

GOVT. HIGHER SECONDARY SCHOOL PATAZHI
PATAZHI, KOLLAM - 691522
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File No : T1/2023-24/01

Date : 08/06/2023

'Guidelines for 'Indicative List of Vendors' for TL equipment

1. The vendors should have a registered office in Kerala and at least 3 years of work experience in Purchase and setting of similar equipment for at least 20 Kerala Tinkering Labs (Funded by SSK). The vendors should maintain a supply chain of consumables and other items for 5 years.
2. It is mandatory for all vendors to provide installation and equipment training to the Schools (Principal/ TL-in charge/ faculty members) on handling and usage of equipment, after the delivery of the equipment, at no additional charge.
3. It is mandatory for all vendors to provide 1 year of comprehensive warranty at no additional cost.
4. Vendors should clearly indicate the timeline for delivery of packages, installation and training. The delivery time of equipments should not be more than 45 days after issuing Supply Order.
5. The vendors should indicate both itemized prices and package wise pricing and provide detailed specification and brand name of all the equipment
 - (a). It is mandatory to quote all equipment as per the specifications provided by SSK which is included in the Tinkering Lab Equipment List.
 - (b). It is mandatory to include all packages which is included in the SSK tinkering Lab Equipment List.
 - (c) It is also mandatory to provide the suggested quantity of which is specified in the SSK tinkering Lab Equipment List
6. The vendor should provide all required documents for verification by the school at the time of purchase of equipment. Authorized signatory must sign the documents.
7. The vendors should have a mechanism for proper disposal of e-waste.
8. The Vendors should ensure timely availability of all equipment and associated services to the School to avoid any delay or inconvenience to the school.
9. Schools can spend a maximum of Rs. 10,00,000/- (Rupees Ten Lakhs Only) on all the equipments listed. The total quotation for all the packages should not exceed the stipulated amount.
10. Mentoring should be provided to TL School Principal, TL assisting teachers and students for 10 sessions for free of cost
11. Preference will be given to Startup Kerala registered companies with proper prior experience in setting up and running Atal Tinkering Labs and Kerala Tinkering Labs. Vendors must submit relevant documents to prove the above.
12. GST invoice should be provided at the time of delivery.

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13. The purchaser will evaluate and compare the tender determined to be substantially responsive. To which,
 - a) are properly signed and
 - b) confirm to the terms & conditions and specifications
14. If the tender is accepted, the supplier or distributor will execute an agreement in a valid stamp paper of value Rs.200 with all the terms & conditions.
15. Tender form fee Rs. **2360.00** has to be remitted
16. An amount of Rs.**10000.00** has to be remitted as EMD.
17. The date of accepting tender is **08/06/2023**
18. The tenders will be opened on **19/06/2023**
19. Last date of receipt of tender is **17/06/2023**

Tinkering Lab

List of Materials

| Package 1 : Electronics Development, Robotics, Internet of things and Sensors | | | | | |
|---|----------------------------|---|--------------------|------------|----------|
| Category | Name | Specification | Suggested Quantity | Type | Received |
| Electronics Development | Arduino Uno or equivalent | <ul style="list-style-type: none"> • AT mega 328P-8 bit AVR family microcontroller, equivalent or better. • Operating Voltage: 5V • Digital I/O Pins:14 (of which 6 Provide PWM output) • PWM digital I/O Pins:6 • Accessories Case shell enclosure, compatible USB cable (length- 6 inch or more) | 15 | Consumable | |
| Electronics Development | Arduino Nano or equivalent | <p>AT mega 328P-8 bit AVR family microcontroller, equivalent or better.</p> <p>Operating Voltage:</p> <p>Digital I/O Pins: 14 (of which 6 Provide PWM output)</p> <p>PWM digital I/O Pins:8</p> <p>Accessories : Compatible USB cable (length- 6 inch or more)</p> | 05 | Consumable | |

| Category | Name | Specification | Suggested Quantity | Type | Received |
|-------------------------|----------------------------------|---|--------------------|--------------------------|----------|
| Electronics Development | Arduino Mega or equivalent | <ul style="list-style-type: none"> ● AT mega 2560P-8 bit AVR family microcontroller, equivalent or better. ● Operating Voltage: 5V ● Digital I/O Pins:54 (of which 6 provide PWM output) ● PWM digital I/O Pins:16 ● Accessories : Case Shell enclosure, Compatible USB cable (length- 6 inch or more) | 05 | Consumable | |
| Electronics Development | RaspberryPi3 Model B+ | <ul style="list-style-type: none"> ● RASPBERRY PI 3 MODEL B+, equivalent or better ● Accessories- Micro SD card- 32 GB, USB 3.0 cable (1 meter), HDMI to VGA-1 Meter, HDMI to VGA adapter, Case shell enclosure | 3 | Consumable | |
| Electronics Development | Breadboards & Mini Breadboard | <ul style="list-style-type: none"> ● Solderless 400 pin breadboard ● Solderless 800 pin breadboard ● Self- Adhesive Proto shield | 15 10 10 | Consumable | |
| Electronics Development | General Purpose Solderable Board | <ul style="list-style-type: none"> ● FR2A Grade Material (140x90mm) ● FR2 A Grade Material (80x55mm) | 15 15 | Consumable Consumable | |

| Category | Name | Specification | Suggested Quantity | Type | Received |
|-------------------------|------------------|--|--------------------|--------------------------|----------|
| | Berg Strips | <ul style="list-style-type: none"> Female Berg Strip, 2.54mm Pitch, 40 pin Single row, breakable pin Male Berg Strip, 2.54mm Pitch, 40 pin Single row, breakable pin | 15 15 | Consumable Consumable | |
| Electronics Development | 16x2 LCD display | <ul style="list-style-type: none"> Dot matrix LCD display. 16 characters x2 lines. 12C | 10 | Consumable | |
| Electronics Development | USB Cables | <ul style="list-style-type: none"> USB cable Set (A to B mini, 12 inches or more) | 05 | Consumable | |
| Electronics Development | USB Cables | <ul style="list-style-type: none"> USB cable Set (Mini, 12 inches or more) | 05 | Consumable | |
| Electronics Development | Battery | <ul style="list-style-type: none"> 9-12V 2000 to 2500 mAh rechargeable battery with 2 chargers, Equivalent or better | 05 | Consumable | |
| Electronics Development | Resistor Kit | <ul style="list-style-type: none"> One kit contains- 30 carbon film resistors of 20 different resistance values each assorted, packaged together and labelled. Wattage: 0.125W to 1W Values: 1.5Ω, 4.7Ω, 10Ω, 47Ω, 100Ω, 220Ω, 330Ω, 470Ω, 680Ω, 1kΩ, 2.2kΩ, 3.3kΩ, 4.7kΩ, 10kΩ, 22kΩ, 47kΩ, 100kΩ, 330kΩ, 1MΩ, | 10 | Consumable | |

| Category | Name | Specification | Suggested Quantity | Type | Received |
|-------------------------|--------------------------|---|--------------------|------------|----------|
| Electronics Development | Capacitor Kit | <ul style="list-style-type: none"> One kit contains- 20 Electrolytic capacitors of 10 different capacitance values each. Assorted kit packaged together and labelled. Values: 10pF, 22pF, 100pF, 1nF, 10nF, 100nf, 1µF, 10µF, 100µF, 1000µF. | 10 | Consumable | |
| Electronics Development | Linear Voltage Regulator | <ul style="list-style-type: none"> 7805, 7812, 7809 | 15 | Consumable | |
| Electronics Development | Water Pump module | <ul style="list-style-type: none"> DC12V3W submersible water Pump | 2 | Consumable | |
| Electronics Development | Piezoelectric Plate | <ul style="list-style-type: none"> Normal Copper based 4cm Diameter approx. | 15 | Consumable | |
| Electronics Development | 8*8 LED Matrix Module | <ul style="list-style-type: none"> Max7219 Dot LED Matrix Module. MCU control LED Display Module. | 05 | Consumable | |
| Electronics Development | Bluetooth Module | <ul style="list-style-type: none"> HC 05 Bluetooth module Voltage Rating :5V | 08 | Consumable | |
| Electronics Development | 7 Segment Led Display | <ul style="list-style-type: none"> LED 4-Digit Display Module Voltage Rating:2.4V to 5.5V 4-Pin interface: VCC, Gnd, Data Clock | 10 | Consumable | |
| Electronics Development | GSM | <ul style="list-style-type: none"> Sim900 GPRS Transfer board Micro Sim GSM Core TTL Port Module for Arduino | 2 | Consumable | |

| Category | Name | Specification | Suggested Quantity | Type | Received |
|-------------------------|----------------------------------|--|--------------------|--------------------------|----------|
| Electronics Development | GPS | <ul style="list-style-type: none"> • GY-NEO6MV2 new GPS module | 2 | Consumable | |
| Electronics Development | Laser Diode Emitter | <ul style="list-style-type: none"> • 650 nm 5mW Mini Laser Dot Diode Module | 05 | Consumable | |
| Electronics Development | LDR Module | <ul style="list-style-type: none"> • 5mm/12mm, Photosensitive LDR Light Sensor Module | 15 | Consumable | |
| Electronics Development | Keypad | <ul style="list-style-type: none"> • Universal 16Key Switch Keypad | 05 | Consumable | |
| Electronics Development | Joystick | <ul style="list-style-type: none"> • 2-axis joystick with push button function | 05 | Consumable | |
| Electronics Development | Active Buzzer | <ul style="list-style-type: none"> • Small 5 volt • Big 5 Volt | 20 20 | Consumable Consumable | |
| Electronics Development | Motor Drive Module | <ul style="list-style-type: none"> • L293D | 05 | Consumable | |
| Electronics Development | Sound Playback Module | <ul style="list-style-type: none"> • ISD1820 voice recording module or equivalent | 05 | Consumable | |
| Electronics Development | DC Plastic Gear motor with Wheel | <ul style="list-style-type: none"> • 12V, 150RPM, Side shaft BO (Battery operation) Motor | 20 | Consumable | |
| Electronics Development | Node MCU | <ul style="list-style-type: none"> • ESP 8266 • 12C, 1 wire Plug and Play | 03 | Consumable | |
| Electronics Development | WeMosD1R2 | <ul style="list-style-type: none"> • WeMosD1R2 with WiFi ESP8266 • Operating Voltage :5V | 03 | Consumable | |
| Electronics Development | Vibrating Motor | <ul style="list-style-type: none"> • Weight: 10 Grams • Operating Voltage: 1.5 to3V | 10 | Consumable | |
| Electronics Development | Alligator Connectors | <ul style="list-style-type: none"> • Multi-Colour Alligator Connectors- 12inch | 100 | Consumable | |
| Electronics Development | Battery Clips With DC Jack | <ul style="list-style-type: none"> • 9-volt battery clips with DC jack | 20 | Consumable | |

| Category | Name | Specification | Suggested Quantity | Type | Received |
|-------------------------|----------------------------|---|--------------------|------------|----------|
| Electronics Development | Hook-up wires | <ul style="list-style-type: none"> Red & Blackset 100 meters each | 2 | Consumable | |
| Electronics Development | Jumper Cable | <ul style="list-style-type: none"> Male-Male Male-Female Female-Female | 500 300 200 | Consumable | |
| Electronics Development | RGB LEDs | <ul style="list-style-type: none"> Regular 5mm 3-5volt Range | 200 | Consumable | |
| Electronics Development | RGB LEDs (Red) | <ul style="list-style-type: none"> Regular 5mm 3-5volt Range | 500 | Consumable | |
| Electronics Development | RGB LEDs (Green) | <ul style="list-style-type: none"> Regular 5mm 3-5volt Range | 500 | Consumable | |
| Electronics Development | RGB LEDs (Blue) | <ul style="list-style-type: none"> Regular 5mm 3-5volt Range | 500 | Consumable | |
| Electronics Development | RGB LEDs (Yellow) | <ul style="list-style-type: none"> Regular 5mm 3-5volt Range | 500 | Consumable | |
| Electronics Development | RGB LEDs (White) | <ul style="list-style-type: none"> Regular 5mm 3-5volt Range | 500 | Consumable | |
| Electronics Development | Timer IC-LM 555 | <ul style="list-style-type: none"> LM555 Timer IC Voltage Range-4.5V to 16V | 15 | Consumable | |
| Electronics Development | Atmega16u2 | <ul style="list-style-type: none"> 8-bit microcontroller Individual IC (DIP) Voltage range:2.7V to5.5V. Operational Range: -40 C to +80 C | 05 | Consumable | |
| Electronics Development | Diodes and Transistors Kit | <ul style="list-style-type: none"> One Kit Contains-25 Assorted Basic Diodes of 4 different types each. Types:NPN Transistor-2N3904, BC547NPN Transistor -2N3906, BC557 Silicon Diode -1N4148, Power Diode-1N4004/4001 Equivalent or | 2 | Consumable | |

| | | | | | |
|------------------------------|---|--|----|------------|--|
| | | battery. • Wattage: 1 W, Current rating 1A • Assorted Kitpackaged together and labelled. | | | |
| Electronics Development | Button Switch set | • One Kit Contains-100 buttons of different types. • Types: Push, toggle, rotary, selector and slide switch • Assorted Kitpackaged together and labelled. | 2 | Consumable | |
| Electronics Development | Capacitive Touch switch Module | • MPR 121 with 12C. • Voltage Range :2.5V to 3.6V DC. | 10 | Consumable | |
| Electronics Development | Capacitive Touch Switch Module | • Digital Capacitive Touch Switch module- TTP223B • Voltage Range 2V to 5V DC | 05 | Consumable | |
| Electronics Development | IR Sensors, Obstacle avoider SensorModule | • LM 393 • Detection Distance: 2-30cm • Detection Angle: 30-40° | 10 | Consumable | |
| Internet of Things & Sensors | Triple Axis Magnetometer | • 3-Axis Magneto Resistive Sensors • 12C Digital Interface • Integrated 12-bit ADC • Range of -8 to +8Gauss • 160 Hz Maximum o/p rate | 05 | Consumable | |

| | | | | | |
|------------------------------|--------------------------|--|---|------------|--|
| Internet of Things & Sensors | Humidity Sensor | <ul style="list-style-type: none"> • Operating Range: 20-95% RH • Temperature: 0-60 Celsius • Power Supply: 1.5V AC (Max Sine) • Operating Frequency: 500Hz- 2kHz | 05 | Consumable | |
| Internet of Things & Sensors | MQ Series | <ul style="list-style-type: none"> • MQ-2 Smoke Detection • MQ-3 Alcohol- Ethanol Sensor • MQ-4 Methane Natural Gas Sensor • MQ-5 Methane Liquefied Gas Sensor • MQ-6 Liquefied Petroleum Gas Sensor • MQ-7 high Sensitivity CO Carbon Monoxide Sensor Detector • MQ-8 Hydrogen Gas Sensor • MQ-135 Air Quality Sensor | 2 2 2 2 2 2 2 | Consumable | |
| Internet of Things & Sensors | IR transmitter/ receiver | <ul style="list-style-type: none"> • TSOP 1738 • Switching rate: 38KHz • Voltage Rating : 5V | 05 | Consumable | |

| Category | Name | Specification | Suggested Quantity | Type | Received |
|------------------------------|---|--|--------------------|------------|----------|
| Internet of Things & Sensors | Ultrasonic Sensor Module HC-SR-04 or Compatible | <ul style="list-style-type: none"> • Working Voltage-DC 5V • Working Current-15mA • Working Frequency -40Hz • Range-1 cm to 4m • Effectual Angle- <15° • Measuring Angle-30° • Resolution – 0.3cm | 20 | Consumable | |
| Internet of Things & Sensors | Triple Axis Accelerometer | <ul style="list-style-type: none"> • 3-axis sensing • Small, Low profile Package • 4mm x 4 mm x 1.45 mm LFCSP • Low Power: 350 μA (typical) • Single-supply operation: 1.8V to 3.6V • Temperature Stability | 05 | Consumable | |
| Internet of Things & Sensors | PIR Motion Detector Module | <ul style="list-style-type: none"> • High digital pulse when motion detected • Low digital pulse when idle/no motion detected • Sensitivity range (up to 6m) • Power supply: 5V-12V | 10 | Consumable | |
| Internet of Things & Sensors | Pulse Rate Heart Sensor | <ul style="list-style-type: none"> • Pulse Rate Sensor Finger Based (finger or earlobe) Working voltage 3-5V | 02 | Consumable | |
| Internet of Things & Sensors | Rely Module | <ul style="list-style-type: none"> • 5V10A-2 channel Relay Module. Compatible with Arduino. | 10 | Consumable | |

| Category | Name | Specification | Suggested Quantity | Type | Received |
|------------------------------|-----------------------------|--|--------------------|------------|----------|
| Internet of Things & Sensors | Rely Module | <ul style="list-style-type: none"> • 5V10A-1 channel Relay Module. Compatible with Arduino. | 10 | Consumable | |
| Internet of Things & Sensors | Big Sound microphone module | <ul style="list-style-type: none"> • Large Electret capsule sound module | 05 | Consumable | |
| Internet of Things & Sensors | Soil Moisture Sensor module | <ul style="list-style-type: none"> • FC – 28 with LM 293 comparator • Operating Voltage: 3.3V to 5C | 3 | Consumable | |
| Internet of Things & Sensors | Touch Sensor | <ul style="list-style-type: none"> • Capacitive Touch Sensor • Module. TTP22x series. • Voltage Range: 2.4v to 5.5v | 3 | Consumable | |
| Internet of Things & Sensors | Metal Touch Sensor module | <ul style="list-style-type: none"> • KY-036 or equivalent metal touch sensor module | 3 | Consumable | |
| Internet of Things & Sensors | Rain Drop Sensor | <ul style="list-style-type: none"> • Rain Sensitive,Rain Drop Detection Sensor Module. Voltage Range: 3.3V to5.5V • Size: 5mm x40mm or equivalent. | 3 | Consumable | |
| Internet of Things & Sensors | Flex Sensor | <ul style="list-style-type: none"> • Flex Sensor : Size- 2.2 inches | 3 | Consumable | |
| Internet of Things & Sensors | Temperature Sensor | <ul style="list-style-type: none"> • LM 35 full range temperature Sensor. Voltage Range: 4V to 30V. Error: 0.5°c | 3 | Consumable | |
| Internet of Things & Sensors | Temperature Sensor | <ul style="list-style-type: none"> • DHT 11 • Voltage Range: 3V to 5V | 20 | Consumable | |
| Internet of Things & Sensors | Force pressure Sensor | <ul style="list-style-type: none"> • Force sensitive resistor with a square, 1.75x1.5” sensing area | 2 | Consumable | |

| Category | Name | Specification | Suggested Quantity | Type | Received |
|------------------------------|---|---|--------------------|------------|----------|
| Internet of Things & Sensors | Colour Recognition Sensor | <ul style="list-style-type: none"> • TCS 3200 colour Recognition Sensor | 02 | Consumable | |
| Internet of Things & Sensors | Water Flow Sensor | <ul style="list-style-type: none"> • Arduino Compatible water flow sensor. 5V DC Input | 02 | Consumable | |
| Internet of Things & Sensors | Sound Sensor | <ul style="list-style-type: none"> • Sound Sensor Module Microphones module | 05 | Consumable | |
| Internet of Things & Sensors | IR Sensor Array module for line Following | <ul style="list-style-type: none"> • 8 IR Sensor Array module for Line following • Operating Voltage: 5V | 05 | Consumable | |
| Internet of Things & Sensors | Power Bank | <ul style="list-style-type: none"> • 10000 mAh 5V Power Bank | 03 | Consumable | |
| Internet of Things & Sensors | RFID Reader Tags | <ul style="list-style-type: none"> • Current: 12-26mA/DC 3.3V • Idle Current: 10-13mA • Sleep Current < 80uA • Peak Current < 30mA • Operating Frequency: 13.56 MHz < 30mA • Read range between 20cm to 1m | 05 | Consumable | |
| Internet of Things & Sensors | RF modules Tx & Rx 315 MHz Ask | <ul style="list-style-type: none"> • Frequency Range: 433.93/315 MHz • Supply voltage: 3-6V • Output: 4-16 Dbm • Low Power consumption • Easy Application | 05 | Consumable | |
| Robotics | Stepper motor with driver board | 28BYJ-48ULN2003 5V Stepper Motor + ULN2003 Driver Board | 05 | Consumable | |

| Category | Name | Specification | Suggested Quantity | Type | Received |
|-------------------------------|--|--|--------------------------------------|------------|----------|
| Robotics | DC motor | 12V DC Gear 150 RPM | 10 | Consumable | |
| Robotics | Servo Motors | <ul style="list-style-type: none"> • Position Servo Angle Based Metal Gear • Small Servo Metal Gear • Continuous Metal Gear Servo 360 • Small Servo Plastic Gear | 05 05 05 20 | Consumable | |
| Robotics | 150 RPM BO Motor | 150 RPM BO Motor | 05 | Consumable | |
| Robotics | L298P Motor Driver | L298P Moto Drive Shield or Relative Drive Shield | 05 | Consumable | |
| Robotics | Servo Motor Tester | CCPM 3 channel Servo Tester | 2 | Consumable | |
| DIY Kit | Robotics DIY Kit | Robotics DIY kit with programmable intelligent brain/brick | 2 | Equipment | |
| DIY Kit | Mechanical (Modular) Construction kit | Metal/Plastic mechanical construction kits compatible with electronic equipment | 3 | Equipment | |
| STEM Learning/Application Kit | Drone kit Aerospace kit Automobile kit Bio Medical Kit Agri-Tech Kit Water/Sanitation Kit Bio Tech Kit Other Potential STEM Application Kit | Educational Purpose | 1 1 1 1 1 1 1 1 | Equipment | |

| Package 2 : Rapid Prototyping Tools | | | | | |
|-------------------------------------|--------------------------|--|--------------------|-----------|----------|
| Category | Name | Description | Suggested Quantity | Type | Received |
| Rapid Prototyping Tools | 3D Printer kit and tools | <p>Printer type:</p> <p>FDM (Fused Deposition Modelling),</p> <p>Minimum dimensions:</p> <p>160mm*160mm</p> <p>Build size or 4 litre Build volume,</p> <p>Nozzle: 0.3mm to 0.4mm nozzle diameter, slicing software should be free or open source, LCD screen UI that display print metrics,</p> <p>Good Heated print Bed</p> <p>Material Compatibility – PLA, ABS and derivatives of PLA, Ninja flex</p> <p>Quality Anti-bacterial/ fungal cover.</p> <p>Repair Kit – with spare springs, Screws, keys, tweezers, etc.</p> | 1 | Equipment | |

| Category | Name | Specification | Suggested Quantity | Type | Received |
|-------------------------|--|--|--------------------|------------|----------|
| Rapid Prototyping Tools | Dedicated UPS/ Power back up | Dedicated UPS/Power Back up with 2- hour battery backup. | 1 | Equipment | |
| Rapid Prototyping Tools | Filament for 3D printer | Compatible 1000 grams filament in 5 different colours | 3 | Consumable | |
| Rapid Prototyping Tools | Filament storage box | Compatible filament storage box | 3 | Consumable | |
| Rapid Prototyping Tools | Set of Arts & Crafts Accessories- e.g. - stationary items and basic prototyping material | Cardboard | 3 | Consumable | |
| | | Foam core boards | 3 | | |
| | | 20 m spool of thick strings various colours | 3 | | |
| | | Rubber band | 50 | | |
| | | Popsicle sticks | 50 | | |
| | | Wood glue- 500 ml | 1 | | |
| | | | | | |

| Package 3: Mechanical, Electrical and Measurement Tools | | | | | |
|---|-------------------------|--|---------------------------------|------------|----------|
| Category | Name | Description | Suggested Quantity | Type | Received |
| Mechanical Tools | Hacksaw Frame | Size: 12 inches | 1 | Equipment | |
| Mechanical Tools | Hacksaw blades | Size: 12 inches | 05 | Consumable | |
| Mechanical Tools | Mini Hacksaw Frame | Size: 6 inches | 1 | Equipment | |
| Mechanical Tools | Mini Hacksaw blades | Size: 6 inches | 05 | Consumable | |
| Mechanical Tools | Pliers: 4.5 inch size | <ul style="list-style-type: none"> • External Straight • Nose Circlip Plier • Long Nose Plier • Combination Mini Plier • Wire stripping Pliers • Bent nose Plier • Needle nose Pliers | 1 1 1 1 1 1 1 | Equipment | |
| Mechanical Tools | Tweezer set | 6 PC Non-magnetic Tweezer set Size-6 Inches | 1 | Equipment | |
| Mechanical Tools | Ball Pin Hammer | Ball Pein Hammer Weight-0.75kg | 1 | Equipment | |
| Mechanical Tools | Steel Shaft Claw Hammer | Claw Hammer Steel Shaft Weight-0.75kg | 1 | Equipment | |
| Mechanical Tools | C- Clamp | Metal Clamp:3-inch size | 2 | Equipment | |
| Mechanical Tools | Allen Key Set | 10 Piece Ring imperial Allen hex key | 1 | Equipment | |
| Mechanical Tools | Drill machine Set | Drill machine with accessories Hammer/Screw and Clockwise/anticlockwise modes. Power:500W Chuck capacity- 1to10mm Drill Bits-Masonry Metal, Wood | 1 | Equipment | |

| Category | Name | Specification | Suggested Quantity | Type | Received |
|------------------|--------------------------------|--|--------------------|-----------|----------|
| Mechanical Tools | Drilling Workstation | Drill Press, Drill Holder and Rotary Tools, Compatible with Drilling machine provided | 1 | Equipment | |
| Mechanical Tools | Spanner set | 12-piece combination spanner set Range-4mm to 30mm | 1 | Equipment | |
| Mechanical Tools | Vice normal | Table top vice | 1 | Equipment | |
| Mechanical Tools | Precision Screw Driver set | 6 piece Precision Screw driver set Types: PH0, PH1, Flat head-1.4mm 2.4mm, 3mm | 1 | Equipment | |
| Mechanical Tools | Wrench | Adjustable Universal Wrench | 1 | Equipment | |
| Mechanical Tools | Wire Strippers | Wire Stripper Cutter Plier With Spring - 26*6*20cm (L*W*H) | 3 | Equipment | |
| Mechanical Tools | Screwdriver | 40 pc Multi-Purpose Screwdriver set | 2 | Equipment | |
| Mechanical Tools | Cordless Rotary Multi-tool set | Cordless Rotary multi-tool with all cutting, grinding polishing, engraving and drill bits Speed: Adjustable up to 30000 RPM Battery Type Li-ion Voltage/current range :8- 10V, 0-2A | 1 | Equipment | |
| Mechanical Tools | Air Blower | 500w or more Variable speed blower | 1 | Equipment | |
| Mechanical Tools | Drill Bit Set | High Quality 13 pcs HSS Drill bits Set for Wood, Iron, Aluminium, Plastic etc. | 1 | Equipment | |

| Category | Name | Specification | Suggested Quantity | Type | Received |
|------------------|----------------------------------|---|--------------------|-----------|----------|
| Mechanical Tools | File set | 6 pc file set Working length -6inch | 1 | Equipment | |
| Mechanical Tools | Mini File Set | 6 pc mini file set Working length-3 inch | 1 | Equipment | |
| Mechanical Tools | Flexible Cutting mat | A 3 Size with marked Pattern and Grids (18" X 12") | 1 | Equipment | |
| Mechanical Tools | Plastic Storage Drawer/Organiser | Number of drawer:60 or equivalent Drawer size (l*w*d) (inch): 2*2*5 | 1 | Equipment | |
| Mechanical Tools | Pegboard | Peg board System to mount tools on wall with Size: 3fit* 2ft | 1 | Equipment | |
| Electric Tools | Hot glue gun | Works with standard 0.5-inch glue sticks. Temperature-230 to 280 degree Celsius. | 2 | Equipment | |
| Electric Tools | Digital oscilloscope | Minimum Bandwidth 50 Mhz Minimum number of channels:2 channels sample rate:1gsa/s With inbuilt waveform function generator | 1 | Equipment | |
| Electric Tools | Soldering kit | <ul style="list-style-type: none"> Variable Wattage of soldering iron 15-30 watts/230volts Soldering iron Temperature Range: 280°C to 450°C De-Soldering Pump, Soldering Flux (Paste) 100 grams De-soldering copper Braid (Solder Wick) 1.5m*2mm Compatible | 2 | Equipment | |

| | | | | | |
|-------------------|-----------------------------|--|----|------------|--|
| | | Soldering tip-Bevel, Chisel, Conical-5 each per kit • Soldering Wire:20/22 AWG Soldering wire with fosit core flux(100 Grams) | | | |
| Electric Tools | Adapters | DC Power Adapter with 5V, 2A | 05 | consumable | |
| Electric Tools | Adapters | DC Power Adapter with 12V, 2A | 05 | consumable | |
| Electric Tools | Electric Screw Driver set | Multipurpose Electric screwdriver set. Accessories- Compatible bits Mode- Wireless Battery-LI-Ion 3.6V or equivalent with charging dock | 1 | Equipment | |
| Electric Tools | Dual Temperature Heat Gun | 1800 W Dual Temperature Heat Gun | 1 | Equipment | |
| Electric Tools | Soldering Helping Hand | Specification: Adjustable crocodile holding lamps/Clip. Soldering iron holder LED Light Magnifying lens | 2 | Equipment | |
| Measurement Tools | Return measuring tape | Return Measuring tape 5M x 19MM | 1 | Equipment | |
| Measurement Tools | Stainless Steel Rule | Stainless Steel 12"/150 mm Rule | 3 | Equipment | |
| Measurement Tools | Digital Vernier Calliper | 150mm/6" digital Vernier Calliper | 1 | Equipment | |
| Measurement Tools | Spirit Level | 12" Spirit Level | 1 | Equipment | |
| Measurement Tools | Digital pen electric Tester | Voltage tester | 1 | Equipment | |

| Category | Name | Specification | Suggested Quantity | Type | Received |
|---------------------|----------------------|--|--------------------|------------|----------|
| Measurement Tools | Digital Multi Meter | Digital Multi Meter Voltage Current Resistance- 7functions+19 ranger to cover DC Voltage 200MV to 1kV AC Voltage 200V-750V, DC Current 200HA- 10A Resistance 200-2M Ohm and Transistor & diode test | 3 | Equipment | |
| Biology Kit | DIY paper Microscope | DIY Paper microscope Magnification range- 100*to 2000* | 3 | Consumable | |
| Astronomy Equipment | Telescope | <ul style="list-style-type: none"> • All glass Optical Components • Altazimuth mount suitable for terrestrial and astronomical use • Minimum 700mm focal length | 1 | Equipment | |
| Textile Equipment | Sewing Kit | <ul style="list-style-type: none"> • Semi- automatic sewing machine • Straight stitch • Consumables-2 set of assorted needles and 10-colour spool set. | 1 | Equipment | |

| Package 4 : Power Supply & Accessories and Safety Equipment | | | | | |
|--|---------------------------------|---|---------------------------|-------------|-----------------|
| Category | Name | Specification | Suggested Quantity | Type | Received |
| Power Supply & accessories | Glue Sticks | <ul style="list-style-type: none"> • 11 mm x 200mm Hot Melt Glue Stick | 50 | Consumable | |
| Power Supply & accessories | Nuts and Bolts and Screw | <ul style="list-style-type: none"> • Specs-M4x12MM • M4X20MM • M5X16MM • M5X25MM • M6X20MM | 20 | Consumable | |
| Power Supply & Accessories | Cable Tie | • Small Cable Tie Pack-Pack of 100 | 05 | Consumable | |
| | | • Medium Cable Tie Pack, Pack of 100 | 05 | Consumable | |
| | | • Big Cable Tie Pack, Pack of 100 | 05 | Consumable | |
| Power Supply & Accessories | Sand Paper | <ul style="list-style-type: none"> • Grit Values – 80, 100, 120, 200, 300, 5 Nos of each | 05 | Consumable | |
| Power Supply & Accessories | Power Strip Adaptors | Standard Quality Extension with 5Amp safety fuse. 5 or more sockets in each extension. 5-meter length of each extension. | 03 | Consumable | |
| Power Supply & Accessories | Bulb Holders | Regular Hanging Bulb holder | 05 | Consumable | |
| Power Supply & Accessories | Electric wires | Twisted Red black pair | 10 meters | Consumable | |
| Power Supply & Accessories | USB to DC jack cable | USB to DC Jack Cable for Battery Bank | 05 | Consumable | |
| Safety Equipment | First Aid Kit | Standard Medical First Aid Kit in portable container. | 1 | Consumable | |
| Safety Equipment | Fire extinguisher (handy units) | Powder Type fire extinguisher 2KG | 1 | Consumable | |

| Category | Name | Specification | Suggested Quantity | Type | Received |
|------------------|---|---|--------------------|------------|----------|
| Safety Equipment | Safety goggles (with/without LED torch) | Polycarbonate Safety goggles Clear lens with no tint | 15 | Consumable | |
| Safety Equipment | Safety Gloves Pairs | Latex Coating Gloves (Medium Size) | 05 | Consumable | |
| Safety equipment | Safety Mask | Filtering efficiency ranging 80 percent when tested against 0.3 micron sodium chloride particle | 10 | Consumable | |

| Item Number | Item Title | Item Description | Item Quantity | Unit of Measure |
|-------------|---------------------------------------|--|---------------|-----------------|
| | Refurbishment of Tinkering Lab | | | |
| 1 | Tables | 4X4 ft, Hexagonal shape, GI Frame with Plywood, Mica Lam | 7 | pieces |
| 2 | Tables | 6X2 ft, GI Frame with Plywood, Mica Lamination | 3 | pieces |
| 3 | Chairs | Fibre, Contemporary Style | 42 | pieces |
| 4 | Banner | Vinyl printed poster on Acrylic Sheet/ACP | 2 | pieces |
| 5 | Vinyl Posters | Vinyl printed posters on foam sheet | 6 | pieces |
| 6 | Wall Mounted Almirah | 4X3X1.5 ft, Plywood with mica lamination | 5 | Pieces |
| 7 | Electrification of Tinkering Lab | Additional plug points and lights as per requirement | 1 | Room |
| 8 | Interior painting of Tinkering Lab | Emulsion paint for the entire lab facility | 1 | Room |
| | | | | |
| | Laptops & Projector | | | |
| 1 | Laptop - i3/4GB RAM/256 GB SSD | Lenovo/Acer/Asus/HP | 2 | pieces |
| 2 | Projector - 3000+ Lumens/ HDMI | Viewsonic/Acer/BenQ/Zebronics | 1 | pieces |
| | | | | |
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