards to maintain uniform male and female pin connectivity arrangement on a 3 line bus concept i.e. '+ve', '-ve' in sides and output/input at the center for connecting any number of boards in cascaded manner. Beginners boards: Each discrete component to be available duly mounted on micro PCBs with breadboard compatible male pins for easy reuse with desired items such as resistors, capacitors, switches, transistors to play around basic circuits etc. Power Electronics Boards: All PE boards using power semiconductor devices to have appropriate inbuilt snubber, across the power devices & heat sink wherever necessary. All signal path to have galvanic isolation by use of proper opto-isolator. Gates of all power devices have adequate protection with required components. Robotics Boards: The robotic board to have all the electro- mechanical items like motors and clamps to be mounted on the same PCB accommodating the control electronics preferably in SMD. IOT boards: All boards required for IOT applications to have provision for network connectivity arrangement to Wi-Fi, RF, RS232 and sensors. Controller Board: Each type of controller board to have all of their I/O port pins in open ended form together with standard components for independent use.</p> <p>Technical Manual Specification: Complete circuit schematic of breakout board and its full explanation</p>

45	<p>Microcontroller/Arduino based PWM controlled speed control of DC Motor over communication links in GSM/RF/Bluetooth/DTMF/PC/TX Remote Push Button besides watching the parameters on built in mini DSO enabling multiple guided and open innovations using reusable breakout boards.</p>	<p>Hardware Technical Specifications: Breakout Boards need to be Modular, open ended, reusable stand alone boards with a set of connectors for interconnecting them with jumper wires to many other boards including motherboards like microcontroller and Arduino Material: Double sided PTH glass epoxy PCB. Connectivity: Multiple number of header/ relement pins for input, output & power supply. All mains voltage terminals to be screw connector only Power Indication: Every board to have power on indication LED to ensure DC power availability while connected properly. Components: Breakout boards to be mounted with high quality throughhole type wherever available with exact value printed on PCB to facilitate easy replacement in case of need. No component is on the back side of PCB excepting robotic chassis. Mounting: Every board to have desired number of mounting holes for ease of fixing on a base board. Sensor Boards: All sensor boards to maintain uniform male and female pin connectivity arrangement on a 3 line bus concept ie '+ve', '-ve' in sides and output/input at the center for connecting any number of boards in cascaded manner. Beginners boards: Each discrete component to be available duly mounted on micro PCBs with breadboard compatible male pins for easy reuse with desired items such as resistors, capacitors, switches, transistors to play around basic circuits etc. Power Electronics Boards: All PE boards using power semiconductor devices to have appropriate inbuilt snubber, across the power devices & heat sink wherever necessary. All signal path to have galvanic isolation by use of proper opto-isolator. Gates of all power devices have adequate protection with required components. Robotix Boards: The robotic board to have all the electro- mechanical items like motors and clamps to be mounted on the same PCB accommodating the control electronics preferably in SMD. IOT boards: All boards required for IOT applications to have provision for network connectivity arrangement to Wi-Fi, RF, RS232 and sensors. Controller Board: Each type of controller board to have all of their I/O port pins in open ended form together with standard components for independent use.</p> <p>Technical Manual Specification: Complete circuit schematic of breakout board and its full explanation</p>
46	<p>Digital sensor on I2C link to programmed microcontroller/Arduino for Temperature Monitoring using local display on 7 Segments/LCD and communicating over GSM network (RF/PC/L4GHz) and IoT over the cloud for remote body temperature management at the doctors place wirelessly enabling multiple guided and open innovations using reusable breakout boards.</p>	<p>Hardware Technical Specifications: Breakout Boards need to be Modular, open ended, reusable stand alone boards with a set of connectors for interconnecting them with jumper wires to many other boards including motherboards like microcontroller and Arduino Material: Double sided PTH glass epoxy PCB. Connectivity: Multiple number of header/ relement pins for input, output & power supply. All mains voltage terminals to be screw connector only. Power Indication: Every board to have power on indication LED to ensure DC power availability while connected properly. Components: Breakout boards to be mounted with high quality throughhole type wherever available with exact value printed on PCB to facilitate easy replacement in case of need. No component is on the back side of PCB excepting robotic chassis. Mounting: Every board to have desired number of mounting holes for ease of fixing on a base board. Sensor Boards: All sensor boards to maintain uniform male and female pin connectivity arrangement on a 3 line bus concept ie '+ve', '-ve' in sides and output/input at the center for connecting any number of boards in cascaded manner. Beginners boards: Each discrete component to be available duly mounted on micro PCBs with breadboard compatible male pins for easy reuse with desired items such as resistors, capacitors, switches, transistors to play around basic circuits etc. Power Electronics Boards: All PE boards using power semiconductor devices to have appropriate inbuilt snubber, across the power devices & heat sink wherever necessary. All signal path to have galvanic isolation by use of proper opto-isolator. Gates of all power devices have adequate protection with required components. Robotics Boards: The robotic board to have all the electro- mechanical items like motors and clamps to be mounted on the same PCB accommodating the control electronics preferably in SMD. IOT boards: All boards required for IOT applications to have provision for network connectivity arrangement to Wi-Fi, RF, RS232 and sensors Controller Board: Each type of controller board to have all of their I/O port pins in open ended form together with standard components for independent use.</p> <p>Technical Manual Specification: Complete circuit schematic of breakout board and its full explanation</p>

47	<p>Microcontroller/Arduino based Time based operated Street Lights with Intensity Controlled (Automation using RTC(Real Time Clock) and I2c Protocol enabling multiple guided and open innovations using reusable breakout boards.</p>	<p>Hardware Technical Specifications: Breakout Boards need to be Modular, open ended, reusable stand alone boards with a set of connectors for interconnecting them with jumper wires to many other boards including motherboards like microcontroller and Arduino Material: Double sided PTH glass epoxy PCB. Connectivity: Multiple number of header/ relement pins for input, output & power supply. All mains voltage terminals to be screw connector only. Power Indication: Every board to have power on indication LED to ensure DC power availability while connected properly. Components: Breakout boards to be mounted with high quality throughhole type wherever available with exact value printed on PCB to facilitate easy replacement in case of need. No component is on the back side of PCB excepting robotic chassis. Mounting: Every board to have desired number of mounting holes for ease of fixing on a base board. Sensor Boards: All sensor boards to maintain uniform male and female pin connectivity arrangement on a 3 line bus concept ie '+ve', '-ve' in sides and output/input at the center for connecting any number of boards in cascaded manner. Beginners boards: Each discrete component to be available duly mounted on micro PCBs with breadboard compatible male pins for easy reuse with desired items such as resistors, capacitors, switches, transistors to play around basic circuits etc. Power Electronics Boards: All PE boards using power semiconductor devices to have appropriate inbuilt snubber, across the power devices & heat sink wherever necessary. All signal path to have galvanic isolation by use of proper opto-isolator. Gates of all power devices have adequate protection with required components. Robotics Boards: The robotic board to have all the electro- mechanical items like motors and clamps to be mounted on the same PCB accommodating the control electronics preferably in SMD. IOT boards: All boards required for IOT applications to have provision for network connectivity arrangement to Wi-Fi, RF, RS232 and sensors. Controller Board: Each type of controller board to have all of their I/O port pins in open ended form together with standard components for independent use.</p> <p>Technical Manual Specification: Complete circuit schematic of breakout board and its full explanation</p>
48	<p>Trainer Kit for Microcontroller fed ADC/Arduino interfaced dummy cable with dummy fault creation features at selected distances to cross check the accuracy of underground cable fault with local display and monitored also over the cloud in IOT management enabling multiple guided and open innovations using reusable breakout boards.</p>	<p>Hardware Technical Specifications: Breakout Boards need to be Modular, open ended, reusable stand alone boards with a set of connectors for interconnecting them with jumper wires to many other boards including motherboards like microcontroller and Arduino Material: Double sided PTH glass epoxy PCB. Connectivity: Multiple number of header/ relement pins for input, output & power supply. All mains voltage terminals to be screw connector only. Power Indication: Every board to have power on indication LED to ensure DC power availability while connected properly. Components: Breakout boards to be mounted with high quality throughhole type wherever available with exact value printed on PCB to facilitate easy replacement in case of need. No component is on the back side of PCB excepting robotic chassis. Mounting: Every board to have desired number of mounting holes for ease of fixing on a base board. Sensor Boards: All sensor boards to maintain uniform male and female pin connectivity arrangement on a 3 line bus concept ie '+ve', '-ve' in sides and output/input at the center for connecting any number of boards in cascaded manner. Beginners boards: Each discrete component to be available duly mounted on micro PCBs with breadboard compatible male pins for easy reuse with desired items such as resistors, capacitors, switches, transistors to play around basic circuits etc. Power Electronics Boards: All PE boards using power semiconductor devices to have appropriate inbuilt snubber, across the power devices & heat sink wherever necessary. All signal path to have galvanic isolation by use of proper opto-isolator. Gates of all power devices have adequate protection with required components. Robotics Boards: The robotic board to have all the electro- mechanical items like motors and clamps to be mounted on the same PCB accommodating the control electronics preferably in SMD. IOT boards: All boards required for IOT applications to have provision for network connectivity arrangement to Wi-Fi, RF, RS232 and sensors. Controller Board: Each type of controller board to have all of their I/O port pins in open ended form together with standard components for independent use.</p> <p>Technical Manual Specification: Complete circuit schematic of breakout board and its full explanation</p>

A

49	Program Burner For 8051 Controller	<p>ATMEL 89 series 8051 USB Programmer is a full featured low cost programmer for most common 8051 microcontrollers. The Programmer works on USB port and can be used with Laptops. It comes with a full featured software which allows batch programming and saves time for mass programming requirements.</p> <p>Includes USB cable, SMPS power supply and software CD.</p> <p>Programmer port & Chip auto-detection in software.</p> <p>Software supports both hex and bin files.</p> <p>Easy to use software with one click batch programming option.</p> <p>Erases, detects mcu type, programs, verify and locks chip in a single click.</p> <p>Includes on board ZIF sockets for easy insertion and removal of chip.</p> <p>Comes fully assembled and tested with all accessories, no extra accessories are required.</p>
50	Tool Kit Set	<p>1. Digital Multimeter: Max AC Current: 10A Max AC Voltage range: 1000V Max DC Voltage range: 750V Resistance Measurement: 200 Ohm-2000K Ohm range Power Supply: 9V 6F22 battery</p> <p>2. 25 Watt Iron Soldering Gun Attains full operating Temperature within a second. Maintains constant tip temperature Maximum Heat transfer efficiency</p> <p>3. Component Cutter</p> <p>4. Screw Driver Flat 353 size Screw driver</p>

W.P.

Abhyant