

Summary of Budget

(Kindly refer point 3.1.7. Eligible and Ineligible expenditure of NSC approved STRIVE operational Manual V 1.0 for preparation of the ACTION PLAN)

Activity No.	Item/ Budget Head	FY:2023-24A				Remarks/ Justification for the Activity
		Unit of Measure	Unit Cost (in Lakh)	Quantity / Target	Total cost (in Lakh)	
Non-recurring costs (in INR lakh)						
1	Equipment, Furniture and other goods					
1.1	Machinery	As per Annexure-1.1			30.00	Remaining machinery for the newly introduced trade IoT Technician (Smart City)
3	Sub-Total				30.00	
Recurring costs (in INR lakh)						
4	Sub-Total				0.00	
5	Grant Total (3+ 4) (in INR lakh)				30.00	

ANNEXURE- 1.1: Procurement of Machinery

Activity Proposed:	Procurement of Machineries for the newly introduced trade IoT Technician (Smart City)
Activity Type (New/ being continued)	Being continued
Achievement	About 65% of the machineries for the trade IoT Technician (Smart City) has been procured with fund released from STRIVE earlier.
Justification:	Since the trade has already started running from the session 2022-23, the remaining machineries are to be procured and procurement of machinery for the trade will be complete with the present grant under STRIVE.
Deliverables:	Conducting of lab/ practical classes for the trade IoT Technician (Smart City)
Funding Proposed:	30.00 Lakh



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Break-up of Proposed Fund:

SN	Name of Item	Specification	No. of Unit	Unit Cost (Rs.)	Total Amount (Rs.)	Remarks
1	3GHz Spectrum Analyzer with built-in Tracking Generator	Frequency Range 9 kHz to 3.2 GHz Resolution Bandwidth(-3 dB): 10 Hz to 1 MHz Built in tracking generator Min. -148 dBm DANL Display 8" TFT or more PC Interface: USB Host & Device, LAN(LXI)	01	4,60,000.00	4,60,000.00	
2	Multi Function Test & Measuring Tool for Field Applications and Testing compatible with Laptop	300 MHz Bandwidth 2 Channel Digital Storage Oscilloscopes, Spectrum Analyzer. Arbitrary Waveform Generator Sine 50MHz ,Square 15MHz,Triangle 100KHz , AM -FM Modulation, 16 Channel Logic Analyzer Frequency and Phase Meter USB 2.0/ 3.0 Interface	01	4,90,000.00	4,90,000.00	
3	IT Workbench for computer hardware and networking	The bench comprises with Computer Hardware Training System (02 Nos.) The different circuit boards of PC/AT Computer are exposed on a PCB, LAN Training System with Wireless LAN as well to study Peer to Peer, STAR, RING Topology. Protocols: CSMA /CD, CSMA /CA, Stop N Wait, Go back to N, Selective repeat, Sliding Window, Token Bus, Token Ring, Colored representation of data in transmission & reception. Data transmission speed: 10/100 Mbps, Smart managed 3 Layer and 2 Layer Switch, Media converter, POE Switch, Wi-Fi LAN card, IP Camera, Energy meter, LED tube light, Voltmeter and Ammeter will be fitted. Networking Fundamentals Teaching Simulation Software	01	6,75,000.00	6,75,000.00	
4	Field Interface and Protocol Simulation Kit	A console including :Any Branded Desktop Computer with Windows Operating System	01	1,75,000.00	1,75,000.00	

<p>1. Ethernet Devices with Isolated Supply and port</p> <p>4 AI(0.1% FSR), 4 AO (0-10VDC),</p> <p>Ethernet Port – Qty 1</p> <p>8 Relay Outputs, Ethernet Port – Qty 1</p> <p>8 Pulse Outputs, Ethernet Port – Qty 1</p> <p>8 Digital Inputs, Ethernet Port – Qty 1</p> <p>4 RS485 Slave ports, 1 Ethernet Port – Qty 4</p> <p>2. 16 Port Ethernet Switch for networking of field ethernet devices</p> <p>3. SMPS to power up multiple ethernet based field simulation devices</p> <p>4. Required Connectors, Switches and LED</p> <p>indicators for Field Interface circuits such as Digital Inputs, Relay Outputs, Analog Inputs, Analog Outputs, Pulse Signals</p> <p>5. Software</p> <p>Communication with simulation device on ethernet MODBUS TCP Protocol</p> <p>Field Interface simulation using HMI replica of Console for easy understanding of students</p> <p>Port Simulation – Serial Port Terminal, TCP/IP, UDP, HTTP</p> <p>Protocol Simulation – MODBUS RTU Master/Slave, MODBUS TCP Master/Slave, DLMS Client</p> <p>IoT Protocol Simulations – MQTT topic</p> <p>ublish subscribe simulation</p>				
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5	Wireless Communication modules for interfacing with microcontrollers a) RFID Card Reader b) Finger Print c) Zigbee d) GPS e) GSM f) Bluetooth g) WiFi	Core 8051 MCU clocked at 11.0592 MHz, supporting both programming modes Key Pad and PC ,LCD for both programming mode and run mode, ready to run programmer to support family of controllers AT89C51/52 & 55 ,DC Power Supplies +12V, -12V, +5V & - 5V,Breadboard to make circuits, detailed learning content through simulation Software and following application modules: RFID Card Reader,Finger Print, Zigbee, GPS, GSM, Bluetooth and WiFi	01	85,000.00	85,000.00	
6	Sensors for Smart Parking	All should be compatible with Sensor Training Platform & IOT Explorer mentioned above: CCTV Camera , Motion Sensor, RFID, Relays, Hooter, Magnetic Hall Sensor, Ultrasonic, Application Software for SMART Dashboard	01	1,00,000.00	1,00,000.00	
7	Sensors for Smart Water & Waste water Management & Monitoring	All should be compatible with Sensor Training Platform & IOT Explorer mentioned above: Conductivity Sensor, PH Sensor Cupric (Cu ²⁺), Silver (Ag ⁺), Lithium (Li ⁺) with 10, 100 and 1000 ppm solution calibration kit. Level Sensor, Flow Sensor, Ultrasonic Sensor & Temperature.	01	1,25,000.00	1,25,000.00	
8	Sensors for Smart Building	All should be compatible with Sensor Training Platform & IOT Explorer mentioned above: CCTV Camera , Motion Sensor RFID, Smoke, Fire, LPG Gas, Air Quality, Ambient Temperature & Humidity, CO ₂ , Light, Relays, Hooter, Touch Panel Smart Capacitive Touch Switch Board with 3 Light controls, 1 humming free FAN control, 1 16A AC control, 3 IR Channels for controlling IR appliances, 8 Capacitive Touch Buttons, 2 Digital Sensor Inputs, 1 Digital Output Application Software for SMART Building Dashboard	01	1,25,000.00	1,25,000.00	

9	Cloud Based IoT SCADA	1000 Tag License for Cloud based SCADA to connect IoT Devices and IoT based Smart Systems with Device Manager, IO Server, Alarm Server, Historian and Reporter, Web Server. Cloud Hosting Services for 20 devices for 7 years	01	2,90,000.00	2,90,000.00	
10	Arduino and Raspberry-pi based IoT system with cloud access, accessories, analog and digital ports, support for stepper motor, servo motors, UART port for serial data communication and separate port for 12 C	Arduino, Raspberry-pi and RP 2040 based IoT system with all accessories sensors and cloud access minimum 10 sensors	01	1,40,000.00	1,40,000.00	
11	IoT Data Acquisition Systems and Protocol Converters	Connectivity of cloud (IBM, Microsoft, Amazon), 8 Digital inputs, 4relays output, Ethernet IoT DAQ, WiFi IoT DAQ, Cellular (GSM/GPRS) IoT DAQ MODBUS RTU to MODBUS TCP 24 VDC Isolated Power supply, 4 isolated MODBUS RTU Master port Serial to Wi Fi, Serial to GPRS	01	2,00,000.00	2,00,000.00	
12	Arduino Board with Accessories	Arduino Module-latest specifications	01	30,000.00	30,000.00	
13	Raspberry-pi Board with accessories	Raspberry-pi Module- latest configuration	01	30,000.00	30,000.00	
14	Desktop Computer	Desktop Computer (Branded) , Core I 5 - 10th Gen or above, Ram 8 GB or more, SSD 512 GB, LED 20" HD, USB Key Board and Optical Mouse - Wired , Windows 11 , Microsoft Office 2021, UPS 600VA	01	60,000.00	60,000.00	
15	Laser Jet Printer	Single Function (Print only) Output-Black & White ,Cartridge yield- 1500 pages Print resolution up to 600 X 600 X 2DPI	01	15,000.00	15,000.00	
Total Amount (in Rs.) (including @ 18% GST)					30,00,000.00	
Total Amount (in Lakh)					30.00	


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