

**ELIGIBILITY**

<b>Sr. No.</b>	<b>Eligibility Criteria</b>	<b>Compliance (Yes/No)</b>	<b>Supporting documents to be submitted</b>
1	The bidder must be an Indian firm/ Company / Organization registered under Companies Act/Partnership Act/LLP Act etc. or a foreign company, registered under applicable laws & regulations, with Sales and Support arrangement in India.		Copy of the Certificate of Incorporation issued by Registrar of Companies and full address of the registered office.  Proof of partnership/LLP.  Foreign companies to provide declaration with details of sales & support arrangement in India.
2	The bidder should be profit making company i.e. Profit after tax for at least any two of the last three Financial Years (2018-19, 2019-20 and 2020-21)		The audited Balance Sheet for the last 3 years should be enclosed.
3	The proposal by the bidder should satisfy the requirement as stated in Annexure B and should have been implemented in at least two organizations on the same or bigger scale in India.		Two references with following details for each reference to be provided: 1. Name of the Organization 2. Name of the Official 3. Contact number of Official. 4. E-mail ID of Official 5. Purchase Orders
4	The bidder can be a software (OEM/OEMs) of the Proposed solutions or can be a System Integrator (SI), who is authorized by an OEM to propose and implement the proposal.		Declaration to be provided

5	The bidder should not have been debarred/black-listed by the Government / Government Agency / Banks / Financial Institutions in India during the last three years		Self-declaration this effect must be submitted in company letter head.
6	The bidder should have a support office with minimum 50 support/customization employees in any state of India.		Self – declaration to be submitted.

Note:

1. All eligibility requirements mentioned above should be complied by the bidders as applicable and relevant support documents should be submitted for the fulfillment of eligibility criteria failing which the Bids may be summarily rejected. Self- declaration needs to be signed by the Authorized Signatory of the Bidder. Non- compliance of any of the criteria can entail rejection of the offer.
2. UNISED reserves the right to verify/evaluate the claims made by the Bidder independently. Any deliberate misrepresentation will entail rejection of the offer ab-initio.

## SCOPE OF WORK

The applicant should clearly describe how their proposal will meet the required parameters and provide details thereof in their EOI proposal on the following lines. It must explicitly mention all details

**If the solution/proposal is not able to meet some of the parameters mentioned below directly, the solution providers must explicitly mention supporting partner details and must be able to provide seamless integration to meet the parameters (Though it is not preferred, it will be examined by UNISED at its sole discretion, considering the individual weightage for each parameter subject to the adherence of the other terms and conditions mentioned in this EOI)**

Applicants should clearly specify whether they adhere to each of the following requirements (Yes/No).

Sr. No.	Parameters	Compliance (Yes/No)
1	<p><b>SUPPORT DIFFERENT ASSET CLASSES:</b> Complete Front to Back solution with the ability to support comprehensive spectrum of asset classes such as forex, equities, mutual funds, bonds, Government Securities, money markets, derivatives, fixed, incomes, Alternative Investment Funds and cash equivalents etc.</p>	
2	<p><b>COMPLETE DERIVATIVES MODULE:</b> Ability to handle CSA backed trades as well as trades notated to CCPs (including CCIL, LCH, etc.).</p> <p>Capability to handle Initial Margin as well as Variation Margin Requirements Documentation details, ISDA, historical versioning of agreements. Storing electronic copy of master agreements to file server with linking to counterparty data.</p>	

3	<b>COMPLETE CASH MODULE:</b> including forex, borrowings including bonds, loans and hybrid instruments as well as investments including but not limited to equities, mutual funds, bonds, Government Securities, money markets, derivatives, fixed incomes, Alternative Investment Funds and cash equivalents, etc.	
4	<b>FULL-TRADE LIFE CYCLE SUPPORT:</b> End-to-end ability to support trading activities, including pre- and post-trade functions, workflow configuration, automation and control of trade. System should be capable of checking short selling.	
5	<b>COMPLETE COMPLIANCE MODULE including PRE-DEAL LIMIT CHECKS</b>	
6	<b>COMPLETE ASSET-LIABILITY MANAGEMENT (ALM) MODULE</b>	
7	<b>COMPLETE CREDIT RISK MODULE</b>	
8	<b>COMPLETE MARKET RISK MODULE</b>	
9	<b>COMPLETE HEDGING MODULE including HEDGE ACCOUNTING:</b> Hedge identification wherein, there should be a functionality to link the hedging instrument (derivative) with the underlying (Strategy Linking) for IRS as well as CCS deals.	
10	<b>COMPLETE ACCOUNTING MODULE</b>	
11	<b>COMPLETE LIQUIDITY MANAGEMENT MODULE:</b> The System supports monitoring cash flows by instrument /dealer/portfolio on a real time basis.  The System shall support monitoring balances and projected cash flows and retrieving historical data of cash flows for planning fund transfer and investment.	
12	<b>COMPLETE BALANCE SHEET MANAGEMENT MODULE</b>	
13	<b>INTEGRATION WORKFLOW CAPABILITIES:</b> Set of capabilities centering on the orchestration layer, integration and synchronization with external systems, third-party execution platforms or service providers.	

14	<p><b>REPORTING CAPABILITIES:</b> Support for both internal and external (regulatory) reporting capabilities involving BI, real time data aggregation, NOOP (Net Overnight Open Position), MIS support for generation of reports, Transaction level reporting etc., preferably out-of-the-box i.e., without using any third-party services/applications. System should be capable of designing and generating ad-hoc reports/ user defined reports by the bank officials through a user-friendly interface/ MIS Module. This is regarding the generation of reports and not the delivery channel as such.</p>	
15	<p><b>RISK MANAGEMENT:</b> Front-to-back risk management capabilities, including pre-trade to post-trade execution across all asset classes, real-time risk assessment capabilities, stress-testing tools, back testing, clean backtesting, dirty back testing, limit management, VaR and Enterprise VaR (EVAR), Stress VaR etc., forward guidance along with limit management.</p>	

**Note: The bidders may please note that the above parameters are only indicative, comprehensive detail may be included in the Request for Proposal (RFP) document to be issued post completion of the EOI process.**

**List of Equipment under ATL for EOI**

**Annexure-'C'**

<b>Package 1 : Electronics Development, Robotics, Internet of things and Sensors</b>				
<b>Category</b>	<b>Name</b>	<b>Specification</b>	<b>Suggested Quantity</b>	<b>Type</b>
Electronics Development	Arduino Uno or equivalent	<ul style="list-style-type: none"> <li>● ATmega 328P-8 bit AVR family microcontroller, equivalent or better.</li> <li>● Operating Voltage: 5V</li> <li>● Digital I/O Pins: 14 (of which 6 Provide PWM output)</li> <li>● PWM digital I/O Pins: 6</li> <li>● Accessories : Case shell enclosure, compatible USB cable (length- 6 inch or more)</li> </ul>	30	Consumable
Electronics Development	Arduino Nano or equivalent	<ul style="list-style-type: none"> <li>● ATmega 328P-8 bit AVR family microcontroller, equivalent or better.</li> <li>● Operating Voltage: 5V</li> <li>● Digital I/O Pins: 14 (of which 6 Provide PWM output)</li> <li>● Analog Input Pins: 8</li> <li>● Accessories : Compatible USB cable (length- 6 inch or more)</li> </ul>	10	Consumable
Electronics Development	Arduino Mega or equivalent	<ul style="list-style-type: none"> <li>● ATmega 2560P-8 bit AVR family microcontroller, equivalent or better.</li> <li>● Operating Voltage: 5V</li> <li>● Digital I/O Pins: 54 (of which 6 provide PWM output)</li> <li>● Analog Input Pins: 16</li> <li>● Accessories : Case Shell enclosure, Compatible USB cable (length- 6 inch or more)</li> </ul>	10	Consumable

Category	Name	Specification	Suggested Quantity	Type
Electronics Development	RaspberryPi3 Model B+	<ul style="list-style-type: none"> <li>● RASPBERRY PI 3 MODEL B+, equivalent or better</li> <li>● Accessories- Micro SD card- 32 GB, USB 3.0 cable (1 meter), HDMI to VGA-1 Meter, HDMI to VGA adapter, Case shell enclosure</li> </ul>	5	Consumable
Electronics Development	Breadboards & Mini Breadboard	<ul style="list-style-type: none"> <li>● Solderless 400 pin breadboard</li> <li>● Solderless 800 pin breadboard</li> <li>● Self- Adhesive Proto shield</li> </ul>	30 20 20	Consumable
Electronics Development	General Purpose Solderable Board	<ul style="list-style-type: none"> <li>● FR2A Grade Material (140x90mm)</li> <li>● FR2 A Grade Material (80x55mm)</li> </ul>	30 30	Consumable Consumable
Electronics Development	Berg Strips	<ul style="list-style-type: none"> <li>● Female Berg Strip, 2.54mm Pitch, 40 pin Single row, breakable pin</li> <li>● Male Berg Strip, 2.54mm Pitch, 40 pin Single row, breakable pin</li> </ul>	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

Category	Name	Specification	Suggested Quantity	Type
Electronics Development	Resistor Kit	<ul style="list-style-type: none"> <li>● One kit contains-30 carbon film resistors of 20 different resistance values each assorted, packaged together and labelled.</li> <li>● Wattage:0.125W to 1W</li> <li>● 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,</li> </ul>	20	Consumable
Electronics Development	Capacitor Kit	<ul style="list-style-type: none"> <li>● One kit contains-20 Electrolytic capacitors of 10 different capacitance values each.</li> <li>● Assorted kit packaged together and labelled.</li> <li>● Values: 10pF, 22pF, 100pF, 1nF, 10nF, 100nf, 1μF, 10μF, 100μF, 1000μF.</li> </ul>	20	Consumable
Electronics Development	Linear Voltage Regulator	<ul style="list-style-type: none"> <li>● 7805, 7812, 7809</li> </ul>	30	Consumable
Electronics Development	Water Pump module	<ul style="list-style-type: none"> <li>● DC12V 3W submersible water Pump</li> </ul>	4	Consumable
Electronics Development	Piezoelectric Plate	<ul style="list-style-type: none"> <li>● Normal Copper based 4cm Diameter approx.</li> </ul>	30	Consumable
Electronics Development	8*8 LED Matrix Module	<ul style="list-style-type: none"> <li>● Max7219 Dot LED Matrix Module. MCU control LED Display Module.</li> </ul>	10	Consumable
Electronics Development	Bluetooth Module	<ul style="list-style-type: none"> <li>● HC 05 Bluetooth module</li> <li>● Voltage Rating :5V</li> </ul>	15	Consumable
Electronics Development	7 Segment Led Display	<ul style="list-style-type: none"> <li>● LED 4-Digit Display Module</li> <li>● Voltage Rating:2.4V to 5.5V</li> <li>● 4-Pin interface:</li> <li>● VCC, Gnd, Data Clock</li> </ul>	20	Consumable

Category	Name	Specification	Suggested Quantity	Type
Electronics Development	GSM	<ul style="list-style-type: none"> <li>● Sim900 GPRS Transfer board Micro Sim GSM Core TTL Port Module for Arduino</li> </ul>	4	Consumable
Electronics Development	GPS	<ul style="list-style-type: none"> <li>● GY-NEO6MV2 new GPS module</li> </ul>	4	Consumable
Electronics Development	Laser Diode Emitter	<ul style="list-style-type: none"> <li>● 650 nm 5mW Mini Laser Dot Diode Module</li> </ul>	10	Consumable
Electronics Development	LDR Module	<ul style="list-style-type: none"> <li>● 5mm/12mm, Photosensitive LDR Light Sensor Module</li> </ul>	30	Consumable
Electronics Development	Keypad	<ul style="list-style-type: none"> <li>● Universal 16 Key Switch Keypad</li> </ul>	10	Consumable
Electronics Development	Joystick	<ul style="list-style-type: none"> <li>● 2-axis joystick with push button function</li> </ul>	10	Consumable
Electronics Development	Active Buzzer	<ul style="list-style-type: none"> <li>● Small 5 volt</li> <li>● Big 5 Volt</li> </ul>	40 40	Consumable Consumable
Electronics Development	Motor Drive Module	<ul style="list-style-type: none"> <li>● L293D</li> </ul>	10	Consumable
Electronics Development	Sound Playback Module	<ul style="list-style-type: none"> <li>● ISD1820 voice recording module or equivalent</li> </ul>	10	Consumable
Electronics Development	DC Plastic Gear motor with Wheel	<ul style="list-style-type: none"> <li>● 12V, 150RPM, Side shaft BO (Battery operation) Motor</li> </ul>	40	Consumable
Electronics Development	Node MCU	<ul style="list-style-type: none"> <li>● ESP 8266</li> <li>● 12C, 1 wire Plug and Play</li> </ul>	6	Consumable
Electronics Development	WeMos D1 R2	<ul style="list-style-type: none"> <li>● WeMosD1R2 with WiFi ESP 8266</li> <li>● Operating Voltage :5V</li> </ul>	6	Consumable
Electronics Development	Vibrating Motor	<ul style="list-style-type: none"> <li>● Weight: 10 Grams</li> <li>● Operating Voltage: 1.5 to 3V</li> </ul>	20	Consumable
Electronics Development	Alligator Connectors	<ul style="list-style-type: none"> <li>● Multi-Colour Alligator Connectors-12 inch</li> </ul>	200	Consumable
Electronics Development	Battery Clips With DC Jack	<ul style="list-style-type: none"> <li>● 9-volt battery clips with DC jack</li> </ul>	40	Consumable

<b>Category</b>	<b>Name</b>	<b>Specification</b>	<b>Suggested Quantity</b>	<b>Type</b>
Electronics Development	Hook-up wires	<ul style="list-style-type: none"> <li>●Red &amp; Black set 100 meters each</li> </ul>	4	Consumable
Electronics Development	Jumper Cable	<ul style="list-style-type: none"> <li>●Male-Male</li> <li>●Male-Female</li> <li>●Female-Female</li> </ul>	1000 600 400	Consumable
Electronics Development	RGB LEDs	<ul style="list-style-type: none"> <li>●Regular 5mm 3-5 volt Range</li> </ul>	400	Consumable
Electronics Development	LEDs (Red)	<ul style="list-style-type: none"> <li>●Regular 5mm 3-5 volt Range</li> </ul>	1000	Consumable
Electronics Development	LEDs (Green)	<ul style="list-style-type: none"> <li>●Regular 5mm 3-5 volt Range</li> </ul>	1000	Consumable
Electronics Development	LEDs (Blue)	<ul style="list-style-type: none"> <li>●Regular 5mm 3-5 volt Range</li> </ul>	1000	Consumable
Electronics Development	LEDs (Yellow)	<ul style="list-style-type: none"> <li>●Regular 5mm 3-5 volt Range</li> </ul>	1000	Consumable
Electronics Development	LEDs (White)	<ul style="list-style-type: none"> <li>●Regular 5mm 3-5 volt Range</li> </ul>	1000	Consumable
Electronics Development	Timer IC-LM 555	<ul style="list-style-type: none"> <li>●LM555 Timer IC</li> <li>●Voltage Range- 4.5V to 16V</li> </ul>	30	Consumable
Electronics Development	Atmega16u2	<ul style="list-style-type: none"> <li>●8-bit microcontroller Individual IC (DIP)</li> <li>●Voltage range: 2.7 V to 5.5V.</li> <li>●Operational Range: -40°C to +80°C</li> </ul>	10	Consumable
Electronics Development	Diodes and Transistors Kit	<ul style="list-style-type: none"> <li>●One Kit Contains-25 Assorted Basic Diodes of 4 different types each.</li> <li>●Types: NPN Transistor-2N3904,BC547PNP Transistor</li> <li>●-2N3906, BC557 Silicon Diode</li> <li>●1N4148, Power Diode 1N4004/4001</li> <li>●Equivalent or better.</li> </ul>	3	Consumable

		<ul style="list-style-type: none"> <li>●Wattage: 1 W, Current rating 1A</li> <li>●Assorted Kit packaged together and labelled.</li> </ul>		
<b>Category</b>	<b>Name</b>	<b>Specification</b>	<b>Suggested Quantity</b>	<b>Type</b>
Electronics Development	Button Switch set	<ul style="list-style-type: none"> <li>●One Kit Contains-100 buttons of different types.</li> <li>●Types: Push, toggle, rotary, selector and slide switch</li> <li>●Assorted Kit packaged together and labelled.</li> </ul>	3	Consumable
Electronics Development	Capacitive Touch switch Module	<ul style="list-style-type: none"> <li>●MPR 121 with 12C.</li> <li>●Voltage Range: 2.5V to 3.6V DC.</li> </ul>	20	Consumable
Electronics Development	Capacitive Touch Switch Module	<ul style="list-style-type: none"> <li>●Digital Capacitive Touch Switch module-TTP223B</li> <li>●Voltage Range 2V to 5V DC</li> </ul>	10	Consumable
Electronics Development	IR Sensors, Obstacle avoider Sensor Module	<ul style="list-style-type: none"> <li>●LM 393</li> <li>●Detection Distance: 2-30cm</li> <li>●Detection Angle: 30-40°</li> </ul>	20	Consumable
Internet of Things & Sensors	Triple Axis Magnetometer	<ul style="list-style-type: none"> <li>●3-Axis Magnetoresistive Sensors</li> <li>●12C Digital Interface</li> <li>●Integrated 12-bit ADC</li> <li>●Range of -8 to +Gauss</li> <li>●160 Hz Maximum o/p rate</li> </ul>	10	Consumable
Internet of Things & Sensors	Humidity Sensor	<ul style="list-style-type: none"> <li>●Operating Range: 20-95% RH</li> </ul>	10	Consumable

		<ul style="list-style-type: none"> <li>●Temperature: 0-60 Celsius</li> <li>●Power Supply:1.5V AC (Max Sine)</li> <li>●Operating Frequency: 500Hz- 2kHz</li> </ul>		
<b>Category</b>	<b>Name</b>	<b>Specification</b>	<b>Suggested Quantity</b>	<b>Type</b>
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 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	<ul style="list-style-type: none"> <li>●TSOP 1738</li> <li>●Switching rate:38KHz</li> <li>●Voltage Rating :5V</li> </ul>	10	Consumable

Internet of Things & Sensors	Ultrasonic Sensor Module HC-SR-04 or Compatible	<ul style="list-style-type: none"> <li>● Working Voltage-DC 5V</li> <li>● Working Current-15mA</li> <li>● Working Frequency -40Hz</li> <li>● Range-1 cm to 4m</li> <li>● Effectual Angle- &lt;15°</li> <li>● Measuring Angle-30°</li> <li>● Resolution - 0.3cm</li> </ul>	40	Consumable
<b>Category</b>	<b>Name</b>	<b>Specification</b>	<b>Suggested Quantity</b>	<b>Type</b>
Internet of Things & Sensors	Triple Axis Accelerometer	<ul style="list-style-type: none"> <li>● 3-axis sensing</li> <li>● Small, Low profile Package</li> <li>● 4mm x 4 mm x 1.45 mm LFCSP</li> <li>● Low Power: 350 <math>\mu</math>A (typical)</li> <li>● Single-supply operation:1.8V to 3.6V</li> <li>● Temperature Stability</li> </ul>	10	Consumable
Internet of Things & Sensors	PIR Motion Detector Module	<ul style="list-style-type: none"> <li>● High digital pulse when motion detected</li> <li>● Low digital pulse when idle/no motion detected</li> <li>● Sensitivity range (up to 6m)</li> <li>● Power supply:5V-12V</li> </ul>	20	Consumable
Internet of Things & Sensors	Pulse Rate Heart Sensor	<ul style="list-style-type: none"> <li>● Pulse Rate Sensor Finger Based (finger or earlobe)</li> <li>Working voltage 3-5V</li> </ul>	4	Consumable
Internet of Things & Sensors	Relay Module	<ul style="list-style-type: none"> <li>● 5V10A-2 channel Relay Module. Compatible with Arduino.</li> </ul>	20	Consumable
Internet of Things & Sensors	Relay Module	<ul style="list-style-type: none"> <li>● 5V10A-1 channel Relay Module. Compatible with Arduino.</li> </ul>	20	Consumable
Internet of Things & Sensors	Big Sound microphone module	<ul style="list-style-type: none"> <li>● Large Electret capsule sound module</li> </ul>	10	Consumable
Internet of Things & Sensors	Soil Moisture Sensor module	<ul style="list-style-type: none"> <li>● FC - 28 with LM 293 comparator</li> <li>● Operating Voltage: 3.3V to 5V</li> </ul>	6	Consumable

Internet of Things & Sensors	Touch Sensor	<ul style="list-style-type: none"> <li>●Capacitive Touch Sensor Module.</li> <li>●TTP22X series.</li> <li>●Voltage Range: 2.4V to 5.5V</li> </ul>	6	Consumable
Internet of Things & Sensors	Metal Touch Sensor module	<ul style="list-style-type: none"> <li>●KY-036 or equivalent metal touch sensor module</li> </ul>	6	Consumable
<b>Category</b>	<b>Name</b>	<b>Specification</b>	<b>Suggested Quantity</b>	<b>Type</b>
Internet of Things & Sensors	Rain Drop Sensor	<ul style="list-style-type: none"> <li>●Rain Sensitive, Rain Drop Detection Sensor Module. Voltage Range: 3.3V to 5.5V</li> <li>●Size: 5mm x 40mm or equivalent.</li> </ul>	6	Consumable
Internet of Things & Sensors	Flex Sensor	<ul style="list-style-type: none"> <li>●Flex Sensor : Size- 2.2 inches</li> </ul>	6	Consumable
Internet of Things & Sensors	Temperature Sensor	<ul style="list-style-type: none"> <li>●LM 35 full range temperature Sensor. Voltage Range: 4V to 30V. Error: <math>\pm 0.5^{\circ}\text{c}</math></li> </ul>	6	Consumable
Internet of Things & Sensors	Temperature and humidity sensor module	<ul style="list-style-type: none"> <li>●DHT 11</li> <li>●Voltage Range: 3V to 5V</li> </ul>	40	Consumable
Internet of Things & Sensors	Force pressure Sensor	<ul style="list-style-type: none"> <li>●Force sensitive resistor with a square, 1.75x1.5" sensing area</li> </ul>	4	Consumable
Internet of Things & Sensors	Colour Recognition Sensor	<ul style="list-style-type: none"> <li>●TCS 3200 colour Recognition Sensor</li> </ul>	4	Consumable
Internet of Things & Sensors	Water Flow Sensor	<ul style="list-style-type: none"> <li>●Arduino Compatible water flow sensor. 5V DC Input</li> </ul>	4	Consumable
Internet of Things & Sensors	Sound Sensor	<ul style="list-style-type: none"> <li>●Sound Sensor Module Microphones module</li> </ul>	10	Consumable

Internet of Things & Sensors	IR Sensor Array module for line Following	<ul style="list-style-type: none"> <li>●8 IR Sensor Array module for Line following</li> <li>●Operating Voltage: 5V</li> </ul>	10	Consumable
Internet of Things & Sensors	Power Bank	<ul style="list-style-type: none"> <li>●10000 mAh5Volt Power Bank</li> </ul>	5	Consumable
<b>Category</b>	<b>Name</b>	<b>Specification</b>	<b>Suggested Quantity</b>	<b>Type</b>
Internet of Things & Sensors	RFID Reader Tags	<ul style="list-style-type: none"> <li>●Current: 13-26mA/DC 3.3V</li> <li>●Idle Current: 10-13mA</li> <li>●Sleep Current&lt;80uA</li> <li>●Peak Current &lt;30mA</li> <li>●Operating Frequency: 13.56 MHz&lt;30mA</li> <li>●Read range between 20cm to 1m</li> </ul>	10	Consumable
Internet of Things & Sensors	RF modules Tx & Rx 315 MHz Ask	<ul style="list-style-type: none"> <li>●Frequency Range: 433.93/315 MHz</li> <li>●Supply voltage: 3-6V</li> <li>●Output: 4-16 Dbm</li> <li>●Low Power consumption</li> <li>●Easy Application</li> </ul>	10	Consumable
Robotics	Stepper motor with driver board	28BYJ-48 ULN2003 5V Stepper Motor + ULN2003 Driver Board	10	Consumable
Robotics	DC motor	12V DC Gear 150 RPM	20	Consumable
Robotics	Servo Motors	<ul style="list-style-type: none"> <li>●Position Servo Angle Based Metal Gear</li> </ul>	10	Consumable
		<ul style="list-style-type: none"> <li>●Small Servo Metal Gear</li> </ul>	10	
		<ul style="list-style-type: none"> <li>●Continuous Metal Gear Servo 360</li> </ul>	10	

		● Small Servo Plastic Gear	40	
Robotics	150 RPM BO Motor	150 RPM BO Motor	10	Consumable
Robotics	L298P Motor Driver	L298P Motor Driver Shield or Relative Driver Shield	10	Consumable
Robotics	Servo Motor Tester	CCPM 3 channel Servo Tester	4	Consumable
<b>Category</b>	<b>Name</b>	<b>Specification</b>	<b>Suggested Quantity</b>	<b>Type</b>
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 kit 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**

<b>Category</b>	<b>Name</b>	<b>Description</b>	<b>Suggested Quantity</b>	<b>Type</b>
Rapid Prototyping Tools	3D Printer kit and tools	Printer type: FDM (Fused Deposition Modelling), Minimum dimensions: 160mm*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
Rapid Prototyping Tools	Dedicated UPS/ Power back up	Dedicated UPS/Power Backup 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-	Cardboard	5	Consumable

	e.g. - stationary items and basic prototyping material	Foam core boards	5	
		20 m spool of thick strings various colours	5	
		Rubber band	100	
		Popsicle sticks	100	
		Wood glue- 500 ml	2	

<b>Package 3: Mechanical, Electrical and Measurement Tools</b>				
<b>Category</b>	<b>Name</b>	<b>Description</b>	<b>Suggested Quantity</b>	<b>Type</b>
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	<ul style="list-style-type: none"> <li>● External Straight</li> <li>● Nose Circlip Plier</li> <li>● Long Nose Plier</li> <li>● Combination Mini Plier</li> <li>● Wire stripping Pliers</li> <li>● Bent nose Plier</li> <li>● Needle nose Pliers</li> </ul>	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 Pin 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	1	Equipment

		Clockwise/anticlockwise modes. Power:500W Chuck capacity-1to10mm Drill Bits-Masonry Metal, Wood		
Mechanical Tools	Drilling Workstation	Drill Press, Drill Holder and Rotary Tool, Compatible with Drilling machine provided	1	Equipment
Mechanical Tools	Spanner set	12-piece combination spanner set Range-4mm to 30mm	1	Equipment
<b>Category</b>	<b>Name</b>	<b>Specification</b>	<b>Suggested Quantity</b>	<b>Type</b>
Mechanical Tools	Vice normal	Table top vice	1	Equipment
Mechanical Tools	Precision Screwdriver set	6 piece Precision Screwdriver 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 drawers:60 or equivalent Drawer size (l*w*d) (inch): 2*2*5	1	Equipment
<b>Category</b>	<b>Name</b>	<b>Specification</b>	<b>Suggested Quantity</b>	<b>Type</b>
Mechanical Tools	Pegboard	Peg board System to mount tools on wall with Size: 3ft* 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	<ul style="list-style-type: none"> <li>• Variable Wattage of soldering iron 15-30 watts/230volts</li> <li>• Soldering iron Temperature Range: 280°c to 450°c</li> <li>• De-Soldering Pump, Soldering Flux (Paste) 100 grams</li> <li>• De-soldering copper Braid (Solder Wick) 1.5m*2mm</li> </ul>	4	Equipment

		<ul style="list-style-type: none"> <li>Compatible Soldering tip-Bevel, Chisel, Conical-5 each per kit</li> <li>Soldering Wire:20/22 AWG Soldering wire with Rosin core flux (100 Grams)</li> </ul>		
Electric Tools	Adapters	DC Power Adapter with 5V, 2A	10	consumable
Electric Tools	Adapters	DC Power Adapter with 12V, 2A	10	consumable
<b>Category</b>	<b>Name</b>	<b>Specification</b>	<b>Suggested Quantity</b>	<b>Type</b>
Electric Tools	Electric Screwdriver 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 Clamps/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 MultiMeter	Digital MultiMeter Voltage Current Resistance-7 functions+19 ranges to cover DC Voltage 200mV to 1kV AC Voltage 200V-750V, DC Current 200 $\mu$ A- 10A Resistance 200-2M Ohm and Transistor & diode test	5	Equipment
Biology Kit	DIY paper Microscope	DIY Paper microscope Magnification range-100x to 2000x	5	Consumable
<b>Category</b>	<b>Name</b>	<b>Specification</b>	<b>Suggested Quantity</b>	<b>Type</b>
Astronomy Equipment	Telescope	<ul style="list-style-type: none"> <li>All glass Optical Components</li> <li>Altazimuth mount suitable for terrestrial and astronomical use</li> <li>Minimum 700 mm focal length</li> </ul>	1	Equipment
Textile Equipment	Sewing Kit	<ul style="list-style-type: none"> <li>Semi- automatic sewing machine</li> <li>Straight stitch</li> <li>Consumables-2 set of assorted needles and 10-colour spool set.</li> </ul>	1	Equipment

#### **Package 4 : Power Supply & Accessories and Safety Equipment**

<b>Category</b>	<b>Name</b>	<b>Specification</b>	<b>Suggested Quantity</b>	<b>Type</b>
Power Supply & accessories	Glue Sticks	<ul style="list-style-type: none"> <li>11 mm x 200mm Hot Melt Glue Stick</li> </ul>	100	Consumable
Power Supply & accessories	Nuts and Bolts and Screw	<ul style="list-style-type: none"> <li>Specs-M4x12MM</li> <li>M4X20MM M5X16MM</li> <li>M5X25MM M6X20MM</li> </ul>	40	Consumable

Power Supply & Accessories	Cable Tie	<ul style="list-style-type: none"> <li>● Small Cable Tie Pack-Pack of 100</li> <li>● Medium Cable Tie Pack, Pack of 100</li> <li>● Big Cable Tie Pack, Pack of 100</li> </ul>	10 10 10	Consumable  Consumable  Consumable
Power Supply & Accessories	Sand Paper	● Grit Values – 80, 100, 120, 200, 300, 5 No of each	10	Consumable
Power Supply & Accessories	Power Strip Adaptors	Standard Quality Extensions with 5 Amp 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
<b>Category</b>	<b>Name</b>	<b>Specification</b>	<b>Suggested Quantity</b>	<b>Type</b>
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

### **Annexure-'D'**

ICT Equipment (Digital Infrastructure) provided by UNISED under ATLS

<b>Sl. No.</b>	<b>Digital Infrastructure for the Lab</b>	<b>Quantity</b>
1	Laptop Intel i3/ Ryzen 3 RAM 4GB, HDD 1TB reputed brand	3
2	Projector 3200 lumen with LED/LCD/DLP with reputed brand with 3 years warranty	1
3	Projector screen /Mat finish White board	1
4	Speaker	1
5	Projectors hanging kit	1
6	Printer (B/W)	1
7	Webcam (QHMP 495 LM)	1

### Annexure-'E'

Movable and Child Friendly Furniture provided by UNISED under ATLS

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	WorkStation 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