



Dr. S.S. Rathore  
Professor & Dean

Tel: 0294-2470837 (O), 2471056 (Fax);, email: ctaedean@gmail.com  
**COLLEGE OF TECHNOLOGY AND ENGINEERING**  
Maharana Pratap University of Agriculture and Technology UDAIPUR – 313001 (India)

No.CTAE/GEN/2017/8944  
Dated: 13.11.2017

## INVITATION FOR BIDS

### Shopping (Goods)

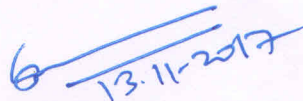
Package No.-CTAE/ECE/P2 and CTAE/RES/P1

1. The Government of India has received a Credit from the International Development Association and a loan from the international Bank for Reconstruction and Development in various currencies towards the cost of Technical Education Quality Improvement Programme [TEQIP]-Phase III project and it is intended that part of the proceeds of this credit will be applied to eligible payments under the contracts for which this Invitation for Bids is issued.
2. The **College of Technology and Engineering, Udaipur** now invites sealed bids from eligible bidders for the supply of following goods.

S. No.	Name of Work	Supply (Days)	Period
1.	Advanced IOT Training System and DSP Development Board	60	
2.	Thermogravimetric Analyzer (TGA)	60	

Last Date Submission of dully filled Bid Document: 28-11-2017 (05:00 PM)

3. Interested Bidders may obtain further information's from the office of **Dean, College of Technology and Engineering, Udaipur**, India, or visit the website [www.ctae.ac.in](http://www.ctae.ac.in)
4. Bid document can be downloaded from the above website Downloaded bid document may be submitted to **Dean, CTAE, Udaipur**.

  
DEAN

## INVITATION FOR QUOTATION

TEQIP-III/2017/ctem/Shopping/12

13-Nov-2017

To,

-----  
-----  
-----

### Sub: Invitation for Quotations for supply of Goods

Dear Sir,

1. You are invited to submit your most competitive quotation for the following goods with item wise detailed specifications given at Annexure I,

Sr. No	Brief Description	Quantity	Delivery Period(In days)	Place of Delivery	Installation Requirement (if any)
1	Advanced IOT Training System	1	60	CTAE, Udaipur	As per satisfaction of Department of ECE
2	DSP Development Board	5	60	CTAE, Udaipur	As per satisfaction of Department of ECE

2. Government of India has received a credit from the International Development Association (IDA) towards the cost of the **Technical Education Quality Improvement Programme [TEQIP]-Phase III** Project and intends to apply part of the proceeds of this credit to eligible payments under the contract for which this invitation for quotations is issued.
3. Quotation,
  - 3.1 The contract shall be for the full quantity as described above.
  - 3.2 Corrections, if any, shall be made by crossing out, initialing, dating and re writing.
  - 3.3 All duties and other levies payable by the supplier under the contract shall be included in the unit price.
  - 3.4 Applicable taxes shall be quoted separately for all items.
  - 3.5 The prices quoted by the bidder shall be fixed for the duration of the contract and shall not be subject to adjustment on any account.
  - 3.6 The Prices should be quoted in Indian Rupees only.
4. Each bidder shall submit only one quotation.
5. Quotation shall remain valid for a period not less than **55** days after the last date of quotation submission.
6. Evaluation of Quotations,

The Purchaser will evaluate and compare the quotations determined to be substantially responsive i.e. which

6.1 are properly signed ; and

6.2 confirm to the terms and conditions, and specifications.

7. The Quotations would be evaluated for all items together.

8. Award of contract:

The Purchaser will award the contract to the bidder whose quotation has been determined to be substantially responsive and who has offered the lowest evaluated quotation price.

8.1 Notwithstanding the above, the Purchaser reserves the right to accept or reject any quotations and to cancel the bidding process and reject all quotations at any time prior to the award of contract.

8.2 The bidder whose bid is accepted will be notified of the award of contract by the Purchaser prior to expiration of the quotation validity period. The terms of the accepted offer shall be incorporated in the purchase order.

9. Payment shall be made in Indian Rupees as follows:

**Delivery, Installation Delivery and Installation Satisfactory Acceptance - 100% of total cost**

10. All supplied items are under warranty of **12** months from the date of successful acceptance of items.

11. You are requested to provide your offer latest by **17:00** hours on **28-Nov-2017**.

12. Detailed specifications of the items are at Annexure I.

13. Training Clause (if any) **As per satisfaction of Department of Electronics and Communication Engg.**

14. Testing/Installation Clause (if any) **As per satisfaction of Department of Department of Electronics and Communication Engg.**

15. Information brochures/ Product catalogue, if any must be accompanied with the quotation clearly indicating the model quoted for.

16. The successful bidder shall furnish the Performance Security (5% of the contract value) to the Purchaser in the form of bank guarantee after the receipt of acceptance letter. The Performance Security shall be valid up to 28 days from the date of expiry of warranty period.

17. If the supplier fails to deliver the desired goods within period specified in Purchase order, liquidated damages will be applicable (applicable rate is 0.07% per week and maximum deduction is 10% of the contract price).

18. **“Teqip Package CTAE/ECE/P2 Date of opening 29.11.2017”** should be written on the top of sealed envelope.

19. Sealed quotation to be submitted/ delivered at the address mentioned below,

**Dean, College of Technology, University Campus, Udaipur 313001**

20. We look forward to receiving your quotation and thank you for your interest in this project.

(Authorized Signatory)

Dr. S.S. Rathore

DEAN, CTAE, UDAIPUR

## Annexure I

### 1. Advanced IOT Training System: Specifications:

Analog front end	<ul style="list-style-type: none"> <li>• Three TL082 Dual Op-amps</li> <li>• Three MPY634 Analog Multipliers</li> <li>• Two 12-bit DAC7821</li> <li>• Two Potentiometers</li> <li>• LDO regulator, DC-DC converter</li> </ul>
WiFi Connectivity (8 Modules)	<p><b>Module 1:</b></p> <ul style="list-style-type: none"> <li>• 802.11 b/g/n station &amp; access point</li> <li>• Embedded TCP/IP Stack and Wi-Fi security</li> <li>• Low Power radio and advanced low power modes</li> <li>• Single chip Wi-Fi MCU: Wi-Fi network processor+ ARM Cortex M4 MCU included into one chip</li> <li>• ADC,SPI,I2C,UART, PWMs, I2S audio interface</li> </ul> <hr/> <p><b>Module 2:</b></p> <ul style="list-style-type: none"> <li>• Wi-Fi Network Processor</li> <li>• 40 MHz crystal, 32 KHz crystal &amp; Oscillator</li> <li>• 2 Push Buttons, 4 LEDs</li> <li>• 2 20-pin stackable connectors</li> </ul> <hr/> <p><b>Module 3:</b></p> <ul style="list-style-type: none"> <li>• 1.8-3.6 V operation</li> <li>• SPI interface Modules</li> <li>• Prototyping area</li> <li>• ROHS and REACH compliant, ETSI compliant &amp; FCC/IC certified</li> </ul> <hr/> <p><b>Module 4 (Multi Sensor Module):</b></p> <ul style="list-style-type: none"> <li>• InvenSense MPU-9150: 9-axis MEMS motion tracking o</li> <li>• 3-axis gyro</li> <li>• 3-axis accelerometer</li> <li>• 3-axis compass</li> <li>• Bosch Sensortec BMP180 pressure sensor</li> <li>• Sensirion SHT21 humidity and ambient temperature sensor</li> <li>• Intersil ISL29023 ambient and infrared light sensor</li> <li>• TI's TMP006_non-contact infrared temperature sensor</li> </ul> <p><b>Uses BoosterPack XL connection standard:</b></p> <ul style="list-style-type: none"> <li>• Two pairs of 10-pin headers provide standard LaunchPad interface</li> <li>• Primary header (outer row) compatible</li> <li>• Secondary header (inner row) offers additional</li> <li>• 2× user input buttons and LEDs</li> <li>• TI's wireless evaluation module (EM) interface connection</li> </ul> <hr/> <p><b>Module 5: Description</b></p>

	<p>The Bluetooth device has the first fully qualified Bluetooth 5 protocol stack for single-mode Bluetooth low energy applications supporting high speed mode. It is part of the microcontroller (MCU) platform which consists of Wi-Fi®, Bluetooth® low energy, Sub-1 GHz and host MCUs, which all share a common, easy-to-use development environment with a single core software development kit (SDK) and rich tool set.</p> <ul style="list-style-type: none"> <li>• Support for new Bluetooth 5 2Mbps high speed mode</li> <li>• Connect your LaunchPad to the cloud with Bluetooth low energy on your Smartphone</li> <li>• Access all I/O signals with the BoosterPack connectors</li> <li>• TI OPT3001 Light Sensor</li> <li>• TI TMP006 Temperature Sensor</li> <li>• Servo Motor Connector</li> <li>• 3-Axis Accelerometer</li> <li>• User Push Buttons</li> <li>• RGB Multi-color LED Buzzer</li> <li>• 40-pin Stackable BoosterPack Connector</li> <li>• Color TFT LCD Display</li> <li>• Microphone</li> <li>• 2-Axis Joystick with Pushbutton</li> <li>• Capacitive touch elements including scroll wheel, button and proximity sensor</li> <li>• 9 on-board LEDs for instant feedback</li> <li>• Timer-based UART communication enables interface to PC</li> <li>• Open source graphical user interface (GUI) available</li> <li>• Includes a pre-programmed MCU with demo application</li> <li>• Fully supported by the Microcontroller Capacitive Touch Sense Library</li> <li>• Efficient solar energy harvesting module for the eZ430-RF2500</li> <li>• Battery-less operation</li> <li>• Works in low ambient light</li> <li>• 400+ transmissions in dark</li> <li>• Adaptable to any RF network or sensor input</li> <li>• Inputs available for external harvesters thermal, piezo, 2nd solar panel, etc.) USB debugging and programming interface with application backchannel to PC</li> <li>• 18 available analog and communications input/output pins</li> <li>• Highly integrated, ultra-low-power MSP430 MCU with 16-MHz performance</li> <li>• Two green and red LEDs for visual feedback</li> <li>• Interruptible push button for user feedback</li> </ul>
Wireless Module	<p>2.4 GHz, ISM band multichannel low power transceiver Module</p> <ul style="list-style-type: none"> <li>• 2 LEDs, 1 Push Button</li> <li>• Wireless Sensor Monitoring Applications</li> <li>• Application UART allows serial communication to PC</li> </ul>
Embedded Module (4 Modules)	<p><b>Module 1</b></p> <ul style="list-style-type: none"> <li>• ARM Cortex M4 Core, 80MHz Speed</li> <li>• 256 K Flash, 32 K RAM</li> <li>• 2 , 12 Channel 12-bit ADC</li> <li>• 16 PWM Channels</li> </ul>

	<ul style="list-style-type: none"> <li>• USB Host/Device/OTG</li> <li>• 2 CAN</li> <li>• 43 GPIOs, 4 SPI, 4 I2C, 8 UART</li> </ul> <p><b>Module 2</b></p> <ul style="list-style-type: none"> <li>• USB 2.0 enabled 16-bit MCU</li> <li>• Up to 25 MHz Speed</li> <li>• 128 K Flash, 8 K RAM</li> <li>• 12 Bit SAR ADC</li> <li>• On board emulator</li> <li>• Ultra Low Power Applications</li> </ul> <p><b>Module 3</b></p> <ul style="list-style-type: none"> <li>• Color LCD interface</li> <li>• USB 2.0 OTG   Host   Device port</li> <li>• TI wireless EM connection</li> <li>• BoosterPack™ and BoosterPack XL interfaces</li> <li>• Quad SSI-supported 512-Mbit Flash memory</li> <li>• MicroSD slot</li> <li>• Expansion interface headers: MCU high-speed USB ULPI port, Ethernet RMII and MII ports External peripheral interface for memories, parallel peripherals, and other system functions.</li> <li>• ARM® Cortex-M4-based microcontrollers</li> </ul> <p><b>Module 4</b></p> <p>The Wi-Fi LaunchPad™ development kit, a single-chip wireless microcontroller (MCU) with 1MB Flash, 256KB of RAM and enhanced security features. It features on-board emulation and sensors for a full out-of-the-box experience. This board can be directly connected to a PC for use with development tools such as the Code Composer Studio™ Cloud integrated development environment (IDE).</p> <p>The Wifi LaunchPad device brings IoT networking security to a new level, empowering developers to easily connect any application to the cloud, with multiple communication protocols.</p> <ul style="list-style-type: none"> <li>• Supports various IDE: CCS, IAR Embedded Workbench for ARM Cortex-M4</li> <li>• Standalone development platform featuring sensors, LEDs and push-buttons</li> <li>• On-board chip antenna with option for U.FL-based testing</li> <li>• 2x20-pin stackable connectors (BoosterPack headers) to connect to TI LaunchPads and other BoosterPacks</li> <li>• Back-channel universal asynchronous receiver/transmitter (UART) through USB to PC</li> <li>• XDS110-based JTAG emulation with serial port for flash programming.</li> </ul>
Software's	Cross-works Single License for Microcontroller and ARM

**IOT Sensor Modules Technical Details:**

Modules	Features
HR202 Soil Humidity Sensor	<ul style="list-style-type: none"> <li>• 3.3V-5V DC Operation</li> <li>• 15 mA Operating Current</li> <li>• Humidity Range: 20 to 95%</li> </ul>

	<ul style="list-style-type: none"> <li>• LM 393 Based Design</li> </ul>
Water Level Sensor	<ul style="list-style-type: none"> <li>• 3-5V DC Operation</li> <li>• Operating Current &lt;20 mA</li> <li>• Sensor Type: Analog</li> </ul>
Alcohol Sensor	<ul style="list-style-type: none"> <li>• Selective digital/analog output</li> <li>• Direct and easy interface</li> <li>• High Sensitivity &amp; Response Time</li> </ul>
Temperature Sensor	<ul style="list-style-type: none"> <li>• LM35 based sensor</li> <li>• Digital/Analog output</li> <li>• Good Sensitivity</li> </ul>
Sound Sensor	<ul style="list-style-type: none"> <li>• Electret microphone based</li> <li>• DC 4-6V</li> <li>• Single signal output</li> <li>• Can be used for voice control and sound detection</li> </ul>
Ultra-Sonic Sensor	<ul style="list-style-type: none"> <li>• 5v wide voltage input range</li> <li>• Current consumption &lt;3 mA</li> <li>• 2-200 cm of non-contact measurement range</li> </ul>
LDR Sensor	<ul style="list-style-type: none"> <li>• Sensitive type photo resistance sensor</li> <li>• 3.3-5V DC</li> <li>• DO digital switch and AO analog voltage output</li> <li>• Fixed bolt hole, convenient installation</li> </ul>
3-Axis Accelerometer	<ul style="list-style-type: none"> <li>• Wide Application area</li> <li>• Tilt &amp; Motion, Motion Sensing, Free Fall Detection</li> <li>• E Compass, Image Stability</li> </ul>

## 2. DSP Development Board Specifications:

### Specifications:

Modules	Features
Jacinto 6 Infotainment Evaluation Module Kit with XDS560v2 STM JTAG Emulator	<p><b>CPU Board Evaluation Module Kit</b></p> <ul style="list-style-type: none"> <li>• Jacinto 6 ES2.0 SoC with XDS560v2 STM</li> <li>• 4GB DDR3 MMC\</li> <li>• NAND Flash 16 bit &amp; NOR Flash</li> <li>• I2C EEPROM</li> <li>• AIC3106 codec: Headphone OUT, Line OUT, Line IN, Microphone IN</li> </ul> <p><b>Connectors:</b></p> <ul style="list-style-type: none"> <li>• CAN</li> <li>• USB3.0 &amp; USB2.0</li> <li>• PCIe</li> <li>• Video: HDMI Out, FPD-Link III, LCD</li> <li>• COM8</li> <li>• MicroSD</li> <li>• SATA</li> <li>• Expansion</li> </ul> <p><b>JAMR3 Application Board</b></p> <ul style="list-style-type: none"> <li>• 3 x AIC3106 Audio CODECs</li> </ul>

	<ul style="list-style-type: none"><li>• 4 x AFE8310D RF2bits Tuners</li><li>• 4 x AFE8316 DAB LNAs</li></ul> <p><b>Connectors:</b></p> <ul style="list-style-type: none"><li>• Audio Input: 2 x Mic, 1 x Stereo</li><li>• Audio Output: 3 x Stereo</li><li>• USB2.0</li><li>• Composit Video Input</li><li>• FPD-Link</li><li>• 3 x Composite Camera Video Inputs</li><li>• RF Antennas</li><li>• USB (for conversion to I2C)</li><li>• Expansion</li></ul> <p><b>10.1” LCD/Touch Screen Display</b></p> <ul style="list-style-type: none"><li>• 1920 x 1200 Resolution</li><li>• 24 bit Color Display</li><li>• Touch Screen Interface</li></ul>
--	---



**FORMAT FOR QUOTATION SUBMISSION**

(In letterhead of the supplier with seal)

Date: \_\_\_\_\_

To: \_\_\_\_\_  
 \_\_\_\_\_

Sl. No.	Description of goods (with full Specifications)	Qty.	Unit	Quoted Unit rate in Rs. (Including Ex Factory price, excise duty, packing and forwarding, transportation, insurance, other local costs incidental to delivery and warranty/ guaranty commitments)	Total Price (A)	Sales tax and other taxes payable	
						In %	In figures (B)
<b>Total Cost</b>							

Gross Total Cost (A+B): Rs. \_\_\_\_\_

We agree to supply the above goods in accordance with the technical specifications for a total contract price of Rs. \_\_\_\_\_ (Amount in figures) (Rupees \_\_\_\_\_ amount in words) within the period specified in the Invitation for Quotations.

We confirm that the normal commercial warranty/ guarantee of ———— months shall apply to the offered items and we also confirm to agree with terms and conditions as mentioned in the Invitation Letter.

We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf will engage in bribery.

Signature of Supplier

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Contact No: \_\_\_\_\_