DAYALBAGH EDUCATIONAL INSTITUTE
DAYALBAGH, AGRA-282005

Short Notice Inviting tenders

Short Term Limited tender No: DEI-Sc-PCS-RSP-2018-19-TDR-84 Date:15.3.2019

Sealed tenders are invited from the Manufacturers/ Suppliers/Authorized dealers/ agencies for the supply and installation of the following-

SlNo	Item	Quantity
1	**IOT Based Robotic Shield** Please refer Appendix-1 for specifications	**20**

The tenderer shall be required to submit the Earnest Money Deposit (EMD) for an amount of**Rs.10,000/-** by way of demand drafts/banker's cheque/FDRs which is refundable and a non-refundable tender fee for an amount of **Rs. 200/- (Rupees two hundred only)** by Demand draft. The demand drafts (validity 45 days beyond final bid) for earnest money deposit & tender fee must be enclosed in the envelope containing the bid documents, super-scribed with tender number, due date of submission on the envelop and addressed to :

"The Registrar
Dayalbagh Educational Institute,
Dayalbagh, Agra – 282005, Uttar Pradesh"

Note: Central Purchase Organization, Small Scale Industries/ National Small-Scale Industries Corporation shall be exempted from payment of Earnest Money Deposit. Tenderer seeking exemption should enclose a self-attested photocopy of valid registration certificate with NSIC.

(The Earnest Money will be liable to be forfeited if quotation is not honored or if contract is not signed with the Institute, after the award is made to the Tenderer)

1. Time and last date of submission of the Bid: 11.00 am on 25.3.2019
2. Time of Bid Opening: 11.30 am on 25.3.2019
3. Venue of Bid Opening: Conference Hall, CAO, Dayalbagh Educational Institute in the presence of bidders who want to be present at the time of opening of bid.

Interested bidders may post (at the above address) or put the tender documents completed in all respect and other requisite documents in the tender box kept in the General Section, CAO, Dayalbagh Educational Institute, Dayalbagh, Agra- 282005. The bidders are also informed that they may come personally or send their representative to be present at the time of opening of bid. Please note that tender box shall be opened at the time mentioned above irrespective of whether bidders himself or any of their representative are present or not. The tenders shall not be entertained after this deadline under any circumstances what so ever. For more details please visit the Institute's website http://www.dei.ac.in.or contact Dr. R.S. Pavitr -9219225122.

Registrar
Dayalbagh Educational Institute
Dayalbagh, Agra-282005

General Terms & Conditions

Note: Bidders must submit the following primary information/documents with the quotation. Bidders will have to indicate these particulars in their quote failing which the offer may be rejected. Please do produce the related documents whenever required by the Institute.

1. Trade License/Company Registration No.
2. Goods / Service Tax Regn. No.
3. Income Tax PAN No.
4. Firm's Bank A/c details
5. The bid is to be submitted in TWO Bid Pattern i.e 'Technical Bid' and 'Price Bid' in **Two separate sealed covers/envelopes**.
6. Bidders are requested to quote rate(s) per unit(s) only in the recognized Accounting units otherwise your quotation will not be accepted.
7. Cost of items shall include installation, support and troubleshooting.
8. Warranty and Support: for Hardware and Software should be explicitly mentioned.
9. Bidders should be OEM/Authorized partner/Authorized dealer of OEM.
10. Bidders should quote rates as per details/specifications mentioned in notice inviting Tender. The Institute reserves the right to place order for each job to single/separate vendor(s) if necessary.
11. Bidders should quote rates on FOR/Free Delivery at the sites specified in the Notice inviting Tender, inclusive of all charges else should mention estimated cost of packing, forwarding, insurance and freight by Rail/Road/Post etc. as the case may be.
12. Bidders must indicate if their rate is inclusive of Taxes.
13. In case opening date of Tender happens to be holiday, tender will be received and opened on the next working day at the same time and same place. Quotation received after the closing date will not be entertained and revision in the price will render the bid invalid. Quotation should indicate clearly the period of Validity, preferably not less than 45 days.
14. In case of an offer for items having multiple options, you should clearly indicate item-specific price(s). Please quote separate item-wise rate(s), when quotation has been asked for so. For every offer, packing and forwarding charges, Taxes etc. should be shown separately.
15. Bids will be evaluated after equated comparison of offers upon calculating all tax/duty/cess/surcharge/discount/packing/transportation costs, other charges with price and non-compliance of technical and commercial terms will render a bid liable for rejection.
16. Bidders will have to submit Bills/Invoices on dispatch of stores, if ordered, to this office in triplicate duly pre-receipted (and stamped for amount over Rs. 5000/-) and supported by the relevant delivery documents for audit and payment directly in your bank account through RTGS/NEFT. Generally, payments can be expected within one month and are made against acceptance of supplies/ jobs completed and in deserving cases, against shipment documents.
17. No insurance charges are allowed unless otherwise specified and agreed to by us. In the absence of any specific instructions, it will be the responsibility of the supplier to ensure a consignment against transit risk at his own expense if he so desires.
18. The Institute is not bound to accept the lowest rate or any other offer and the acceptance of the offer is entirely at the discretion of the Committee.
19. All purchases are subject to the approval of the Governing Body of the Institute.

20. The Institute reserves the right to select certain items in single or multiple units and reject the others or all as mentioned in the schedule and to revise or alter the specifications before acceptance of any tender and accept or reject any or all tenders, wholly or partly or close the tender without assigning any reason whatsoever.
21. The Bidder shall be required to submit the amount of **Earnest Money Deposit** (EMD) as mentioned in the Notice Inviting Tender which is refundable and a non-refundable **Tender Fee** for an amount of **Rs 200/-** (Rupees two hundred only) by way of demand drafts/banker's cheque/FDRs. The demand drafts shall be drawn in favour of **"Dayalbagh Educational Institute, Agra"** payable at **Agra**. The demand drafts (validity 45 days beyond final bid) for earnest money deposit & tender fee must be enclosed in the envelope containing the bid.
    a.) The firm(s) that are registered with the National Small Industries Corporation (NSIC) / or Small-Scale Industries (SSI) are exempted from furnishing the EMD. Self-attested photocopy of the valid registration certificate must be enclosed with their bid.
    b.) The demand drafts for EMD & tender fee must be enclosed in the envelope containing the technical/price bid and super-scribed with tender number and due date of submission on it. Any technical/price bid is found without the demand drafts of EMD and tender fee will be rejected. The Institute will not be liable to pay any interest on such an amount. The EMD shall be forfeited, if the Bidder withdraws its bid during the period of validity of Tender.
22. Arbitration and Laws: In case of any dispute or difference arising out of or in connection with the tender conditions / order and Contract, the Institute and the Supplier will address the dispute / difference for a mutual resolution and failing which, the matter shall be referred for arbitration to a sole Arbitrator to be appointed by the Institute. The Arbitration shall be held in accordance with the provisions of the Arbitration and Conciliation Act, 1996 and the venue of arbitration shall be at Agra only. The resolution of the Arbitrator shall be final and binding on both the parties.
23. Jurisdiction: The courts at Agra alone will have the jurisdiction to try any matter, dispute or reference between parties arising out of this tender /contract. It is specifically agreed that no court outside and other than Agra court shall have jurisdiction in the matter.
24. Excise Duty: The Institution is exempted from payment of Excide Duty under notification No.10/97 – Central Excise dt. 01.03.97 issued by Ministry of Science & Technology, Govt. of India. Hence, the offer shall be submitted accordingly incorporated the Integrated Tax (GST).
25. Customs Duty: In case of Imported Items, please note that we are exempted from payment of Customs Duty in terms of Notification No.51/96-CUSTOMS dated 23.7.1996 as amended from time to time. Issued by Ministry of Science & Technology, Dept. of Scientific and Industrial Research, Government of India, we are eligible for concession of Custom duty.

Registrar, DEI

Appendix-1

DEI BVOC IOT LAB

Four types of kits are proposed and the items for each Kit are described below.

Sr No	Component name	Description	Qty
IoT Based Robotic Shield kit: Type 1			
1	Robot Building Kit	- Robotic platform (line tracking, obstacle avoidance, speed measuring, IR control), and a camera (with servo and 2 DOF pan head) - Raspberry Pi interface: for connecting Raspberry Pi - Arduino interface: for connecting Arduino - Motor interface - Ultrasonic module interface - Servo module interface - Obstacle avoidance module interface - Speed measuring interface - Battery holder: supports 18650 batteries - Reserved power input (not soldered): for connecting other external power supply - Arduino expansion header: for connecting Arduino shields - UART interface: for connecting Bluetooth module, to control the robot remotely via Bluetooth - SPI interface: for connecting NRF24L01 wireless module - Line tracking module interface - TLC1543: 10-bit AD acquisition chip, allows the Pi to use analog sensors - LM298P: dual H bridge motor driver chip, up to 2A current - Anti-reverse diode - Power switch - LM2596: 5V regulator Power indicator UART switch: turn on to enable serial communication between Raspberry Pi and Arduino IR receiver: control the robot remotely via infrared Raspberry Pi/Arduino selection: select the Raspberry Pi or Arduino to control the robot peripherals	1
2	7″ Official Raspberry Pi Display with Capacitive Touchscreen	- Screen Dimensions: 194mm x 110mm x 20mm (including standoffs) - Viewable screen size: 155mm x 86mm - Screen Resolution 800 x 480 pixels - 10 finger capacitive touch. - Connects to the Raspberry Pi board using a ribbon cable connected to the DSI port. - Adapter board is used to power the display and convert the parallel signals from the display to the serial (DSI) port on the Raspberry Pi.	1

		- Will require the latest version of Raspbian OS to operate correctly.	
3	HDMI Cable For Raspberry Pi	HDMI to HDMI Cable to Connect Raspberry Pi to a TV/screen	1
4	Mini RTC Module For Raspberry Pi	- DS3231 RTC IC - Self-adjust 3.3V and 5V - Size: 14x14x12 mm	1
5	GPS Module For Raspberry Pi	- PCB size 58.5mm X 54.6mm X 1.6mm - Input voltage 3.3V - Interface UART - Baud rate 38400 (default)	1
IoT Based Robotic Shield kit: Type 2			
1	Arduino Controlled robot with gripper (programmable)	Ready to program plug and play robotic platform with: - 4 wheeled base chassis controlled by mtotor drivers interfaced with the Arduino board - Facility to connect wireless module - Gripper (Open & close) - Acrylic chassis - Battery	1
2	Servo Driver Module	- The I2C input, PWM output control 16 roads, steering gear can 16 roads. - The steering gear power independent V + input maximum 6 V. - Logic signals and logical power independent output for 3V to 5 V. - 40-1000 Hz frequency.	2
3	Motor Driver Shield (10 amp)	- Current sensing available to Arduino analog pin - MOSFET on-resistance: 19 mΩ (per leg) - Maximum PWM frequency: 20 kHz - Thermal Shutdown - Undervoltage and Overvoltage shutdown.	1
4	ADK USB Host Shield compatible with Arduino	- Works with standard (dual 5/3.3V) and 3.3V-only (for example, Pro Arduino) boards. - Operates over the extended -40°C to +85°C temperature range - Complies with USB Specification Revision 2.0 (Full-Speed 12Mbps Peripheral, Full-/Low-Speed 12Mbps/1.5Mbps Host) - Supports HID devices, such as keyboards, mice, joysticks, etc. - Compatible with Mass storage devices, such as USB sticks, memory card readers, external hard drives (FAT32 Type File System – Mega Arduino only).	1
5	Motor driver - 30A (80 A peak)	- Bi-directional control for dual brushed DC motor. - Support motor voltage from 7V to 35VDC. - Maximum current up to 80A peak (1 second), 30A continuously, each channel.	1

		- On board, MOSFETs are switched at 18 KHz for quiet operation. - Battery low voltage indicator. - Battery overvoltage indicator. - Thermal protection. - Current limit protection. - Multiple input modes: RC, Analog/PWM, Serial Simplified, and Serial Packetized. - GROVE compatible connectors for control input. - RC (Radio Control) friendly connectors. - On board push buttons for fast test and manual operation. - Onboard LED indicators for Error, RUN, Over current, motor output, for each channel.	
6	Stepper Motor Driver with Aluminum Heat Sink	- Microstep resolutions: full, 1/2, 1/4, 1/8, 1/16, and 1/32. - Simple step and direction control interface - Six different step resolutions: full-step, half-step, 1/4-step, 1/8-step, 1/16-step, and 1/32-step - Adjustable current control lets you set the maximum current output with a potentiometer. Hence lets you use voltages above your stepper motor’s rated voltage to achieve higher step rates - Intelligent chopping control that automatically selects the correct current decay mode (fast decay or slow decay) - 45 V maximum supply voltage - Built-in regulator (no external logic voltage supply needed) - Can interface directly with 3.3 V and 5 V systems - Over-temperature thermal shutdown, over-current shutdown, and under-voltage lockout - Short-to-ground and shorted-load protection - 4-layer, 2 oz copper PCB for improved heat dissipation - Exposed solderable ground pad below the driver IC on the bottom of the PCB	2
7	Buck convertor	- Non-isolated step-down (BUCK) switching regulator. - Short circuit protection: Current limiting, self-recovery - Potentiometer adjustment direction is as Clockwise (increase) and Anti-clockwise (decrease) - Non-synchronous rectification	1
IoT Based Robotic Shield kit: Type 3			
1	Robot Building Kit	- Robotic platform (line tracking, obstacle avoidance, speed measuring, IR control), and a camera (with servo and 2 DOF pan head) - Raspberry Pi interface: for connecting Raspberry Pi - Arduino interface: for connecting Arduino - Motor interface - Ultrasonic module interface - Servo module interface - Obstacle avoidance module interface - Speed measuring interface	1

		- Battery holder: supports 18650 batteries - Reserved power input (not soldered): for connecting other external power supply - Arduino expansion header: for connecting Arduino shields - UART interface: for connecting Bluetooth module, to control the robot remotely via Bluetooth - SPI interface: for connecting NRF24L01 wirmoduleeless - Line tracking module interface - TLC1543: 10-bit AD acquisition chip, allows the Pi to use analog sensors - LM298P: dual H bridge motor driver chip, up to 2A current - Anti-reverse diode - Power switch - LM2596: 5V regulator Power indicator UART switch: turn on to enable serial communication between Raspberry Pi and Arduino IR receiver: control the robot remotely via infrared Raspberry Pi/Arduino selection: select the Raspberry Pi or Arduino to control the robot peripherals	
2	ESP8266 WiFi Shield V2.0 W/ Micro SD Card Slot for Arduino Uno	- Separate 3.3V voltage regulator for ESP8266-12 WROOM-02 module, 500mA max output. - Each and every board is preassembled and tested before it is being shipped out to you. 802.11 b/g/n. - Support Wi-Fi Direct (P2P), soft-AP. - Integrated TCP/IP protocol stack. - Integrated TR switch, balun, LNA, power amplifier and matching network. - +19.5dBm output power in 802.11b mode. - Integrated PLL, regulators, DCXO and power management units. - Integrated low power 32-bit CPU could be used as an application processor. - Basically, Rev2.0 utilize WROOM-02 instead of ESP8266-12 as the WiFi module.	1
3	Motor Driver Shield (2 ampere)	- Logic control, 5V from Arduino main board - Polarity protection for External motor power input - 2 fast test buttons for each motor channel - 2 indicator LEDs for each channel - bi-directional control of two DC brush motor - Motor Driven Voltage：6.5 to 12VDC(VIN Power Supply), 5.0 to 26VDC (External Power Source) - Up to 2A current each channel - Pin 4, 5,6,7 are used to drive two DC motor - Support PWM speed control - Support advance speed control - Socket for LSS05 – Auto-Calibrating Line Sensor, doing line following robot will be easy-	1

4	LCD Board Keypad Shield Blue Backlight	- The LCD Keypad shield is developed for Arduino compatible boards, to provide a user-friendly interface that allows users to go through the menu, make selections etc. - It consists of a 1602 white character blue backlight LCD. - The keypad consists of 6 keys select, up, right, down, left and reset. - To save the digital IO pins, the keypad interface only uses one ADC channel. - The key value is read out through a 5 stage voltage divider.	1
5	CNC Shield Expansion Board For Arduino	- 3 axis stepper motor driver - Compatible with micro-drive laser engraving machine, three-axis CNC engraving machine. - 2A can be controlled within the two-phase four-wire stepper motor. - Released the digital IO interface, easy to connect to other modules, such as ENDSTOP. - Released the I2C interface, you can connect to the LCD I2C or another I2C module. - Power DC5V interface, 7.5-12V voltage input. - GRBL compatible - Worked with Arduino nano.	1
6	Data Logger module Logging Shield data Recorder Shield	- Works with Arduino UNO, Duemilanove, Diecimila, Leonardo or ADK/Mega R3 or higher. ADK/Mega R2 or lower are not supported. - A dedicated and well-designed data logging shield for Arduino. - It is easy to assemble and customize, also equipped with extensive documentation and libraries.	1
7	JoyStick Shield Module Robotics Control	- NRF24L01 RF interface for Nokia 5110 LCD interface bluetooth interface I2C interface for one PS2 joystick - 2-Axis joystick - Bluetooth / Serial interface - I2C interface - nRF24L01 interface - Nokia 5110 LCD interface - Interface connector - Power switch to switch between 3.3 and 5V	1
8	Linux (OpenWrt) shield	- Open source Linux (OpenWrt) inside - Low power consumption - Support Passive PoE Injector. - Managed by Web GUI, SSH via LAN or WiFi - Software upgradeable via a network - Built-in web server - Support internet connection via LAN port, WiFi or 3G dongle. - Support USB flash to provide storage for Arduino projects. - Failsafe design provides a robust system.	1

		- Compatible with Arduino Leonardo, Uno, Duemilanove, Diecimila, Mega, Due, Teensy, - Compatible with Arduino IDE 1.5.4 or later, the user can program, debug or upload a sketch to Arduino board via Arduino IDE.	
9	Raspberry Pi Sense HAT With Orientation, Pressure, Humidity And Temperature Sensors	- Gyroscope - angular rate sensor: ±245/500/2000dps - Accelerometer - Linear acceleration sensor: ±-2/4/8/16 g - Magnetometer - Magnetic Sensor: ± 4/8/12/16 gauss - Barometer: 260 - 1260 hPa absolute range - Temperature sensor: to ± 2 degC in the 0-65 degC - Relative Humidity sensor - 8x8 LED matrix display - Small 5 button joystick	1
IoT Based Robotic Shield kit: Type 4			
1	Arduino Controlled robot with gripper (programmable)	Ready to program plug and play robotic platform with: - 4 wheeled base chassis controlled by mtotor drivers interfaced with the Arduino board - Facility to connect wireless module - Gripper (Open & close) - Acrylic chassis - Battery	1
2	L293D Motor Driver/Servo Shield for Arduino	- 2 connections for 5V ‘hobby’ servos connected to the Arduino’s high-resolution dedicated timer - 4 H-Bridges: L293D chipset provides 0.6A per bridge (1.2A peak) with thermal shutdown protection, internal kickback protection diodes. Can run motors on 4.5VDC to 25VDC. - Up to 4 bi-directional DC motors with individual 8-bit speed selection (so, about 0.5% resolution) - Up to 2 stepper motors (unipolar or bipolar) with single coil, double coil or interleaved stepping. - Pull down resistors keep motors disabled during power-up - Big terminal block connectors to easily hook up wires (18-26AWG) and power - Arduino reset button brought up top - 2-pin terminal block and jumper to connect external power, for separate logic/motor supplies - Tested compatible with Arduino Mega 1280 & 2560, Diecimila, Duemilanove, and UNO - Download the easy-to-use Arduino software library, check out the examples and you’re ready to go!	1
3	LoRa Shield for Arduino	- Compatible with 3.3v or 5v I/O Arduino Board. - Frequency Band: 915MHz/868 MHZ/433 MHZ (Pre-configure in a factory) - Low power consumption - Compatible with Arduino Leonardo, Uno, Mega, DUE - External Antenna via I-Pex connector - Excellent blocking immunity.	1

		- Built-in bit synchronizer for clock recovery. - Preamble detection. - 127 dB Dynamic Range RSSI. - Automatic RF Sense and CAD with ultra-fast AFC. - Packet engine up to 256 bytes with CRC. - Built-in temperature sensor and low battery indicator.	
4	Customized multipurpose Arduino shield	It is a customized version of the classic ARDUINO MEGA R3 board. Full integration of Atmel ATmega2560 microcontroller and ESP8266 Wi-Fi IC, with 32 Mb (megabits) of flash memory, and CH340G USB-TTL converter on a single board! All components can be set up to work together or independently.	1
5	Multifunction Shield For Arduino Uno	- 4 digit 7-segment LED display module driven by two serial 74HC595's - 4 x surface mount LED's in a parallel configuration - 10K adjustable precision potentiometer - 3 x Independent push buttons - Piezo buzzer - DS18B20 temperature sensor interface - LM35 temperature sensor interface - Infrared receiver interface - Serial interface header for convenient connection to serial modules such as Bluetooth, a wireless interface, voice module, a voice recognition module etc.	1
6	NANO IO Shield Expansion Board For Arduino Screw Terminals	- Compatible with Arduino NANO - All digital and analog pins breakout - Compact size; - Leads all pins out, convenient for wiring and doing experiments.	1
7	Prototype Shield V3.0 For Arduino Mega with breadboard	- The shield can support being fully assembled with Arduino MEGA - Support soldering components directly on this shield - Support sticking the mini breadboards on this shield - Reset button up top - Mainboard aureate quadrate - With SOP28 SMT components encapsulation - With PWR & STAT indicator	1
8	Proto Screw Shield Assembled	- Arduino terminal to provide the IO, port connection. - 3.81 posts quality, reliable, convenient, durable. - Combined with the Proto Shield, the middle can be used as a prototype expansion board. - Double-sided PCB Prototyping extended area vias connecting the front sides can be welded components. - The middle section can be placed small bread plate, convenient test extend	1
9	Single pin jumper Male to Female	Male to Female connector	100
10	Single pin jumper Female to Female	Female to Female connector	100

Note:

- Transportation cost of all material will be borne by the bidder.
- Successful bidder shall accord facility for inspection/testing of material at their site by a team of institute engineers before start of delivery, if deemed necessary

Annexure-II

Financial Bid Format

	Description	Specifications	No of Units	Quoted unit price in Rs.	Tax	Amount in Rs.
1	IoT Based Robotic Shield kit: Type 1	as per specs	5			
2	IoT Based Robotic Shield kit: Type 2	-do-	5			
3	IoT Based Robotic Shield kit: Type 3	-do-	5			
4	IoT Based Robotic Shield kit: Type 4	-do-	5			

Annexure-III

CHECK LIST

1. EMD of Rs. 10,000.00 (Forty-eight Thousand) only by way of DD No………… dated ……… in favour of "**Registrar, Dayalbagh Educational Institute, Agra**" payable at Agra.
2. DD No…………… dated………..for Rs.200.00 (Two hundred) only in favour of "**Registrar, Dayalbagh Educational Institute, Agra**" payable at Agra towards cost of Tender Fee.
3. Details of firm, equipment, software, registration with tax authorities–Income Tax/Service Tax etc.
4. PO and Satisfactory report of qualifying projects (Minimum of two) handled by bidders in last 5 years giving date of start, date of completion, cost of project and delay if any attributable to bidder. (Staple all to make one doc).
5. Documents explaining Bidder's approach particularly to this datacenterequipment laying project describing implementation strategies which may include topology, hardware to be deployed etc.
6. Declaration from the OEM that none of the quoted product will go End of Sale or End of Support for a period of at least five years.
7. Declaration by Agency that they shall be supplying genuine OEM products and any discrepancy.
8. Time schedule for complete development of total project in the form of BAR CHART. (This also has to be part of presentation).
9. Financial Bid in the prescribed Format as given in Annexure-II in a sealed envelope.
10. The bid document along with its annexure downloaded from the web shall be duly signed on each page by the bidder and enclosed along with technical bid in Envelope 1.
11. Any other documents.

NOTE: The Check- List shall be duly filled in, and should be submitted along with the Technical Bid.