No: -DE.29(3)/UEEM/OSD-SS/2019/ 4627-60   Date:- 27|1|21

CIRCULAR

Sub:-Supply of RAA LAB (Four Packages) equipments in Phase -III.

With reference to Circular No.DE.29(3)/UEEM/OSD-SS/2019/1604-24 dated 24.08.2020, 114 schools of DOE were identified where the adequate space was available for the establishment of RAA Labs **(Annexure I)**.

The following items with specifications mentioned against them were delivered in the selected schools in **Phase I**. These items are meant for use of students in RAA Labs.

Description of Goods	Specification	Quantity
Acer Laptop A312-42	Intel Core i5/AMD Ryzen 5, 8th Generation/ 9th Generation/AMD-R-5, Integrated Graphic, 5 years onsite OEM Warranty, 13.3-15.6-inch, window 10 professional/Linux, 8 GB Ram, DVD RW, 128 GB SSD/256 GB SSD or500 GB/1 TB HDD, External DVD Player LG	3
Sony Projector VPL – EX430	Projector 3000 lumen with LED/LCD/DLP with reputed brand with 3 years warranty	1
Screen	Projector screen IMat finish White board	1
Intex 2.1 speaker Bluetooth	Speaker	1
Hanging Kit	Projectors hanging kit	1
Printer (Pantum-P2200)	Printer (B/W)	1
Quantum Webcam QHMPL-495	Webcam (QHMPL 495 LM)	1
Electrical Fitting for the above		

In **Phase II** furniture is being delivered in all the 114 RAA Lab schools. The items delivered in furniture are as follows:

S. No.	Particulars	Size			Sq. Ft.	Qty.
1	Robotic Table 25 mm Pre Laminated with 1.25"X1.25 pipe powder coating	6'	X	4'	24	1
2	Work Station 25 mm Pre Laminated with 1.25"X1.25 pipe powder coating	5'	X	3'	15	4
3	Soldering Table 25 mm Pre Laminated with 1.25"X1.25 pipe powder coating	6'	X	2'	12	1
4	Mechanical Table 25 mm Pre Laminated with 1.25"X1.25 pipe powder coating	6'	X	2'	12	1
5	Electrical & Electronic Table 25 mm Pre Laminated with 1.25"X1.25 pipe powder coating	6'	X	2'	12	1
6	Computer Table 25 mm Pre Laminated with 1.25"X1.25 pipe powder coating	6'	X	2'	12	1
7	Instructor Table 25 mm Pre Laminated with 1.25"X1.25" pipe powder coating with Pedestal	4'	X	2'	08	1
8	3D Printer Table Trolley 25 mm Pre Laminated Top 30" H Runner	30"	X	20"		1
9	Stool with 1"X1" pipe powder coating with 18 mm pre laminated 24" H					30
10	Library Almirah Powder coating 30"X66"					1
11	Computer Chair					3
12	Teacher Chair					1

Following items will be delivered in **Phase –III**:

List of Equipments under the four packages

Package 1 : Electronics Development, Robotics, Internet of things and Sensors				
Category	Name	Specification	Suggested Quantity	Type
Electronics Development	Arduino Uno or equivalent	• 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)	30	Consumable
Electronics Development	Arduino Nano or equivalent	• 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:8 • Accessories : Compatible USB cable (length- 6 inch or more)	10	Consumable
Electronics Development	Arduino Mega or equivalent	• AT mega 2560P-8 bit AVR family microcontroller,	10	Consumable

		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)		
Electronics Development	RaspberryPi3 Model B+	• 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	5	Consumable
Electronics Development	Breadboards &Mini Breadboard	• Solderless 400 pin breadboard • Solderless 800 pin breadboard • Self- Adhesive Proto shield	30 20 20	Consumable
Electronics Development	General Purpose Solderable Board	• FR2A Grade Material (140x90mm) • FR2 A Grade Material (80x55mm)	30 30	Consumable Consumable
	Berg Strips	• Female Berg Strip, 2.54mm Pitch, 40 pin Single row, breakable pin • Male Berg Strip, 2.54mm Pitch, 40 pin Single row, breakable pin	30 30	Consumable Consumable
Electronics Development	16x2 LCD display	• Dot matrix LCD display. 16 characters x2 lines. 12C	20	Consumable
Electronics Development	USB Cables	• USB cable Set (A to B mini, 12 inches or more)	10	Consumable
Electronics Development	USB Cables	• USB cable Set (Mini, 12 inches or more)	10	Consumable
Electronics Development	Battery	• 9-12V 2000 to 2500 mAh rechargeable battery with 2 chargers, Equivalent or better	10	Consumable
Electronics Development	Resistor Kit	• One kit contains-30 carbon film resistors of 20 different resistance values each assorted, packaged together and labelled. • Wattage:0.125W to 1W • Values: 0Ω, 1.5Ω, 4.7Ω, 10Ω, 47Ω, 100Ω, 220Ω, 330Ω, 470Ω, 680Ω, 1kΩ, 2.2kΩ, 3.3kΩ, 4.7kΩ, 10kΩ, 22kΩ, 47kΩ, 100kΩ, 330kΩ, 1MΩ,	20	Consumable

Electronics Development	Capacitor Kit	• 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, 10uF, 100µF, 1000µF.	20	Consumable
Electronics Development	Linear Voltage Regulator	• 7805, 7812, 7809	30	Consumable
Electronics Development	Water Pump module	• DC12V3W submersible water Pump	4	Consumable
Electronics Development	Piezoelectric Plate	• Normal Copper based 4cm Diameter approx.	30	Consumable
Electronics Development	8*8 LED Matrix Module	• Max7219 Dot LED Matrix Module. MCU control LED Display Module.	10	Consumable
Electronics Development	Bluetooth Module	• HC 05 Bluetooth module • Voltage Rating :5V	15	Consumable
Electronics Development	7 Segment Led Display	• LED 4-Digit Display Module • Voltage Rating:2.4V to 5.5V • 4-Pin interface: • VCC, Gnd, Data Clock	20	Consumable
Electronics Development	GSM	• Sim900 GPRS Transfer board Micro Sim GSM Core TTL Port Module for Arduino	4	Consumable
Electronics Development	GPS	• GY-NEO6MV2 new GPS module	4	Consumable
Electronics Development	Laser Diode Emitter	• 650 nm 5mW Mini Laser Dot Diode Module	10	Consumable
Electronics Development	LDR Module	• 5mm/12mm, Photosensitive LDR Light Sensor Module	30	Consumable
Electronics Development	Keypad	• Universal 16 Key Switch Keypad	10	Consumable
Electronics Development	Joystick	• 2-axis joystick with push button function	10	Consumable
Electronics Development	Active Buzzer	• Small 5 volt • Big 5 Volt	40 40	Consumable Consumable
Electronics Development	Motor Drive Module	• L293D	10	Consumable
Electronics Development	Sound Playback Module	• ISD1820 voice recording module or equivalent	10	Consumable
Electronics Development	DC Plastic Gear motor with Wheel	• 12V, 150RPM, Side shaft BO (Battery operation) Motor	40	Consumable
Electronics Development	Node MCU	• ESP 8266 • 12C, 1 wire Plug and Play	6	Consumable
Electronics Development	WeMosD1R2	• WeMosD1R2 with WiFi ESP 8266 • Operating Voltage :5V	6	Consumable

Electronics Development	Capacitor Kit	• 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, 10uF, 100µF, 1000µF.	20	Consumable
Electronics Development	Linear Voltage Regulator	• 7805, 7812, 7809	30	Consumable
Electronics Development	Water Pump module	• DC12V3W submersible water Pump	4	Consumable
Electronics Development	Piezoelectric Plate	• Normal Copper based 4cm Diameter approx.	30	Consumable
Electronics Development	8*8 LED Matrix Module	• Max7219 Dot LED Matrix Module. MCU control LED Display Module.	10	Consumable
Electronics Development	Bluetooth Module	• HC 05 Bluetooth module • Voltage Rating :5V	15	Consumable
Electronics Development	7 Segment Led Display	• LED 4-Digit Display Module • Voltage Rating:2.4V to 5.5V • 4-Pin interface: • VCC, Gnd, Data Clock	20	Consumable
Electronics Development	GSM	• Sim900 GPRS Transfer board Micro Sim GSM Core TTL Port Module for Arduino	4	Consumable
Electronics Development	GPS	• GY-NEO6MV2 new GPS module	4	Consumable
Electronics Development	Laser Diode Emitter	• 650 nm 5mW Mini Laser Dot Diode Module	10	Consumable
Electronics Development	LDR Module	• 5mm/12mm, Photosensitive LDR Light Sensor Module	30	Consumable
Electronics Development	Keypad	• Universal 16 Key Switch Keypad	10	Consumable
Electronics Development	Joystick	• 2-axis joystick with push button function	10	Consumable
Electronics Development	Active Buzzer	• Small 5 volt • Big 5 Volt	40 40	Consumable Consumable
Electronics Development	Motor Drive Module	• L293D	10	Consumable
Electronics Development	Sound Playback Module	• ISD1820 voice recording module or equivalent	10	Consumable
Electronics Development	DC Plastic Gear motor with Wheel	• 12V, 150RPM, Side shaft BO (Battery operation) Motor	40	Consumable
Electronics Development	Node MCU	• ESP 8266 • 12C, 1 wire Plug and Play	6	Consumable
Electronics Development	WeMosD1R2	• WeMosD1R2 with WiFi ESP 8266 • Operating Voltage :5V	6	Consumable

Electronics Development	Vibrating Motor	• Weight: 10 Grams • Operating Voltage: 1.5 to 3V	20	Consumable
Electronics Development	Alligator Connectors	• Multi-Colour Alligator Connectors-12inch	200	Consumable
Electronics Development	Battery Clips With DC Jack	• 9-volt battery clips with DC jack	40	Consumable
Electronics Development	Hook-up wires	• Red & Black set 100 meters each	4	Consumable
Electronics Development	Jumper Cable	• Male-Male • Male-Female • Female-Female	1000 600 400	Consumable
Electronics Development	RGB LEDs	• Regular 5mm 3-5volt Range	400	Consumable
Electronics Development	RGB LEDs (Red)	• Regular 5mm 3-5volt Range	1000	Consumable
Electronics Development	RGB LEDs (Green)	• Regular 5mm 3-5volt Range	1000	Consumable
Electronics Development	RGB LEDs (Blue)	• Regular 5mm 3-5volt Range	1000	Consumable
Electronics Development	RGB LEDs (Yellow)	• Regular 5mm 3-5volt Range	1000	Consumable
Electronics Development	RGB LEDs (White)	• Regular 5mm 3-5volt Range	1000	Consumable
Electronics Development	Timer IC-LM 555	• LM555 Timer IC • Voltage Range- 4.5V to 16V	30	Consumable
Electronics Development	Atmega16u2	• 8-bit microcontroller Individual IC (DIP) • Voltage range:2.7V to 5.5V. • Operational Range: -40 C to +80 C	10	Consumable
Electronics Development	Diodes and Transistors Kit	• 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 better. • Wattage: 1 W, Current rating 1A • Assorted Kit packaged together and labelled.	3	Consumable
Electronics Development	Button Switch set	• One Kit Contains-100 buttons of different types. • Types: Push, toggle, rotary, selector and slide switch • Assorted Kit packaged	3	Consumable

		together and labelled.		
Electronics Development	Capacitative Touch switch Module	• MPR 121 with 12C. • Voltage Range :2.5V to 3.6V DC.	20	Consumable
Electronics Development	Capacitative Touch Switch Module	• Digital Capacitive Touch Switch module-TTP223B • Voltage Range 2V to 5V DC	10	Consumable
Electronics Development	IR Sensors, Obstacle avoider Sensor Module	• LM 393 • Detection Distance: 2-30cm • Detection Angle: 30-40°	20	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	10	Consumable
Internet of Things & Sensors	Humidity Sensor	• Operating Range: 20-95% RH • Temperature: 0-60 Celsius • Power Supply:1.5V AC (Max Sine) • Operating Frequency: 500Hz-2kHz	10	Consumable
Internet of Things & Sensors	MQ Series	• MQ-2 Smoke Detection	3	Consumable
		• MQ-3 Alcohol- Ethanol Sensor	3	
		• MQ-4 Methane Natural Gas Sensor	3	
		• MQ-5 Methane Natural Gas Sensor	3	
		• Q-5 Methane liquefied Gas Sensor	3	
		• MQ-6 Liquefied Petroleum Gas Sensor	3	
		• MQ-7 high Sensitivity CO Carbon Monoxide Sensor Detector	3	
		• MQ-8 Hydrogen Gas Sensor	3	
		• MQ-135 Air Quality Sensor	3	
Internet of Things & Sensors	IR transmitter/ receiver	• TSOP 1738 • Switching rate:38KHz • Voltage Rating :5V	10	Consumable
Internet of Things &Sensors	Ultrasonic Sensor Module	• Working Voltage-DC 5V • Working Current-15mA	40	Consumable

	HC-SR-04 or Compatible	• Working Frequency -40Hz • Range-1 cm to 4m • Effectual Angle- <15° • Measuring Angle-30° • Resolution – 0.3cm		
Internet of Things & Sensors	Triple Axis Accelerometer	• 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	10	Consumable
Internet of Things & Sensors	PIR Motion Detector Module	• High digital pulse when motion detected • Low digital pulse when idle/no motion detected • Sensitivity range (up to 6m) • Power supply:5V-12V	20	Consumable
Internet of Things & Sensors	Pulse Rate Heart Sensor	• Pulse Rate Sensor Finger Based (finger or earlobe) Working voltage 3-5V	4	Consumable
Internet of Things & Sensors	Rely Module	• 5V10A-2 channel Relay Module. Compatible with Arduino.	20	Consumable
Internet of Things & Sensors	Rely Module	• 5V10A-1 channel Relay Module. Compatible with Arduino.	20	Consumable
Internet of Things & Sensors	Big Sound microphone module	• Large Electret capsule sound module	10	Consumable
Internet of Things & Sensors	Big Sound microphone module	• Large Electret capsule sound module	10	Consumable
Internet of Things & Sensors	Soil Moisture Sensor module	• FC – 28 with LM 293 comparator • Operating Voltage: 3.3V to 5C	6	Consumable
Internet of Things & Sensors	Touch Sensor	• Capacitive Touch Sensor • Module. TTP22x series. • Voltage Range: 2.4v to 5.5v	6	Consumable
Internet of Things & Sensors	Metal Touch Sensor module	• KY-036 or equivalent metal touch sensor module	6	Consumable
Internet of Things & Sensors	Rain Drop Sensor	• Rain Sensitive, Rain Drop Detection Sensor Module. Voltage Range: 3.3V to 5.5V • Size: 5mm x 40mm or equivalent.	6	Consumable
Internet of Things & Sensors	Flex Sensor	• Flex Sensor : Size- 2.2 inches	6	Consumable

Internet of Things & Sensors	Temperature Sensor	• LM 35 full range temperature Sensor. Voltage Range: 4V to 30V. Error: 0.5°c	6	Consumable
Internet of Things & Sensors	Temperature Sensor	• DHT 11 • Voltage Range: 3V to 5V	40	Consumable
Internet of Things & Sensors	Force pressure Sensor	• Force sensitive resistor with a square, 1.75x1.5" sensing area	4	Consumable
Internet of Things & Sensors	Colour Recognition Sensor	• TCS 3200 colour Recognition Sensor	4	Consumable
Internet of Things & Sensors	Water Flow Sensor	• Arduino Compatible water flow sensor. 5V DC Input	4	Consumable
Internet of Things & Sensors	Sound Sensor	• Sound Sensor Module Microphones module	10	Consumable
Internet of Things & Sensors	IR Sensor Array module for line Following	• 8 IR Sensor Array module for Line following • Operating Voltage:5V	10	Consumable
Internet of Things & Sensors	Power Bank	• 10000 mAh5Volt Power Bank	5	Consumable
Internet of Things & Sensors	RFID Reader Tags	• 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	10	Consumable
Internet of Things & Sensors	RF modules Tx & Rx 315 MHz Ask	• Frequency Range: 433.93/315 MHz • Supply voltage: 3-6V • Output: 4-16 Dbm • Low Power consumption • Easy Application	10	Consumable
Robotics	Stepper motor with driver board	28BYJ-48ULN20035V Stepper Motor + ULN2003Driver Board	10	Consumable
Robotics	DC motor	12V DC Gear 150 RPM	20	Consumable
Robotics	Servo Motors	• Position Servo Angle Based . Metal Gear • Small Servo Metal Gear • Continuous Metal Gear Servo 360 • Small Servo Plastic Gear	10 10 10 40	Consumable
Robotics	150 RPM BO	150 RPM BO Motor	10	Consumable

	Motor			
Robotics	L298P Motor Driver	L298P Moto Drive Shield or Relative Drive Shield	10	Consumable
Robotics	Servo Motor Tester	CCPM 3 channel Servo Tester	4	Consumable
DIY Kit	Robotics DIY Kit	Robotics DIY kit with programmable intelligent brain/brick	3	Equipment
DIY Kit	Mechanical (Modular) Construction kit	Metal/Plastic mechanical construction kits compatible with electronic equipment	5	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**
Rapid Prototyping Tools	3D Printer kit and tools	Printer type: FDM (Fused Deposition Modelling), Minimum dimensions: 160mm*160mm Build size or 4 litre Build volume, Nozzle: 0.3mm to 0.4mm nozzle diameter, slicing software should be free or open source, LCD screen UI that display print metrics, Good Heated print Bed Material Compatibility – PLA, ABS and derivatives of PLA, Ninja flex Quality Anti-bacterial/ fungal cover. Repair Kit – with spare springs,	1	Equipment

		Screws, keys, tweezers, etc.		
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	5	Consumable
Rapid Prototyping Tools	Filament storage box	Compatible filament storage box	5	Consumable
Rapid Prototyping Tools	Set of Arts & Crafts Accessories- e.g. - stationary items and basic prototyping material	Cardboard	5	Consumable
		Foam core boards	5	
		20 m spool of thick strings various colours	5	
		Rubber band	100	
		Popsicle sticks	100	
		Wood glue- 500 ml	2	

Package 3: Mechanical, Electrical and Measurement Tools

Category	Name	Description	Suggested Quantity	Type
Mechanical Tools	Hacksaw Frame	Size: 12 inches	1	Equipment
Mechanical Tools	Hacksaw blades	Size: 12 inches	10	Consumable
Mechanical Tools	Mini Hacksaw Frame	Size: 6 inches	1	Equipment
Mechanical Tools	Mini Hacksaw blades	Size: 6 inches	10	Consumable
Mechanical Tools	Pliers: 4.5 inch size	• 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	2	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	4	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
Mechanical	Drilling	Drill Press, Drill Holder and Rotary Tools,		

Tools	Workstation	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	2	Equipment
Mechanical Tools	Wrench	Adjustable Universal Wrench	2	Equipment
Mechanical Tools	Wire Strippers	Wire Stripper Cutter Plier With Spring -26*6*20cm (L*W*H)	5	Equipment
Mechanical Tools	Screwdriver	40 pc Multi-Purpose Screwdriver set	3	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
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):		Equipment

		2*2*5	1	
Mechanical Tools	Pegboard	Peg board System to mount tools on wall with Size: 3fit* 2ft	2	Equipment
Electric Tools	Hot glue gun	Works with standard 0.5-inch glue sticks. Temperature-230 to 280 degree Celsius.	4	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	• Variable Wattage of soldiering 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 Soldering tip-Bevel, Chisel, Conical-5 each per kit • Soldering Wire:20/22 AWG Soldering wire with fosin core flux (100 Grams)	4	Equipment
Electric Tools	Adapters	DC Power Adapter with 5V, 2A	10	consumable
Electric Tools	Adapters	DC Power Adapter with 12V, 2A	10	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	Equipmen
Electric Tools	Dual	1800 W Dual	1	Equipment

	Temperature Heat Gun	Temperature Heat Gun		
Electric Tools	Soldering Helping Hand	Specification: Adjustable crocodile holding lamps/Clip. Soldering iron holder LED Light Magnifying lens	4	Equipment
Measurement Tools	Return measuring tape	Return Measuring tape 5M x 19MM	2	Equipment
Measurement Tools	Stainless Steel Rule	Stainless Steel 12"/150 mm Rule	5	Equipment
Measurement Tools	Digital Vernier Calliper	150mm/6" digital Vernier Calliper	2	Equipment
Measurement Tools	Spirit Level	12" Spirit Level	1	Equipment
Measurement Tools	Digital pen electric Tester	Voltage tester	1	Equipment
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	5	Equipment
Biology Kit	DIY paper Microscope	DIY Paper microscope Magnification range-100*to 2000*	5	Consumable
Astronomy Equipment	Telescope	• All glass Optical Components • Altazimuth mount suitable for terrestrial and astronomical use • Minimum 700mm focal length	1	Equipment
Textile Equipment	Sewing Kit	• Semi- automatic sewing machine • Straight stitch • Consumables-2 set of		

Category	Name	Specification	Suggested Quantity	Type
		assorted needles and 10-colour spool set.	1	Equipment

Package 4 : Power Supply & Accessories and Safety Equipment

Category	Name	Specification	Suggested Quantity	Type
Power Supply & accessories	Glue Sticks	• 11 mm x 200mm Hot Melt Glue Stick	100	Consumable
Power Supply & accessories	Nuts and Bolts and Screw	• Specs-M4x12MM • M4X20MM M5X16MM • M5X25MM M6X20MM	40	Consumable
Power Supply & Accessories	Cable Tie	• Small Cable Tie Pack-Pack of 100	10	Consumable
		• Medium Cable Tie Pack, Pack of 100	10	Consumable
		• Big Cable Tie Pack, Pack of 100	10	Consumable
Power Supply & Accessories	Sand Paper	• Grit Values – 80, 100, 120, 200, 300, 5 Nos of each	10	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.	5	Consumable
Power Supply & Accessories	Bulb Holders	Regular Hanging Bulb holder	10	Consumable
Power Supply & Accessories	Electric wires	Twisted Red black pair	20 meters	Consumable
Power Supply & Accessories	USB to DC jack cable	USB to DC Jack Cable for Battery Bank	10	Consumable
Safety Equipment	First Aid Kit	Standard Medical First Aid Kit in portable container.	2	Consumable
Safety Equipment	Fire extinguisher (handy units)	Powder Type fire extinguisher 2KG	2	Consumable
Safety Equipment	Safety goggles (with/without LED torch)	Polycarbonate Safety goggles Clear lens with no tint	30	Consumable
Safety Equipment	Safety Gloves Pairs	Latex Coating Gloves (Medium Size)	10	Consumable
Safety equipment	Safety Mask	Filtering efficiency ranging 80 percent when tested against 0.3 micron sodium chloride particle	20	Consumable

The HoS shall ensure that all the items as per the list given above are received by them in good working condition and are as per the specifications given.

After the receipt of items, the HoS shall fill the delivery challan in triplicate **(Annexure-II)**. They shall retain the original copy with them in school and send one copy each to the representatives from IIT, Kanpur and to the Samagra Shiksha (HQ) through respective DURCC.

This is issued with the approval of SPD-SS.

27/01/2021

(Mohinder Pal)
Deputy Director Education
Samagra Shiksha

Encl:-As above

Copy to:
1. PS to Secretary (Education)/Chairman EC-UEEM, Old Sectt. Delhi
2. PS to Director (Education)/Vice Chairman EC-UEEM, Old Sectt. Delhi
3. All DPOs, Samagra Shiksha
4. FCA-SS
5. Prof. S. Ganesh, Dean of Research and Development, Deptt. Of Computer Science & Engineering, Indian Institute of Technology Kanpur-208016
6. Dr. Amey Karkare, Deptt. Of Computer Science & Engineering, Indian Institute of Technology Kanpur-208016
7. Concerned HoS
8. IT In-charge with the request to upload on departmental website
9. All DURCCs

27/01/2021

(Mohinder Pal)
Deputy Director Education
Samagra Shiksha

List of 114 Schools for Setting up of RAA Lab

S. No		District	School ID	Name of School with Id
1	1	East	1002005	RSBV WEST VINOD NAGAR(1002005)
2	2	East	1002197	GBSSS TRILOKPURI BLK 27(1002197)
3	3	East	1002025	SKV SHARDA SEN RSKV BLK 20 TRILOKPURI(1002025)
4	4	East	1002399	RPVV I.P Extn. Patparganj(1002399)
5	5	East	1002400	SCHOOL OF EXCELLENCE KHICHRIPUR (1002400)
6	6	East	1003002	Govt SBV Rani Garden (1003002)
7	7	East	1002034	SKV (Janki Devi) Pocket-II, Mayur Vihar Ph-1, Delhi-91 (1002034)
8	8	East	1002181	Mandawali-SBV, No. 3
9	9	East	1002007	SBV EAST VINOD NAGAR (1002007)
10	10	East	1002192	RSBV No-1 Shakarpur (1002192)
11	1	North East	1104006	Govt. Boys Sr. Sec. School No.1, Ghonda, Delhi, Sch Id. 1104006
12	2	North East	1104027	Govt. Girls Sr. Sec. School No.2, Yamuna Vihar, B-Block, Delhi, Sch Id. 1104027
13	1	North	1207230	GGSS Mukundpur Delhi-84, School ID 1207230
14	2	North	1207032	SV Lancer Road, Delhi-110054, School ID 1207032
15	3	North	1208092	RPVV, Kishan Ganj, School ID- 1208092
16	4	North	1208013	SKV, Gulabi Bagh, Delhi-110007, School ID-1208013
17	5	North	1207016	GBSSS Roop Nagar No.2, Delhi-110007, School ID-1207016
18	1	North West-A	1309005	SBV, BT Block Shalimar bagh (1309005)
19	2	North West-A	1310407	G Co-ED SSS, C-Block Holambi Kalan
20	3	North West-A	1310041	SKV Khera Khurd
21	4	North West-A	1309268	G-Co-ed SSS, Singhu
22	5	North West-A	1309256	SKV D-Block Jahangirpuri
23	6	North West-A	1309260	GGSSS, K-Block, Jahangirpuri

List of 114 Schools for Setting up of RAA Lab

S. No		District	School ID	Name of School with Id
24	7	North West-A	1309269	GBSSS, Palla Majra
25	8	North West-A	1309267	SKV, Bakhtawarpur
26	9	North West-A	1310166	MLGBSSS, Narela
27	10	North West-A	1309004	SV New Police Line (1309004)
28	11	North West-A	1309280	SBV Bhalaswa Village (1309280)
29	12	North West-A	1310009	Govt. Boys Sr. Sec. School badli (1310009)
30	13	North West-A	1310008	GBSSS, Pooth Khurd (1310008)
31	14	North West-A	1310014	GBSSS, Alipur (1310014)
32	15	North West-A	1310409	RPVV, Sector-A-10, Pkt-5, narela (1310409)
33	16	North West-A	1310019	GBSSS, Bawana (1310019)
34	17	North West-A	1309279	SKV, Plot No.5, A-Block, Jahangirpuri (1309279)
35	1	North West B	1411008	GSV FU BLOCK, PITAMPURA, 1411008
36	2	North West B	1411014	GBSSS D BLOCK ASHOK VIHAR, 1411014
37	3	North West B	1412002	GSBV K-1 MANGOLPURI, 1412002
38	4	North West B	1412290	GCSV CO-ED SEC-22, ROHINI, 1412290
39	5	North West B	1412291	RPVV - SECTOR-21, PHASE-II, ROHINI, 1412291
40	6	North West B	1413028	GSKV QUTABGARH, 1413028
41	7	North West B	1413336	GSV CO-ED SEC 4, ROHINI, 1413336
42	8	North West B	1412006	GBSSS, BC Block Sultan Puri, Delhi
43	9	North West B	1412033	Govt. Co-ed SSS, Mangol Puri Kalan, Delhi
44	10	North West B	1413333	Rohini School of Excellence, Sector-17

List of 114 Schools for Setting up of RAA Lab

S. No		District	School ID	Name of School with Id
45	11	North West B	1413266	Sawada(Ghevra) Colony, A-Block- SKV
46	12	North West B	1412095	Rani Khera-S(Co-ed)V
47	13	North West B	1413027	GSV SEC-8, ROHINI, 1413027
48	14	North West B	1412016	Govt. Co-ed SSS, Sultan Pur Majara, Delhi
49	15	North West B	1411043	GGSSS RANI BAGH, 1411043
50	16	North West B	1413030	SKV SECT-1, AVANTIKA, 1413030
51	17	North West B	1413069	Rohini, Avantika, Sector 1-GGSSS
52	18	North West B	1412093	GSKV, Nithari, Delhi
53	19	North West B	1411017	GBSSS SU-Block, Pitam Pura, (1411017)
54	1	West A & B	1618016	GOVT. CO-ED SS F-BLOCK VIKAS PURI, 1618016
55	2	West A & B	1618009	SV KAKROLA, 1618009
56	3	West A & B	1618065	GBSSS BLOCK A JANAK PURI, 1618065
57	4	West A & B	1516068	G CO-ED SSS INDUSTRIAL ARIA, 1516068
58	5	West A & B	1618058	GBSSS HASTSAL JANTA FLAT, 1618058
59	6	West A & B	1515001	GSCO-ED SSS JAIDEV PARK, 1515001
60	7	West A & B	1514017	SKV DIST. CENTER VIKAS PURI, 1514017
61	8	West A & B	1514110	SBV CHAND NAGAR, 1514110
62	9	West A & B	1514112	GBSSS CLOCK TOWER SITE 2, 1514112
63	10	West A & B	1617005	GSKV RANHOLLA, 1617005
64	11	West A & B	1618002	GSBV VIKAS PURI A-BLOCK, 1618002
65	12	West A & B	1516002	GSBV Ramesh Nagar, 1516002

List of 114 Schools for Setting up of RAA Lab

S. No		District	School ID	Name of School with Id
66	1	South West-A	1719001	SV (Co-Ed) SSS Sec-12 R> K.Puram (1719001)
67	2	South West-A	1719104	Govt. Co-ed Sr. Sec. School, Sec - 5, R. K. Puram, New Delhi 1719104
68	3	South West-A	1720022	SKV Naraina (1720022)
69	4	South West-A	1720001	Sarvodaya Bal Vidyalaya Delhi Cantt-10
70	5	South West-A	1720027	Govt. Sarvodaya Bal Vidyalaya, Block-D, Janakpuri, New Delhi 1720027
71	6	South West A	1719022	R.K. Puram, Sector 7, No.3-SV
72	7	South West A	1719010	Moti Bagh I-GBSSS
73	8	South West-A	1720018	Govt. Sarvodaya Kanya Vidyalaya, Delhi Cantt., New Delhi 1720018
74	9	South West-A	1720002	Govt. Sarvodaya Bal Vidyalaya (1st Shift), Naraina, New Delhi 1720002
75	10	south west-A	1719027	Govt Girls Sr. Sec. School No, Sarojini Nagar
76	11	south west-A	1720030	SKV Rajokari (1720030)
77	1	South West B	1822055	SV Jafarpur (1822055)
78	2	South West B	1821036	Govt. Boys SSS Chhawla (1821036)
79	3	South West B	1821282	School of Excellence of Secondary, Sec-22 Dwarka (1821282)
80	4	South West B	1821031	Govt. Co-Ed SSS Sec 6 Site II Dwarka (1821031)
81	5	South West B	1821203	G.G.S.S.S. Sec 3 Dwarka 1821203
82	6	South West B	1821206	Govt. Co-ed. Sr. Sec. School Sec 6(Site1)Dwarka (1821206)
83	7	South West B	1821137	Dwarka Sector-10, RPVV
84	8	South West B	1821286	Dwarka, Sec-5- RPVV
85	9	South West B	1821285	Dwarka, Sec-19- RPVV
86	10	South West B	1821237	Dwarka, Sector III(II Site)-GBSSS

List of 114 Schools for Setting up of RAA Lab

S. No		District	School ID	Name of School with Id
87	11	South West B	1821037	Govt. Co-Ed SSS Pochan Pur (1821037)
88	12	South West B	1822007	SV Shikarpur (1822007)
89	13	South West B	1822033	Govt. Co-Ed SSS, Kazipur (1822033)
90	14	South West B	1822262	SV Dichaon Kalan (1822262)
91	15	South West B	1821242	G.Co.Ed S.S.S. Sec 16 A Dwarka 1821242
92	1	South	1923044	GGSSS No-1 Sec-4 Dr.Amb.Ngr., 1923044
93	2	South	1923064	SKV mandi Vill, 1923064
94	3	South	1923014	SBV Fatehpur Beri , 1923014
95	4	South	1923069	Khanpur, No.2-GBSSS
96	5	South	1923011	Dr. Ambedkar Nagar, Sector V-GBSSS (Shaheed Anushuya Prasad)
97	6	South	1923013	GBSSS,Begampur, 1923013
98	7	South	1923071	SKV Pushp vihar, 1923071
99	8	South	1923042	GSKV (Bachan Prasad Deoli) , New Delhi, 1923042
100	9	South	1923037	SKV Chirag Delhi 1925056
101	1	South East	1925003	kautilya GSBV chirag enclave GK-1 , 1925003
102	2	South East	1925059	SHK SBV Lajpat Nagar, 1925059
103	3	South East	1925056	Govt. Sarvodaya Bal Vidyalaya - Tughlakabad Extn. New Delhi, 1925056
104	4	South East	1925431	G.S.Co.ed JJ Colony Ph-3 , 1925431
105	5	South East	1925248	Badarpur, No.3-GGSSS
106	6	South East	1925430	Kalkaji School of Excellence
107	7	South East	1925040	Tuglakabad Village-SKV
108	8	South East	1925031	Govt. Sarvodaya Kanya Vidyalaya (Rani Jhansi) - Railway Colony, Tughlakabad New DelhI, 1925031

S. No		District	School ID	Name of School with Id
109	9	South East	1924005	Hari Nagar Ashram-GBSSS
110	10	South East	1924003	SV. Ali Ganj, 1924003
111	11	South East	1925433	SKV new Friends Colony, 1925033
112	1	Central/ New Delhi	2128020	Govt. Sarvodaya Kanya Vidyalaya (Baba Ramdev) Prasad Nagar New Delhi, School ID 2128020
113	2	Central/ New Delhi	2026002	Govt. Sarvodaya Vidyalaya,Kitchner Road, Malcha Marg, New Delhi, School ID 2026002
114	3	Central/ New Delhi	2026004	SKV Pandra Road

List of 114 Schools for Setting up of RAA Lab

Delivery Challan (RAA Lab)

List of Equipments under the four packages under Phase III for setting up of RAA Labs under Major Component-Quality Interventions and Sub Component- Funds for Quality (LEP, Innovation, Guidance etc.)

School Name:					
Pin Code:		**UDISE Code:**			
Name of the HoS		**Mobile Number:**			
Package 1 : Electronics Development, Robotics, Internet of things and Sensors					
Category	**Name**	**Specification**	**Suggested Quantity**	**Type**	**Received**
Electronics Development	Arduino Uno or equivalent	• 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)	30	Consumable	
Electronics Development	Arduino Nano or equivalent	• 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:8 • Accessories : Compatible USB cable (length- 6 inch or more)	10	Consumable	

Category	Name	Specification	Suggested Quantity	Type	Received
Electronics Development	Arduino Mega or equivalent	• 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)	10	Consumable	
Electronics Development	RaspberryPi3 Model B+	• 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	5	Consumable	
Electronics Development	Breadboards &Mini Breadboard	• Solderless 400 pin breadboard • Solderless 800 pin breadboard • Self- Adhesive Proto shield	30 20 20	Consumable	
Electronics Development	General Purpose Solderable Board	• FR2A Grade Material (140x90mm) • FR2 A Grade Material (80x55mm)	30 30	Consumable Consumable	

Category	Name	Specification	Suggested Quantity	Type	Received
	Berg Strips	• Female Berg Strip, 2.54mm Pitch, 40 pin Single row, breakable pin • Male Berg Strip, 2.54mm Pitch, 40 pin Single row, breakable pin	30 30	Consumable Consumable	
Electronics Development	16x2 LCD display	• Dot matrix LCD display. 16 characters x2 lines. 12C	20	Consumable	
Electronics Development	USB Cables	• USB cable Set (A to B mini, 12 inches or more)	10	Consumable	
Electronics Development	USB Cables	• USB cable Set (Mini, 12 inches or more)	10	Consumable	
Electronics Development	Battery	• 9-12V 2000 to 2500 mAh rechargeable battery with 2 chargers, Equivalent or better	10	Consumable	
Electronics Development	Resistor Kit	• One kit contains-30 carbon film resistors of 20 different resistance values each assorted, packaged together and labelled. • Wattage:0.125W to 1W • Values: 0Ω, 1.5Ω, 4.7Ω, 10Ω, 47Ω, 100Ω, 220Ω, 330Ω, 470Ω, 680Ω, 1kΩ, 2.2kΩ, 3.3kΩ, 4.7kΩ, 10kΩ, 22kΩ, 47kΩ, 100kΩ, 330kΩ, 1MΩ,	20	Consumable	

Category	Name	Specification	Suggested Quantity	Type	Received
Electronics Development	Capacitor Kit	• 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.	20	Consumable	
Electronics Development	Linear Voltage Regulator	• 7805, 7812, 7809	30	Consumable	
Electronics Development	Water Pump module	• DC12V3W submersible water Pump	4	Consumable	
Electronics Development	Piezoelectric Plate	• Normal Copper based 4cm Diameter approx.	30	Consumable	
Electronics Development	8*8 LED Matrix Module	• Max7219 Dot LED Matrix Module. MCU control LED Display Module.	10	Consumable	
Electronics Development	Bluetooth Module	• HC 05 Bluetooth module • Voltage Rating :5V	15	Consumable	
Electronics Development	7 Segment Led Display	• LED 4-Digit Display Module • Voltage Rating:2.4V to 5.5V • 4-Pin interface: • VCC, Gnd, Data Clock	20	Consumable	
Electronics Development	GSM	• Sim900 GPRS Transfer board Micro Sim GSM Core TTL Port Module for Arduino	4	Consumable	

Category	Name	Specification	Suggested Quantity	Type	Received
Electronics Development	GPS	• GY-NEO6MV2 new GPS module	4	Consumable	
Electronics Development	Laser Diode Emitter	• 650 nm 5mW Mini Laser Dot Diode Module	10	Consumable	
Electronics Development	LDR Module	• 5mm/12mm, Photosensitive LDR Light Sensor Module	30	Consumable	
Electronics Development	Keypad	• Universal 16 Key Switch Keypad	10	Consumable	
Electronics Development	Joystick	• 2-axis joystick with push button function	10	Consumable	
Electronics Development	Active Buzzer	• Small 5 volt • Big 5 Volt	40 40	Consumable Consumable	
Electronics Development	Motor Drive Module	• L293D	10	Consumable	
Electronics Development	Sound Playback Module	• ISD1820 voice recording module or equivalent	10	Consumable	
Electronics Development	DC Plastic Gear motor with Wheel	• 12V, 150RPM, Side shaft BO (Battery operation) Motor	40	Consumable	
Electronics Development	Node MCU	• ESP 8266 • 12C, 1 wire Plug and Play	6	Consumable	
Electronics Development	WeMosD1R2	• WeMosD1R2 with WiFi ESP 8266 • Operating Voltage :5V	6	Consumable	
Electronics Development	Vibrating Motor	• Weight: 10 Grams • Operating Voltage: 1.5 to 3V	20	Consumable	
Electronics Development	Alligator Connectors	• Multi-Colour Alligator Connectors-12inch	200	Consumable	
Electronics Development	Battery Clips With DC Jack	• 9-volt battery clips with DC jack	40	Consumable	

Category	Name	Specification	Suggested Quantity	Type	Received
Electronics Development	Hook-up wires	• Red & Black set 100 meters each	4	Consumable	
Electronics Development	Jumper Cable	• Male-Male • Male-Female • Female-Female	1000 600 400	Consumable	
Electronics Development	RGB LEDs	• Regular 5mm 3-5volt Range	400	Consumable	
Electronics Development	RGB LEDs (Red)	• Regular 5mm 3-5volt Range	1000	Consumable	
Electronics Development	RGB LEDs (Green)	• Regular 5mm 3-5volt Range	1000	Consumable	
Electronics Development	RGB LEDs (Blue)	• Regular 5mm 3-5volt Range	1000	Consumable	
Electronics Development	RGB LEDs (Yellow)	• Regular 5mm 3-5volt Range	1000	Consumable	
Electronics Development	RGB LEDs (White)	• Regular 5mm 3-5volt Range	1000	Consumable	
Electronics Development	Timer IC-LM 555	• LM555 Timer IC • Voltage Range-4.5V to 16V	30	Consumable	
Electronics Development	Atmega16u2	• 8-bit microcontroller Individual IC (DIP) • Voltage range:2.7V to 5.5V. • Operational Range: -40 C to +80 C	10	Consumable	
Electronics Development	Diodes and Transistors Kit	• 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	3	Consumable	

		better. • Wattage: 1 W, Current rating 1A • Assorted Kit packaged 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 Kit packaged together and labelled.	3	Consumable	
Electronics Development	Capacitative Touch switch Module	• MPR 121 with 12C. • Voltage Range :2.5V to 3.6V DC.	20	Consumable	
Electronics Development	Capacitative Touch Switch Module	• Digital Capacitive Touch Switch module-TTP223B • Voltage Range 2V to 5V DC	10	Consumable	
Electronics Development	IR Sensors, Obstacle avoider Sensor Module	• LM 393 • Detection Distance: 2-30cm • Detection Angle: 30-40°	20	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	10	Consumable	

Category	Name	Specification	Suggested Quantity	Type	Received
Internet of Things & Sensors	Humidity Sensor	• Operating Range: 20-95% RH • Temperature: 0-60 Celsius • Power Supply:1.5V AC (Max Sine) • Operating Frequency: 500Hz- 2kHz	10	Consumable	
Internet of Things & Sensors	MQ Series	• MQ-2 Smoke Detection • MQ-3 Alcohol-Ethanol Sensor • MQ-4 Methane Natural Gas Sensor • MQ-5 Methane Natural Gas Sensor • Q-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	3 3 3 3 3 3 3 3 3	Consumable	
Internet of Things & Sensors	IR transmitter/ receiver	• TSOP 1738 • Switching rate:38KHz • Voltage Rating :5V	10	Consumable	

Category	Name	Specification	Suggested Quantity	Type	Received
Internet of Things &Sensors	Ultrasonic Sensor Module HC-SR-04 or Compatible	• Working Voltage-DC 5V • Working Current-15mA • Working Frequency -40Hz • Range-1 cm to 4m • Effectual Angle-<15° • Measuring Angle-30° • Resolution – 0.3cm	40	Consumable	
Internet of Things & Sensors	Triple Axis Accelerometer	• 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	10	Consumable	
Internet of Things & Sensors	PIR Motion Detector Module	• High digital pulse when motion detected • Low digital pulse when idle/no motion detected • Sensitivity range (up to 6m) • Power supply:5V-12V	20	Consumable	
Internet of Things & Sensors	Pulse Rate Heart Sensor	• Pulse Rate Sensor Finger Based (finger or earlobe) Working voltage 3-5V	4	Consumable	
Internet of Things & Sensors	Rely Module	• 5V10A-2 channel Relay Module. Compatible with Arduino.	20	Consumable	

Category	Name	Specification	Suggested Quantity	Type	Received
Internet of Things & Sensors	Rely Module	• 5V10A-1 channel Relay Module. Compatible with Arduino.	20	Consumable	
Internet of Things & Sensors	Big Sound microphone module	• Large Electret capsule sound module	10	Consumable	
Internet of Things & Sensors	Big Sound microphone module	• Large Electret capsule sound module	10	Consumable	
Internet of Things & Sensors	Soil Moisture Sensor module	• FC – 28 with LM 293 comparator • Operating Voltage: 3.3V to 5C	6	Consumable	
Internet of Things & Sensors	Touch Sensor	• Capacitive Touch Sensor • Module. TTP22x series. • Voltage Range: 2.4v to 5.5v	6	Consumable	
Internet of Things & Sensors	Metal Touch Sensor module	• KY-036 or equivalent metal touch sensor module	6	Consumable	
Internet of Things & Sensors	Rain Drop Sensor	• Rain Sensitive, Rain Drop Detection Sensor Module. Voltage Range: 3.3V to 5.5V • Size: 5mm x 40mm or equivalent.	6	Consumable	
Internet of Things & Sensors	Flex Sensor	• Flex Sensor : Size- 2.2 inches	6	Consumable	
Internet of Things & Sensors	Temperature Sensor	• LM 35 full range temperature Sensor. Voltage Range: 4V to 30V. Error: 0.5˚c	6	Consumable	
Internet of Things & Sensors	Temperature Sensor	• DHT 11 • Voltage Range: 3V to 5V	40	Consumable	
Internet of Things & Sensors	Force pressure Sensor	• Force sensitive resistor with a square, 1.75x1.5" sensing area	4	Consumable	

Category	Name	Specification	Suggested Quantity	Type	Received
Internet of Things & Sensors	Colour Recognition Sensor	• TCS 3200 colour Recognition Sensor	4	Consumable	
Internet of Things & Sensors	Water Flow Sensor	• Arduino Compatible water flow sensor. 5V DC Input	4	Consumable	
Internet of Things & Sensors	Sound Sensor	• Sound Sensor Module Microphones module	10	Consumable	
Internet of Things & Sensors	IR Sensor Array module for line Following	• 8 IR Sensor Array module for Line following • Operating Voltage:5V	10	Consumable	
Internet of Things & Sensors	Power Bank	• 10000 mAh5Volt Power Bank	5	Consumable	
Internet of Things & Sensors	RFID Reader Tags	• 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	10	Consumable	
Internet of Things & Sensors	RF modules Tx & Rx 315 MHz Ask	• Frequency Range: 433.93/315 MHz • Supply voltage: 3-6V • Output: 4-16 Dbm • Low Power consumption • Easy Application	10	Consumable	
Robotics	Stepper motor with driver board	28BYJ-48ULN20035V Stepper Motor + ULN2003Driver Board	10	Consumable	

Category	Name	Specification	Suggested Quantity	Type	Received
Robotics	DC motor	12V DC Gear 150 RPM	20	Consumable	
Robotics	Servo Motors	• Position Servo Angle Based Metal Gear • Small Servo Metal Gear • Continuous Metal Gear Servo 360 • Small Servo Plastic Gear	10 10 10 40	Consumable	
Robotics	150 RPM BO Motor	150 RPM BO Motor	10	Consumable	
Robotics	L298P Motor Driver	L298P Moto Drive Shield or Relative Drive Shield	10	Consumable	
Robotics	Servo Motor Tester	CCPM 3 channel Servo Tester	4	Consumable	
DIY Kit	Robotics DIY Kit	Robotics DIY kit with programmable intelligent brain/brick	3	Equipment	
DIY Kit	Mechanical (Modular) Construction kit	Metal/Plastic mechanical construction kits compatible with electronic equipment	5	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	Printer type: FDM (Fused Deposition Modelling), Minimum dimensions: 160mm*160mm Build size or 4 litre Build volume, Nozzle: 0.3mm to 0.4mm nozzle diameter, slicing software should be free or open source, LCD screen UI that display print metrics, Good Heated print Bed Material Compatibility – PLA, ABS and derivatives of PLA, Ninja flex Quality Anti-bacterial/ fungal cover. Repair Kit – with spare springs, Screws, keys, tweezers, etc.	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	5	Consumable	
Rapid Prototyping Tools	Filament storage box	Compatible filament storage box	5	Consumable	
Rapid Prototyping Tools	Set of Arts & Crafts Accessories- e.g. - stationary items and basic prototyping material	Cardboard	5	Consumable	
		Foam core boards	5		
		20 m spool of thick strings various colours	5		
		Rubber band	100		
		Popsicle sticks	100		
		Wood glue- 500 ml	2		

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	10	Consumable	
Mechanical Tools	Mini Hacksaw Frame	Size: 6 inches	1	Equipment	
Mechanical Tools	Mini Hacksaw blades	Size: 6 inches	10	Consumable	
Mechanical Tools	Pliers: 4.5 inch size	• 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	2	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	4	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	2	Equipment	
Mechanical Tools	Wrench	Adjustable Universal Wrench	2	Equipment	
Mechanical Tools	Wire Strippers	Wire Stripper Cutter Plier With Spring - 26*6*20cm (L*W*H)	5	Equipment	
Mechanical Tools	Screwdriver	40 pc Multi-Purpose Screwdriver set	3	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	2	Equipment	
Electric Tools	Hot glue gun	Works with standard 0.5-inch glue sticks. Temperature-230 to 280 degree Celsius.	4	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	• Variable Wattage of soldiering 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	4	Equipment	

		Soldering tip-Bevel, Chisel, Conical-5 each per kit • Soldering Wire:20/22 AWG Soldering wire with fosin core flux (100 Grams)			
Electric Tools	Adapters	DC Power Adapter with 5V, 2A	10	consumable	
Electric Tools	Adapters	DC Power Adapter with 12V, 2A	10	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	4	Equipment	
Measurement Tools	Return measuring tape	Return Measuring tape 5M x 19MM	2	Equipment	
Measurement Tools	Stainless Steel Rule	Stainless Steel 12"/150 mm Rule	5	Equipment	
Measurement Tools	Digital Vernier Calliper	150mm/6" digital Vernier Calliper	2	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	5	Equipment	
Biology Kit	DIY paper Microscope	DIY Paper microscope Magnification range-100*to 2000*	5	Consumable	
Astronomy Equipment	Telescope	• All glass Optical Components • Altazimuth mount suitable for terrestrial and astronomical use • Minimum 700mm focal length	1	Equipment	
Textile Equipment	Sewing Kit	• 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	• 11 mm x 200mm Hot Melt Glue Stick	100	Consumable	
Power Supply & accessories	Nuts and Bolts and Screw	• Specs-M4x12MM • M4X20MM M5X16MM • M5X25MM M6X20MM	40	Consumable	
Power Supply & Accessories	Cable Tie	• Small Cable Tie Pack-Pack of 100 • Medium Cable Tie Pack, Pack of 100 • Big Cable Tie Pack, Pack of 100	10 10 10	Consumable Consumable Consumable	
Power Supply & Accessories	Sand Paper	• Grit Values – 80, 100, 120, 200, 300, 5 Nos of each	10	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.	5	Consumable	
Power Supply & Accessories	Bulb Holders	Regular Hanging Bulb holder	10	Consumable	
Power Supply & Accessories	Electric wires	Twisted Red black pair	20 meters	Consumable	
Power Supply & Accessories	USB to DC jack cable	USB to DC Jack Cable for Battery Bank	10	Consumable	
Safety Equipment	First Aid Kit	Standard Medical First Aid Kit in portable container.	2	Consumable	
Safety Equipment	Fire extinguisher (handy units)	Powder Type fire extinguisher 2KG	2	Consumable	

Category	Name	Specification	Suggested Quantity	Type	Received
Safety Equipment	Safety goggles (with/without LED torch)	Polycarbonate Safety goggles Clear lens with no tint	30	Consumable	
Safety Equipment	Safety Gloves Pairs	Latex Coating Gloves (Medium Size)	10	Consumable	
Safety equipment	Safety Mask	Filtering efficiency ranging 80 percent when tested against 0.3 micron sodium chloride particle	20	Consumable	

It is certified that the above items supplied for RAA Labs under Rashtriya Avishkar Abhiyan by IIT Kanpur as per MoU signed between Samgara Shiksha and IIT Kanpur are delivered in good condition.

Delivery Date: Time :

Signature of HoS   Signature of IIT, Kanpur Representative with
School Stamp   with Stamp.