

# 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

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### **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)
	Electronics Design and prototyping STEM		Rajkiya Engineering	
1	Tinkering Kit	1	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 lot Based Home Automation Over The Cloud	1	Rajkiya Engineering College Banda	Yes
20	DIY lot Based Load Control Over StandalOne Wi-Fi solderable product.	1	Rajkiya Engineering College Banda	Yes
21	Trainer Kit for lot 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 Trainer Kit for Solar Energy Magazrament	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)
TEOIP-III

Anurag समन्वयक TEQIP-III

-	Annexure-I		
5.No.	Hom Name with Brief specification	Detailed Specification	
1	Electronics Design and prototyping STEM Tinkering Kit - To Build 75+ Projects with reasoble modules including basic components, seasoes, inputs, outputs, wires, connectors and breadhoard with detailed project guide and audio-visuals.	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 competible 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 include to accept 5V DC from any charger of smart cell phone.  Breadboard: One 84D 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.	
		List of Material: Power Indicator Module 10 No's Power Supply Connector Unit Module 10 No's Resistor 330R Module 30 No's Puzzer 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 Dual LED Module 10 No's Side Switch Module 10 No's Motor fen Module 10 No's Fisshing LED Module 10 No's Fisshing LED Module 10 No's LDR Sensor Module 10 No's	
2	1	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 (\$x2\$) section vertical lines for developing any electronic circuit to be wired together with jumper wires and the building blocks. Controller Board: Breadboard compatible Arduing controller board with all of their I/O port pins in open ender together with standard components for independent use.	
53		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 Arduno Nano + USB Mini Cord 10 No's Push Button Switch Module 10 No's Breadboard 10 No's Project Guide Rook 1 No's Project Guide Rook 1 No's 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 duty numbered for mounting each modules on the breadboard.	





Robotics Design and Hardware Technical Specifications: protetyping STEM Tinkering Material: Deuble sided PTH glass epoxy PCB for each module Kit - Build multiple real time Each discrete compenent duly mounted on micro PCBs forming a functional module, with breadboard Rebots and Remotes, in a one of compatible male pins for easy reuse with desired items such as resistors, capacitors, switches, transistors to its kind arrangement using play around basic circuits etc. remable modules including Each category of modules to have different color for easy identification such as input modules, output basic compenents, inputs, modules, accessories etc. aulputs, wires, connectors, Power supply module to accept 5V DC from any charger of smart cell phone. Electrical and Mechanical accessories and breadboard Breadboard: One 840 points type breadboard having 2 horizontal set of lines both at top and bottom for with detailed project guide and feeding power. Also having 64 in (5x2) section vertical lines for developing any electronic circuit to be wired audio-visuals. together with jumper wires and the building blocks. Robotics Boards. The robotic board to have all the electro- mechanical terms like motors and clamps to be mounted on the same PCB accommodating the control electronics preferably in SMD. List of Material: Transmitter Unit Module 10 No's Receiver Unit Mudule 10 Nos Diode Module 20 No's L. Clamps Module 20 No's Wheels Module 20 No's Geared Motor (6V, 60rpm) Module 20 No's Strew and Nuts Module 60 No's Matching Jumper 60 No's "As per Requirement" Jumper Wires Connector Module 50 No's Push Button Switch Module 40 No's Skde Switch Module 40 No's Reed Sensor Module 40 No's Touch Point Module 40 No's BC 547 NPN Transister Module 80 No's Dreadboard 10 No's Project Guide Book 10 No's Trainer Kit for Android Phone Printed Circuit Board material should be glass epoxy. Speech Recognition Sensed High quality through hole components to be supplied Voice Operated Notice Board Open Gerber flas of all PCR supplied to be provided. Display For simple technical PE projects: All PE DIY kits using power semiconductor devices should have appropriate inbuilt snubber, and functional understanding of across the power devices & heat sink wherever necessary. the challenge. All signal paths need to have galvaria isolation by use of proper Opto-isolator. Gates of all power devices need to have adequate protection with required components. 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 TNes Capacitor 10UF/63V Capacitor 33PF Ceramic 2 No's 7805 Voltage Regulator 1 No's AT89S52 1 No's 40 Pin Base 1 Nov Diode 1N4007 4 No's 1 No's Red-LED 3.3V Zener Diode





Bluetooth Device

Crystal 11.0592MHz

Transformer 0-12V

Female Header 16-Pin

1 No's

1 No's Screw Nut For Heat-Sink

Male Header 16-Pin (Included with LCD)

2-Pin Push Button Female Header 6-Pin

LCD 16x2

Heat Sink

1 No's

! No's

1 No's

1 No's

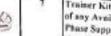
1 No's

† No's

Leatney Kit for Ardistro Broad Printed Circuit Board malertal should be glass spory 4 Quadrant DC Motor Control thigh quality through bole components to be supplied For simple technical and Open Gether fles of all PCH supplied to be provided functional understanding of the PE projects: All PE DIY kits using power semiconductor devices should have appropriate inbuilt snubber, challenge. actons the power devices A 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 List of Material: Resistor 220R No's Resistor 10K SIP Capacitar 1000uF/35V Capacitor 10uF/83V No's Capacitor 0.1uF (104) Ceramic 2 No's 7805 Voltage Regulator No'a 12800 IC 1 No's to Pin Daso Nu's Diode 1N4807 4 Not 9 LED-Red 1 No's Arduing Module 1 No's Male Header 12-Pin No's Female Retiment 1-Pin 2-Side No's Transformer 0-12V No's Power Cord No's Male Header 2 Pin No's Male Reliment, 2-Pin No's Female Retiment 2-Pin One Side No's 12V High Speed Motor No's High Speed Motor Fan No's Dedicated PCB No's Project Guide Technical Specification: Trainer Kit for Auto Intensity Printed Circuit Board material should be glass epoxy. Control of Street Lights For High quality through hole components to be supplied simple technical and functional Open Gerber files of all PCB supplied to be provided. understanding of the challenge. PE projects. At PE DIY kits using power semiconductor devices should have appropriate inbuilt snubbor. 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. List of Material: Resistor 330R 1 No's Resistor 1K 2 No's Resistor 10K 2 No's Resistor 2 2K 1 No's Resistor 10R/2W Capacitor 470Ut/35V Capacitor 10uF/63V 2 No's Capacitor 33pF Ceramic 2 No's 7805 Voltage Regulator ATDR957 1 No's 40 Pin Base 1 No's Transistor BC547 f 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 Power Card 1 No's 1 No's Heat Sink Screw Nut For Heat-Sink 1 No's Male Header 2-Pin Female Header 2-Pin (For Transformer)







Trainer Kit for Acta Selection Printed Circuit Board material should be glass epoxy. of any Aveilable Phase, in 3 High quality through hole components to be supplied. Phase Supply System For Open Gerber files of all PCB supplied to be provided. simple technical and functional PE projects: All PE DIY kits using power semiconductor devices should have appropriate inbuilt snubber. understanding of the challenge. 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. List of Material: Resistor 1K 8 Nos Resistor 330R 1 No's Resistor 2.2K 4 No's Register 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 Regulatur 4069 IC 1 No's 488110 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 Fransformer 0-12V 4 No's 3C/O Relay 4 No's Trainer Kit for Automatic Bell Printed Circuit Board material should be glass epoxy System For Institutions For High quality through hole components to be supplied. simple technical and functional Open Gerber files of all PCB supplied to be proughed understanding of the challenge. PE projects: All PE DIY kits using power semiponductor devices should have appropriate inbuilt soubber. 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. List of Material: Resistor 330R Resistor 10K 3.No/s Resistor 1K 2 No's Resistor 2.2K 5 No's 8 No's Resistor 100R Capacitor 470uF/35V 1 No's Capacitor 10uF/63V 2 No's Capacitor 33pF Caramic 2 No's Capacitor 1uF/25V 1 No's 7005 Voltage Requisitor 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 11.0592MHz Crystal Crystal 32.768KHz 1 No's Keypad 4X3 1 Nos Cating Bell 1 No's LED-Red 2 No's 12V Relay 1 No's 7-Segment Common Anode





Trainer Kit for Astematic Printed Circuit Board material should be glass epoxy. Irrigation System on Sensing Soil Meisture Content For High quality through hole components to be supplied. Open Gerber files of all PCB supplied to be provided. simple technical and functional PE projects: All PE DIY kits using power semiconductor devices should have appropriate inbuilt snubber, understanding of the challenge. 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. List of Material: Resistor 330R 1 No's Resistor 10K 3 No's Resistor 47K 1 No's Resistant K 3 Non Resistor 2.2K 1 No's Preset 10K 1 No's Capactor 1000uF /25V 1 No's Capacitor 10Ut/63V 2 No's Capacitor 33pF Ceramic 2 No's 7005 Voltage Regulator 1 Nu's AT89552 1 No's LM358 IL 1 No's 40-Pin Base 1 No's 8-Pin Base 1 No's Lipde 1N4007 b Nos Transistor BC547 1 No's Crystal 11.0592MHz 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 NUL 4-Pin Push Button 1.N0's Trainer Kit for Automatic Star | Printed Circuit Board material should be glass epoxy Delta Starter using Relays and High quality through hole components to be supplied. Adjustable Electronic Timer Open Gerber files of all PCB supplied to be provided. For Induction Mater For PE projects: All PE DIY kits using power semiconductor devices should have appropriate inbuilt snubber. simple technical and functional across the power devices & heat sink wherever necessary understanding of the challenge All signal paths need to have golvanic isolation by use of proper Opto-isolator. Gates of all power devices need to have adequate protection with required components 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 Capactor 10uF/63V 3 Nos 555 Timer 1 No's 5 Pin Base 1 No's Diode 1N4007 16 No's Diode 1N4148 1 Nore TransistorBC547 1 No's Transistor BC557 LED-Red 3 No's 1 No's LED-Green Transformer 0-12V 3 No's 12V Relay 2 No's 3C/0-Retay 2 No's 2 Pin Male Header 3 No's 2 Pin (For Transformers) Female Header 3 No.s PCB Connector 3 Pin 1 No's PCB Connectors 2-Pin 3 No's 6 No's Lamps Lamp Holders



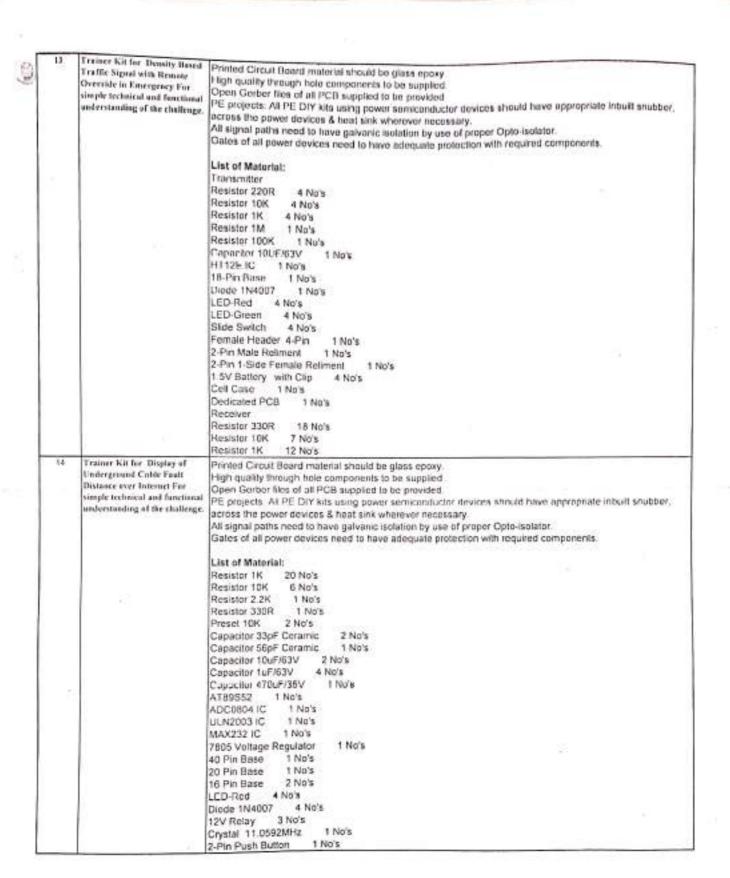
6 No's



11	Trainer hat for BLDC Motor	
	Speed Control with RPM	Printed Circuit Board material should be glass epoxy.
	Dioplay For simple technical	Frigh quality through hole components to be supplied
	and functional understanding of	Open Gerber fles of all PCB supplied to be provided
	the challenge	Open Gerber fles of all PCB supplied to be provided PE projects: All PE DIY kits using power semiconductor devices should have appropriate inbuilt shubber across the power devices is sometiment.
	are consenge.	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.
		ones of an power befores need to have adequate protection with required components.
		List of Material:
	3	Resistor 22R 1 No's
		Resistor 220R 1 No's
		Resistor 330R 2 Nos
	1	
	1	
	1	
	1	Resistor t0K 3 No's
		Preset 10K 2 No's
	1	Resistor 100H 1 Nos
		Capacitor 470uF/35V 1 No's
		Lapaceer Tuuli h.iv 2 No.s
		Capacitor 33pF Ceramic 2 No's
		AT89S52 1 No's
		MCTZE IC 1 No's
	4	40-Pin Base 1 No's
	1	06-Pin Base 1 No's
	1	
		LVV-TOTETY VENTE
	1	Diode 1N4148 1 No's
	1	IR LED 1 No's
	1	Photo Diode 1 No's
		Red-LED 1 No's
	1 :	7805 Voltage Regulator 1 No's
		Transistor BC55/ 1 No's
-		Transistor BC547 1 No's
12	Trainer Kit for Cell Phone	Printed Circuit Board material should be glass epoxy.
	Controlled Robotic Vehicle For	High quality through hole components to be supplied.
	simple technical and functional	Open Gerber files of all PCB supplied to be provided.
	understanding of the challenge.	PE projects: All PE DIY kits using power semiconductor devices should have appropriate inbuilt snubber,
		across the power devices & heaf sink wherever necessary.
		All signal paths need to have galvanic isotation by use of proper Opto-isotator.
		Gates of all power devices need to have adequate protection with required components.
		to all of the ported defined income of the adequate projection with required components.
		List of Material:
	85	List of Material: Resistor 330R 1 No's
	85	List of Material: Resistor 330R 1 No's Resistor 10K 5 No's
	85	List of Material: Resistor 330R 1 No's Resistor 10K 5 No's Resistor 330K 1 No's
		List of Material: Resistor 330R 1 No's Resistor 10K 5 No's Resistor 330K 1 No's Resistor 100K 1 No's
		List of Material: Resistor 330R 1 No's Resistor 10K 5 No's Resistor 330K 1 No's Resistor 100K 1 No's Resistor 100K 1 No's
		List of Material:  Resistor 330R
		List of Material:  Resistor 330R
	8	List of Material:  Resistor 330R
		List of Material:  Resistor 330R
		List of Material:  Resistor 330R
	35	List of Material:  Resistor 330R 1 No's  Resistor 10K 5 No's  Resistor 330K 1 No's  Resistor 100K 1 No's  Resistor 100K 1 No's  Resistor 22K 1 No's  Capacitor 470uF/35V 1 No's  Capacitor 470uF/35V 2 No's  Capacitor 33pF Ceramic 2 No's  Capacitor 33pF Ceramic 2 No's  Capacitor 0 1uF (104) Ceramic 2 No's  Capacitor 0 47uF (470uF) Polyector I No's
	35	List of Material:  Resistor 330R 1 No's  Resistor 10K 5 No's  Resistor 330K 1 No's  Resistor 100K 1 No's  Resistor 100K 1 No's  Capacitor 4700F/35V 1 No's  Capacitor 4700F/35V 2 No's  Capacitor 33pF Ceramic 2 No's  Capacitor 33pF Ceramic 2 No's  Capacitor 0 10F (104) Ceramic 2 No's  Capacitor 0 10F (104) Ceramic 2 No's  Capacitor 22pF Ceramic 2 No's
		List of Material:  Resistor 330R 1 No's  Resistor 10K 5 No's  Resistor 10DK 5 No's  Resistor 10DK 1 No's  Resistor 10DK 1 No's  Resistor 22K 1 No's  Capacitor 470uF/35V 1 No's  Capacitor 10uF/35V 2 No's  Capacitor 10uF/63V 2 No's  Capacitor 33pF Ceramic 2 No's  Capacitor 0 1uF (104) Ceramic 2 No's  Capacitor 0 1uF (104) Ceramic 2 No's  Capacitor 22pF Ceramic 2 No's  At89S52 1 No's
		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 10uF/63V 2 No's  Capacitor 33pF Ceramic 2 No's  Capacitor 0 1uF (104) Ceramic 2 No's  Capacitor 0 1uF (40nF) Polyactor 1 No's  Capacitor 22pF Ceramic 2 No's  AT69S52 1 No's  L2930 IC 1 No's
	1.7	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/53V 2 No's  Capacitor 10uF/63V 2 No's  Capacitor 33pF Ceramic 2 No's  Capacitor 0 1uF (104) Ceramic 2 No's  Capacitor 0 1uF (104) Ceramic 2 No's  Capacitor 22pF Ceramic 2 No's  Capacitor 22pF Ceramic 2 No's  AT89S52 1 No's  L2930 IC 1 No's  MT8870/HT9170 IC 1 No's
		List of Material:  Resistor 330R 1 No's  Resistor 10K 5 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 33pF Ceramic 2 No's  Capacitor 0 1uF (104) Ceramic 2 No's  Capacitor 0 10F (104) Ceramic 2 No's  Capacitor 22pF Ceramic 2 No's  AT89S52 1 No's  L2930 IC 1 No's  MT8870/HT9170 IC 1 No's  7404 IC 1 No's
		List of Material: Resistor 330R 1 No's Resistor 10K 5 No's Resistor 10K 1 No's Resistor 10K 1 No's Resistor 22K 1 No's Capacitor 470uF/35V 1 No's Capacitor 470uF/35V 2 No's Capacitor 33pF Ceramic 2 No's Capacitor 0 1uF (104) Ceramic 2 No's Capacitor 0 1uF (104) Ceramic 2 No's Capacitor 22pF Ceramic 2 No's Capacitor 22pF Ceramic 2 No's AT89S52 1 No's L2930 IC 1 No's MT8870rHT9170 IC 1 No's 7404 IC 1 No's 40-Pin Base 1 No's
		List of Material:  Resistor 330R
		List of Material: Resistor 330R 1 No's Resistor 10K 5 No's Resistor 10K 1 No's Resistor 10K 1 No's Resistor 22K 1 No's Capacitor 470uF/35V 1 No's Capacitor 470uF/35V 2 No's Capacitor 33pF Ceramic 2 No's Capacitor 0 1uF (104) Ceramic 2 No's Capacitor 0 1uF (104) Ceramic 2 No's Capacitor 22pF Ceramic 2 No's Capacitor 22pF Ceramic 2 No's AT89S52 1 No's L2930 IC 1 No's MT8870rHT9170 IC 1 No's 7404 IC 1 No's 40-Pin Base 1 No's
		List of Material:  Resistor 330R
		List of Material:  Resistor 330R
		List of Material:  Resistor 330R
		List of Material:  Resistor 330R













Trainer Kit for Electronic Suft Start For 3 Phase Induction Motor For simple technical and functional understanding of the challenge.

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.

List of Material:

Resistor 560R Resistor 1K No's Resistor 2.2K No's Resistor 3.3K No's Resistor 4.7K No's Resistor 10K No's Resistor 22K No's Resistor 27K No's Resistor 100K No's Resistor 2.2M No's Resistor 100R/2W No's Capacitor 470uF/35V Capacitor 10uF/63V No's Capacitor 2.2uF/25V

No's Capacitor 0.47uF (470nF) Polyester Capacitor 0.1uF/400V Polyester Diode 1N4007 21 No's

No's

No's

Diode 1N4148 5 No's 7812 Voltage Regulator LM339 IC No's

LM324 IC No's MOC302110 No's 14-Pin Base No's

DIY High Voltage Dr Up to Iky From Ar By Using Diode And Capacitors In Valtage Multiplier Circuit solderable product.

Printed Circuit Board material should be glass epoxy. High quality through hole components to be supplied Open Gerber fins of all PCR supplied to be provided.

PE projects: All PE DIY kits using power semiconductor devices should have appropriate inbuilt snubber, ecross 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.

### List of Material:

Resistor 1M No's Resistor 470K No's Resistor 100K No's Capacitor 100uF/400V 16 Diode 1N4007 11 No's Red LED No's PCB Connectors 2-Pin Bulb Holder No's Bulb OW No's Multimetor No's Power Cord No's Copper Wire For Load No's Dedicated PCB No's

## Project Guide Technical Specification:

Problem Definition Project Abstract Circuit diagram of the project with full explanation I ayout diagram of the project Self explained program codes Physical image together with functional explanations Soldering and Assembly procedure **Froubleshooting document** 



Trainer Kit for High Voltage Printed Circuit Board material should be glass epoxy De Up to lav From Ac By Using Diode And Capacitors In High quality through hole components to be supplied. Open Gerber files of all PCB supplied to be provided. Voltage Multiplier Circuit For simple rechnical and functional PE projects: All PE Dry kits using power semiconductor devices should have appropriate inbuilt snubber. inderstanding of the challenge. 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. List of Material: Resistor 1M 10 No's Resistor 470K No's Resistor 100K No's Capacitor 100uF/400V 16 No's Diode 1N4007 No's Red LED No's PCB Connectors 2-Pin No's **Bulb Holder** No's Bulb DW No's Multimeter No's Power Cord No's Copper Wire For Load No's Dedicated PCB No's 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 Traubleshooting document Trainer Kit for Home Printed Circuit Board material should be glass epoxy. Automation Under Wi-Fi High quality through hole components to be supplied Through Android Apps From Open Gerber files of all PCB supplied to be provided. Any Smart Phone For Simple PE projects: All PE DIY kits using power semiconductor devices should have appropriate inbuilt anubber, technical and functional across the power devices & heat sink wherever necessary understanding of the challenge. 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. List of Material: Resistor 100R No's Resistor 330R No's Resistor 1K No's Resistor 10K No's Resistor 10K SIP Preset 10K No's Capacitor 1000uF/35V No's Capacitor 100uff/35V No's Capacitor 10uF/63V No's Capacitor 33pF Ceramic 7805 Voltage Regulator No's LM1117 Voltage Regulator AT89S52 No's ULN2003 IC No's 40 Pin Base No's 16 Pin Base No's Diode 1N4007 No's 3.3V Zener Diode ESP8200 WIFI Module Slide Switch No's Female Header 4-Pin No's LEO-Red 8 Crystal 11.0592MHz





Trainer Kit for let Based Printed Circuit Board material should be glass epoxy. Home Automation Over The High quality through hole components to be supplied Cloud For simple technical and Open Gerber files of all PCB supplied to be provided Senctional anderstanding of the PE projects: At 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. List of Material: Resistor 330R No's Resistor 1K No's Resistor 470R No's Resistor 150R No's Resistor 100R/2W Capacitor 0.1uF/400V No's l M1117 Voltage Regulator MOC3021 IC No's 06 Pin Base No's ESP8265 No's 5V SMPS 1 Switch Power Cord No's Heat Sink No's Screw Nut For Host-Sink PCB Connector 3-Pin No's No's BT136 TRIAC Female Header 4-Pin 2 No's Dedicated PCB No's Project Guide Technical Specification: Problem Letingon Project Abstract DIV lot Based Load Control Printed Circuit Board material should be glass epoxy. Over StandalOne Wi-Fi High quality through hale components to be supplied. sulderable product. Open Gerber tiles 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. List of Material: Resistor 330R No's Resistor 1K No's Resistor 470R No's Resistor 150R No's Resistor 100R/2W Capacitor 0.1uF/400V No's LM1117 Voltage Regulator No's MOC3021 IC No's 06 Pin Base No's FSP8266 No's 5V SMPS No's Switch No's Power Cord Heat Sink No's Screw Nut For Heat-Sink No's PCB Connector 3-Pin No's BT136 TRIAC No's Female Header 4-Pin 2 No's Dedicated PCS 1 Project Gulde Technical Specification: Problem Definition Project Abstract



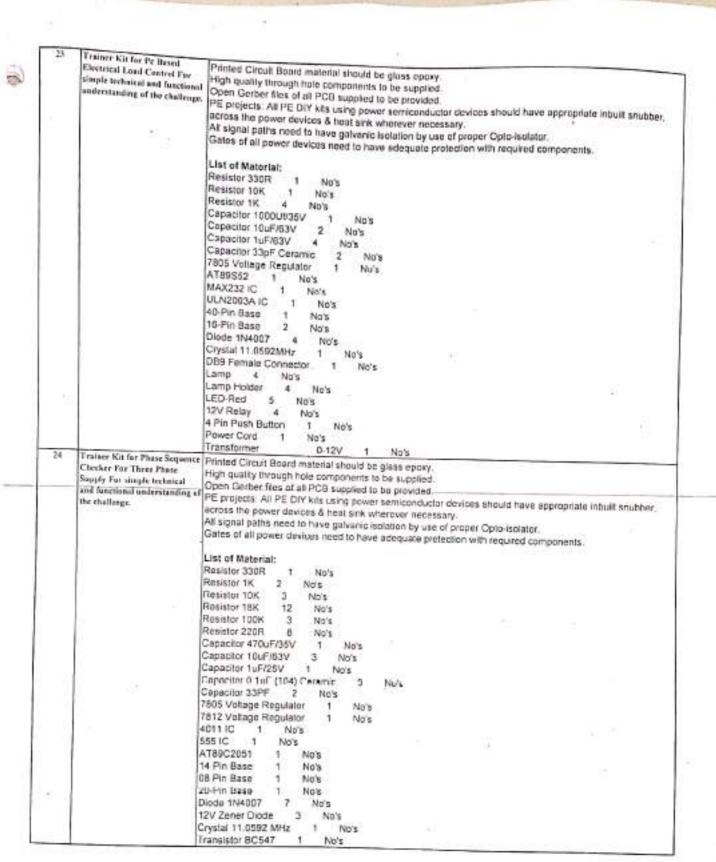




Trainer Kit for Jot Based Load Control Over StandalOne Wi-Printed Circuit Board material should be glass epoxy. High quality through hole components to be supplied Fi For simple technical and Open Gerber files of all PCB supplied to be provided. functional understanding of the PE projects: All PE DIY kits using power semiconductor devices should have appropriate inbuilt snubber. challenge. 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. List of Material: Resistor 330R Nos Resistor 1K Nos Resistor 470R 1 Resistor 150R -1 No's Resistor 100R/2W Capacitor 0.1uF/400V 1 No's LM1117 Voltage Regulator Nos MOC3021 IC 1 No's 06 Pin Bace 1 No's ESP820G t No's Switch 1 No's No's Power Cord 1 No's Heat Sink -1 Nos Screw Nut For Heat-Sink PCB Connector 3-Pin 1 No's BT136 TRIAC 1 No's Female Header 4-Pin 2 Dedicated PCB 1 Project Guide Technical Specification: Problem Definition Project Abstract Framer Kit for Metal Betector Printed Circuit Board material should be glass epoxy Robotic Veticle For simple rtight quality through hole components to be supplied technical and functional Open Gerber files of all PCB supplied to be provided. understanding of the shellenge. PE projects: All PE Dirk kts using power semiconductor devices should have appropriate inbuilt snubber, across the power devices & heat sink wherever necessary All signal paths need to have galvanic solution by use of proper Opto-solutor Gates of all power devices need to have adequate protection with required components. List of Material: Transmitter Resistor 330R No's Resistor 10K 12 No's Resistor 100K Nos Resistor 1M No's Capacitor 10uFi63V 2 Capacitor 33pF Ceramic 2 AT89C2051 .1 No's 1 HT12E IC Nos 20 Pin Bara 18-Pin Base 1 Diode 1N4007 1 No's 1 No's 11 0592MHz Crystal No's LED-Red 1 No's No's 2-Pin Push Buttons 8 RF Transmitter Module (4-Pin) No's Female Header 4-Pin 1 No's Male Reliment 2-Pin 1 No's Female Retirrent 2-Pin Cine Side No's Antenna 1 No's Nos Side Switch 1 Dedicated PCB No's Connecting Wire











Trainer Kit for Rfid Based Printed Circuit Board material should be glass epoxy. Attendance System Trainer Kit High quality through hole components to be supplied for For simple technical and Open Gerber files of all PCB supplied to be provided. functional understanding of the PE projects: All PE DIY kits using power semiconductor devices should have appropriate inbuilt snubber, challenge. across the power devices & heaf 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. List of Material: Resistor 330R No's Resistor 10K No's Preset 10K Nu's Capacitor 470uF/35V No's Capacitor 10uF/63V No's Capacitor 1Unesv No's Capacitor 33pF Ceramic 7805 Voltage Regulator No's AT89S52 No's MAX237 IC No's 40-Pin Base No's 16-Pin Base No's Diode 1N4007 No's Crystal 11.0592 MHz No's LCD 18X2 No's LED-Red No's 2 Pin Push Button No's DB9 Male Connector PCB Mount DB9 Straight Cord 1 No's Adapter 9V No's Power Cord Nos Transformer 0-12V 1 No's Female Header 16-Pin No's Trainer Kit for Salar Energy Printed Circuit Board material should be glass epoxy Meanurement System For High quality through hole components to be supplied simple technical and functional Open Gerber flas of all PCB supplied to be provided understanding of the challenge. PE projects: All PE Dry kits using power seminondurtor devices should have appropriate inbuit 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. List of Material: Resistor 330R No's Resistor 1K No's Resistor 3.3K No's Resistor 5.1K. No's Resistor 20K No's Resistor 100RUSW No's Resistor 10R/10W No's Presel 10K No's Preset 100K No's Capacitor 1000uFr35V No's Capacitor 10uF/63V No's Capacitor 33pF Caramic No's Capacitor 0.1uF (104) Ceramic Capactor 22pF Ceramic No's PIC16F877A No's 40 Pin Base 7805 Voltage Regulator No's Diode 1N4007 4 No's 5.1V Zener Diodo Red LED No's LM35 Temperature Sensor No's No's 2-Pin Push Button 1 Crystal 4MHz





Prainer Kit for Street Light That Glows On Detecting Printed Circuit Board malerial should be glass epoxy High quality through hale components to be supplied Vehicle Movement Using Pic Open Gerber files of all PCB supplied to be provided. For simple sechnical and functional understanding of the PE projects: All PE DIY kits using power semiconductor devices should have appropriate inbuilt snubber, challenge. across the power devices & heat sink wherever necessary. All signal paths need to have galvanic isolation by use of proper Opto-isolator. Gales of all power devices need to have adequate protection with required components. List of Material: Resister 330R 23 No's Resistor 10K No's Resistor 1K 18 No's Preset 10K 8 No's Capacitar 470uF/35V No's Capacillur 10uF/63V 2 Capacitor 33pF Ceramic No's 7805 Voltage Regulator No's PIC15F877A No/s 40-Pin Base No's Transistor BC547 No's Diode 1N4007 No's PhotoDicde No's Crystal 4MHz LED-Red No's LED-White No's IR-LED 8 No's LED Spacers 14 Power Card No's Transformer 0-12V No's 2 Pin Push Button No's Slide Switch No's No's Trainer Kit for Three Phase Printed Circuit Board material should be glass operly. Fault Analysis with Auto Beset figh quality through hole components to be supplied On Temporary Fault And Open Gerber files of all PCD supplied to be provided. Permanent Trip Otherwise For PE projects: All PE DIY kits using power semiconductor devices should have appropriate inbuilt soubber. simple technical and functional acress the power devices & heat sink wherever necessary understanding of the challenge. 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. List of Material: Resistor 220R Nos Resistor 10K No's Resistor 1K No's Resistor 4.7K Resistor 2.2K No's Resistor 100K No's Resistor 330R No's Preset 10K No's Capacitor 1000uF/35V Capacitor 100uF/26V Capacitor 220uF/25V No's Capacitor 10uF/63V No's Capacitor 100nF (0.1uF) (104) Caramic 555 Timer IC 2 No's LM358 IC No's 7805 Voltage Regulator No's 8-PinS IC Base No's Diade 1N4007 15 - No's Transister BC547 Nos TransformerS 0-12V, 500mA No's 2 Pin Push Buttons No's Lamps 6 No's Lamp Holders





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Frainer Kit für Ultra Fast
                            Printed Circuit Board material should be glass epoxy
Acting Electronic Circuit
                            rligh quality through hale components to be supplied.
Breaker For simple technical
                            Open Gerber files of all PCB supplied to be provided.
and functional understanding of
                            PE projects: All PE DIY kills using power semiconductor devices should have appropriate inbuilt snubber,
the challenge,
                            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
                            List of Material:
                            Resistor 330R
                                                    No's
                            Resistor 150R
                                                    No's
                            Resistor 1K
                                                  No's
                            Resistor 2.2K
                                                    No's
                            Resistor 10K
                                                   No's
                            Resistor 10R/10W
                            Projet 10K
                                                 No's
                            Resistor 10K SIP
                            Capacitor 1000Ut/35V
                            Capacitor 10uF/63V
                                                          No's
                            Capacitor 33pF Caramic
                                                              No's
                            7805 Voltage Regulator
                            AT89S52
                                                No's
                            LM324 IC
                                                No's
                            MOSFET IRE744
                                                        'No's
                            40 Pin IC Base
                                                     No's
                            14 Pin IC Base
                                                     No's
                            Diode 1N4007
                                                    No's
                            LED-Red
                                               No's
                            Bulb 100W
                                                 No's
                           Bulb Holder
                                                 No's
                            4-Pin Push Button
                            Stide Switch
                                                  No's
Tesiner Kit for Voice
                            Printed Circuit Board material should be glass epory.
Controlled Home Appliances
                            High quality through hole components to be supplied.
For simple technical and
                            Open Certer files of all PCB supplied to be provided.
functional understanding of the
                           PE projects: All PE DIY kits using power semiconductor devices should have appropriate inbuilt snubber.
challenge.
                            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.
                           List of Material:
                           Resister 100R
                           Resistor 100Rr2W
                           Resistor 150R
                           Resistor 330R
                                                    No's
                           Resistor 10K
                                                   No's
                           Capacitor 1000uF/35V
                           Capacitor 10uF/63V
                           Capacitor 33pF Ceramic
                           Capacitor 0.1uF/400V Polyester
                                                              4
                                                                     No's
                           7005 Voltage Regulator
                                                            Note
                           AT89552
                                        1
                                              190's
                           MOC3063 IC
                           06 Pin IC Base
                                                    No's
                           40 Pin IC Base
                                              1
                                                    No's
                           Diode 1N4007
                                                    No's
                           Bluetooth Device
                           LED-Red
                                        5
                                              No's
                           Crystal 11.0592MHz
                                                   1
                                            0 12V
                           Translonner
                                                           · Nos
                                                 No's
                           Power Cord
                           Male Header 2-Pin
                           Female Header 2-Pin
                                                           No's
                           4-Pin 1-Side Female Reliment
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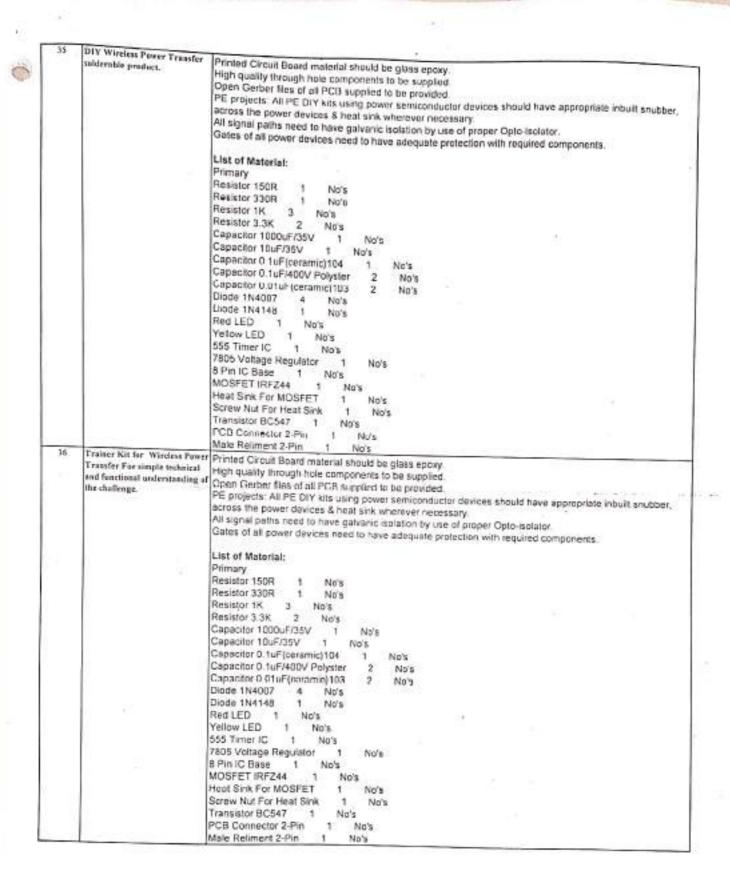
Trainer Kit for Voice Printed Circuit Board material should be glass epoxy. Controlled Robot By Cell Phos High quality through hole components to be supplied. with Android App For simple technical and functional Open Gerber files of all PCB supplied to be provided. PE projects: All PE DIY kits using power semiconductor devices should have appropriate inbuilt snubber, understanding of the challenge. 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. List of Material: Resistor 22R No's Resistor 330R No's Resistor 10K. No'e Capacitor 10uF/63V 2 Capacitor 33pF Ceramic No's Capacitor 0.1uF Ceramic AT89552 No's £2930 IC 1 No's 40-Pin IC Base 1 No's 16-Pin IC Base Nos Diode 1N4807 1 No's Bluetooth Device 1 No's Cell Case No's Pencil Cell Battery (4 X 1.5V) 2-Pin Female Reliment One Side Crystal 11.0592MHz LED-Red No's 4-Pin Push Button No's Male Header 2-Pin No's Male Reliment 2-Pin No's 1 Female Header 6-Pin Nos No's Male Header 6-Pin (Included in Bluetooth Device) Female Header 17-Pin 2 No's Trainer Kit for War Field Printed Circuit Board material should be glass epoxy Spring Robot with Night Vision High quality through hole components to be supplied. Wireless Camera By Android 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, Applications For simple technical and functional across the power devices & heat sink wherever necessary. All signal paths need to have galvanic isolation by use of proper Opto-isolator. understanding of the challenge. Gates of all power devices need to have adequate protection with required components. List of Material: Resistor 10R/2W No's Resistor 22R No's No's Resistor 330R No's Resistor 1K No's - 5 Resistor 10K Capacitor 33pF Ceramic Nos Capacitor 0. tuF Ceramic 2 No's Capacitor 10uF /63V Capacitor 100uF/35v No's Capacitar 1000uF /35V No's 7805 Voltage Regulator No's No's 7809 Voltage Regulator No's AT89S52 L293D IC No's 40 Pin IC Base Nos 16 Pin IC Base No's Diode 1N4007 No's No's 3.3V Zener Diode Nu's Riustooth Device No's 12V (6V X 2) Battery No's 2 Pin Push Button 1 No's Crystal 11.0592Mhz 1 2 Pin Male Header















Trainer Kit for Solar Power Printed Circuit Board material should be glass epoxy Charge Controller For simple High quality through hole components to be supplied sechnical and functional Open Gerber files of all PCB supplied to be provided anderstanding of the challenge. PE projects: All PE DIY kits using power semiconductor devices should have appropriate inbuilt snubber. across the power devices & heat sink whorever 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. List of Material: Resistor 1K No's Resistor 2K No's Preset 5K No's Resistor 18K No's Resistor 82K No's Resistor 15K No's Resistor 10R No's Resistor 660K No's Resistor 120K No's Resistor 100K No's Resister 270K No's Resistor 22K No's Preset 22K No's Resistor 1M No's Resistor 33K No's Capacitor 0.1uF (104) Caramio No's Capacitor 2.2uF/50V No's Capactor 22uF/50V No's LM324 IC No's 14Pin IC Base No's Dicde 1N4007 3 No's Diude 1N4148 8 Nu's Red LED No's Microcostroller/Ardsino based Hardware Technical Specifications: Sun Tracking Solar Panel with Breakout Boards need to be Modular, open ended, reusable stand alone boards with a set of connectors for or without RTC[Real Time interconnecting them with jumper wires to many other boards including motherboards like microcontroller Clocks Stepper Motor Control and Arduino using Life using ULN2003 IC Material: Double sided PTH glass epoxy PCB. making multiple guided and Connectivity: Multiple number of headest relement pins for input, output & power supply. All mains voltage epen innovations using remable terminals to be screw connector only breakout boards. Power Indication: Every board to have power on indication LED to ensure DC power availability white 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 lemale pin connectivity arrangement on a 3 line bus concept le "+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. Technical Manual Specification:





Measure and Rain Monitoring Hardware Technical Specifications: microcontroller/Ardeine asing communication link GSM network band and laT over the closel using GSM and IoT enabling multiple guided and open innovations using reusable breakout boards.

of several analog purameters by

Breakout Boards need to be Modular, open ended, reusable stand alone boards with a set of connectors for

ADC interfered connectors by interconnecting them with jumper wires to many other boards including motherboards like microcontroller and Arduing

Material: Double sided PTH glass epoxy PCB.

Connectivity: Multiple number of header/ relement pins for input, output & power supply. All mains voltage ferminals 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 Proughhole 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 PCR excepting rehetic charses

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 is "+ve", "-ve" in sides and outpublique 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 rouse 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

Robolics 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.

## Technical Manual Specification:

Complete circuit schematic of breakout board and its full explanation

IR senser haved Line Following Hardware Technical Specifications: / Wall Following / Obstacle Avoidance! Accident Avaidance

to Vehicle Robot using without and Arduno and with Microcontroller/Arduine

enabling multiple guided and breakout basels.

Breakout Boards need to be Modular, open ended, rousable stand alone boards with a set of connectors for interconnecting them with jumger wires to many other boards including motherboards like microcontroller...

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Connectivity: Multiple number of header/ relement pins for input, output & power supply. All mains voltage open innovations using remobile 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 notes 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 marner.

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.

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to Wi-Fi, RF, RS232 and sensors. Controller Doard: Each type of controller Loard to have all of their I/O purt pins in open ended form together

with standard components for independent use

Technical Manual Specification:





Microcontroller/Ardelm lavel | Hardware Technical Specifications: War Field Spying Robot with 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 Night Vision Wirrless Campra using communication links over and Arduing RE/fillartooth/DTMF/IV Malerial: Double sided PTH glass epoxy PCB. Remate roabling multiple Connectivity: Multiple number of header/ retement pins for input, output & power supply. All mains voltage gaided and open innovations terminals to be screw connector only. using reusable breakout boards. Power Indication: Every board to have power on indication LED to ensure DC power availability white connected properly. Components: Breakout boards to be incunted 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 has 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 crouits 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 galvenic adlation 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 incluis and clamps to be mounted on the same PCB accommodating the control electronics preferably in SMO. IOT boards. All boards required for IOT applications to have provision for network connectivity arrangement to VM-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. Technical Manual Specification: Complete circuit schematic of breakout board and its full explanation Microcontroller/Arduino luxed Hardware Technical Specifications: Optimum Energy Management | Breakout Boards need to be Modular, open ended, rousable stand alone boards with a set of connectors for System /Object/ Visitor interponnecting them with jumper wires to many other boards including motherboards like microcontroller Counter Display / Overload and Aiduino Alarm Warning System by zero Material: Double sided PTH glass epoxy PCB. veltage triggered through upto Connectivity: Multiple number of header/ relement pins for input, output & power supply. All mains voltage nobeties SCR/TRIAC/Relies terminals to be screw connector only conting multiple guided and Power Indication: Every board to have power on indication LED to ensure DC power availability while ipen innevations using reusable connected property breakent frounds. 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 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 nimults etc. Power Electronics Boards: All PE boards using power semiconductor devines to have appropriate inbuilt. snubber, across the power devices & heat sink wherever necessary. At 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

with standard components for independent use.

Complete circuit schematic of breakout board and its full explanation

Technical Manual Specification:



Controller Board: Each type of controller board to have all of their I/O port pins in open ended form together



Ardsins/Nicrocontroller based Hardware Technical Specifications: Ultrasonic Sensor for distance measurement/Stick for blind people/garage door spenerlobject detection liquid: level control cellar parking detection Reverse parking assistant enabling multiple guided and open innovations using reusable brenkout boards

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 Arduing

Material: Double sided PTH glass epoxy PCB.

Connectivity: Multiple number of header/ relemont 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 chaosic.

Mounting: Every board to have desired number of mounting holes for case 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 outputlingut at the center for connecting any number of boards in cascaded manner

Beginners boards: Each discrete component to the 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 smubber, 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 poard 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.

#### Technical Manual Specification:

Complete circuit schematic of breakout board and its full explanation

Microcontroller/Ardaine based Remote Controlled Robotic Operation with Robotic Arm control using communication link RF/Bluetosth/DTMF/TV Remote/PC/Voice and Auto Metro Train to Shuttle Between Stations enabling multiple guided and open innevations

using reusable breakout boards

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 matherboards like microcontroller and Arduino

Material: Double sided PTH glass epoxy PCB.

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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.

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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.

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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 SMO.

IOT boards: All boards required for IOT applications to have provision for network connectivity arrangement to Wi-Fi, RF, RS232 and sensors.

Controller Duard. Each type of controller board to have all of their I/O port plus in open ended form together with standard components for independent use.

#### Technical Manual Specification:





Microcontroller/Arduine based communication links in GSM/RE/filluctooth/DTME/PC/ TV Remote Push Betton besides watching the parameters on built in mine DSO enabling multiple guided and open innevations using reusable breakout boards.

Hardware Technical Specifications:

PWM controlled speed control

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 microcentraller and Arduina

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 property.

Components: Breakout beards 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 intipile 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 ling bus concept ie " i ve", "-ve" in sides and outputh put at the center for connecting any number of boards in cascaded manner.

Beginners boards: Each dicorete 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 input 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 Roams. 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.

Teclinical Manual Specification:

Complete circuit schematic of breakout board and its full explanation

Digital sensor on 12C link to pregrammed microcontroller/Arduine for Temperature Manituring using local display on 7 Segmont LCD and communicating over GSM network /RF/PC/2.4GHz and leT over the cloud for remote hedy temperature management at the ductors place wirelessly enabling multiple guided and spen incovations using reusable

breakout boards.

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 metherboards like misuscentralier and Arduino

Material: Double sided PTH glass epoxy PCB.

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Power Indication: Every board to have power on indication LED to ensure DC power availability white connected properly.

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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.

Technical Manual Specification:





Microcentroller/Andvine based Hardware Technical Specifications: Time based operated Street Time Clock) and 12¢ Protocol bns babing multiple geided and open innovations using reasoble breakout boonly.

Breakout Boards need to be Modular, open ended, reusable stand alone boards with a set of connectors for Lights with Intensity Controlled interconnecting them with jumper wires to many other boards including matherboards like microcontroller

Malerial Double sided PTH glass epoxy PCB.

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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.

Technical Manual Specification:

Complete circuit schematic of breakout board and its full explanation.

fed ADC/Arduino interfaced creation fratures 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 resouble

breakout boards.

Trainer Kit for Microcontroller Hardware Technical Specifications:

Breakout Boards need to be Modular, open ended, reusable stand alone boards with a set of connectors for dummy salds with dummy fault interconnecting them with jumper wires to many other boards including motherboards like microcontroller

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Technical Manual Specification:





49	Program Burner For 8051 Controller	ATMEL 89 series 8051 USB Programmer is a full figurated low cost programmer for most common 8051 microcontrollers. The Programmer works on USB port and can be used with Laptogs. It comes with a full featured software which allows batch programming and saves time for mass programming requirements. Includes USB cable, SMPS power supply and software CD. Programmer port & Chip auto-delection in software Software supports both lies and but files. Easy to use software with one click batch programming option Erases, delects most type, programs, verify and locks chip in a single click. Includes on board 21F sockess for easy intention and removal of chip.
50	Toal Kir Set	Comes fully assembled and tested with all accessories, no extra accessories are required  1. Digital Mu;timeter: Max AC Current 10A Max AC Vullage range:1000V Max DC Voltage range:750V Resistance Measurement.200 Ohm-2000K Ohm range Power Supply SV 6F27 battery  2.25 Watt Iron Soldering Gun Attains full operating Temperature within a seconds. Mointains constant tip temperature Maximum Heat transfer efficiency  3. Component Cuttor  4. Screw Driver Flat 353 size Screw driver

W-P.

Alley