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**ACHARYA NARENDRA DEV COLLEGE**  
**(UNIVERSITY OF DELHI)**  
**Govind Puri, Kalkaji, New Delhi – 110 019**

**Dr. Savithri Singh**  
**Principal**

**Ref. No. ANDC/ANDC311/2016/**  
**Dated : 16/06/2016**

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**Subject: Tender for the purchase of sensors and microcontroller boards**

Dear Sir,

Tenders are invited for the purchase of various sensors and microcontroller boards for Project Laboratory, **Department of Electronics**

The list of items along with the specifications are attached as **Enclosure-I**. It is requested that the following protocol should be carefully observed in every detail while submitting the tender; otherwise the tender may not be considered.

1. Technical bid consolidated and financial bids item-wise should be quoted and packed separately and sealed in separate envelopes with respective markings. These separate envelopes are to be put in a common outer envelope which too is to be sealed.
2. The tender should be sent under sealed cover addressed to the Principal, Acharya Narendra Dev College, Govindpuri, Kalkaji, New Delhi – 110 019 **NOT later than 5.00. p.m., Monday July 4, 2016.**
3. **“Tender Sensors and Microcontroller Boards”** should be superscripted prominently on the envelope.
4. The quoted price should be inclusive of all taxes and other charges.
5. Earnest Money Deposit of Rs.4000/- in the form of a single demand draft **in favour of Principal, Acharya Narendra Dev College**, should be deposited along with the technical bid enclosed in the outermost envelope. Name, address and telephone number of the bidder should be clearly written on the backside of the Demand Draft.
6. The other terms and conditions of the tender are attached as Enclosure-II.
7. **Tenders will be opened on Tuesday July 5, 2016 at 11:30 a.m.**

Yours Sincerely,

(Savithri Singh)

# ACHARYA NARENDRA DEV COLLEGE

## Enclosure-I

### Specifications for Items

#### 1. Intel Edison And Arduino Breakout Kit

Quantity 04

- **System on Chip that includes an Intel® Atom™ 500MHz dual-core, dual-threaded CPU and an Intel® Quark™ 100MHz microcontroller.**
- Integrated Wi-Fi, Bluetooth 4.0 LE
- Support for Yocto Linux, Python, Node.js and Wolfram
- Digital pins 0 to 13 (and the adjacent AREF and GND pins), Analog inputs 0 to 5(improved A/D converter), the power header, ICSP header, and the UART port pins (0 and 1), are all in the same locations as on the Arduino Uno R3.(Arduino 1.0 pinout.)
- Working Voltage: 7 to 15 VDC
- USB: 1 USB-OTG
- Flash 4 GB
- Other interfaces: SPI, UART, I2C, PWM( 4 outputs)
- micro SD card connector, a micro USB device port connected to UART2, and a combination micro USB device connector and dedicated standard size USB 2.0 host Type-A connector

#### 2. Arduino Mega 2560 Board

Quantity 02

Microcontroller	ATmega2560
Operating Voltage	5V
Input Voltage (recommended)	7-12V
Input Voltage (limit)	6-20V
Digital I/O Pins	54 (of which 15 provide PWM output)
Analog Input Pins	16
DC Current per I/O Pin	20 mA
DC Current for 3.3V Pin	50 mA
Flash Memory	256 KB of which 8 KB used by bootloader
SRAM	8 KB
EEPROM	4 KB
Clock Speed	16 MHz

#### 3. High resolution, Wireless multi-channel EEG system

Quantity 01

- 14 EEG channels with 02 reference channels

##### Signal resolution

- Sampling method: Sequential sampling. Single ADC
- Sampling rate: 128 SPS or 256 SPS\* (2048 Hz internal)
- Resolution: 14 bits 1 LSB = 0.51 $\mu$ V ( 16 bit ADC, 2 bits instrumental noise floor discarded), or 16 bits\*
- Bandwidth: 0.2 – 43Hz, digital notch filters at 50Hz and 60Hz

- Filtering: Built in digital 5th order Sinc filter
- Dynamic range (input referred): 8400 $\mu$ V(pp)
- Coupling mode: AC coupled

**Connectivity:** Wireless: Bluetooth, 2.4GHz band

**Power:** 640mAh or higher Internal Lithium Polymer battery 640mAh

**4. 5-channel mobile EEG headset** **Quantity 01**

- 5 EEG channels with 02 reference channels

**Signal resolution**

- Data transmission rate: 128 samples per second per channel
- Minimum voltage resolution: 0.51 $\mu$ V least significant bit

**Frequency response: 1-43Hz**

Wireless: Bluetooth, 2.4GHz band

**Power:** 480 mAh or higher Internal Lithium Polymer battery

**5. 3 D Brain Activity Visualizer window** **Quantity 01**

Real-time 3D Brain visualizer of brain activity in four significant brainwave frequency bands. Auto-intensity and adjustable intensity sliders to see detailed information and relative strengths between different brain regions. Compatible with 14 and 5 channel EEG system

**6. Midi Control** **Quantity 01**

32bit program (+ 32bit Java) to send Performance Metrics & Emotional States/Mental Command values to target MIDI port as midi controller values from EEG system. Provisions to save the recorded Performance Metrics & Emotional States/Mental Command values to a text file.

**7. USB Universal receiver** **Quantity 01**

Compatible with 5 channel mobile EEG set

**8. Felt Sensors** **Quantity 01 pack( 150 pcs )**

Compatible with 14 and 5 channel mobile EEG set

**9. Rubber Comfort Pads** **Quantity 01(pack of 02)**

Compatible with 14 and 5 channel mobile EEG set

**ACHARYA NARENDRA DEV COLLEGE**  
**(UNIVERSITY OF DELHI)**

**TERMS AND CONDITIONS FOR PURCHASE OF EQUIPMENTS**

**Enclosure II**

1. Technical and financial bids should be quoted separately and sealed in separate envelopes and these separate envelopes are to be put in an outer envelope which too should be sealed. The EMD is to be enclosed with the technical bid.
2. It may please be noted that firms must submit single technical bid of all items whereas financial bids of each item have to be quoted separately and the same should be sealed item-wise in separate envelopes.
3. Our Tender No. & Date and name of the item/equipment should invariably be marked on the top of each envelope containing the technical/financial bids, as well as on the outer envelope.
4. The technical and financial bids should be of the same equipment. The financial bid should include the cost of main equipment/item, its accessories. If there is any separate cost for training and installation that should be quoted separately. Warranty certificate should be attached with the technical bids.
5. The printed technical literature and catalogue giving full technical details should be included with the technical bid along with a compliance statement verifying the specifications quoted in the tender.
6. The rates be quoted in figures (all typed or printed) and cuttings should be avoided. The final figure should be in figures as well as in words. If there are cuttings, they should be duly initialled, failing which the bids are liable to be rejected.
7. The technical and financial bids should be addressed to Principal, Acharya Narendra Dev College, University of Delhi, Govindpuri, Kalkaji, New Delhi 110 019.
8. Any bids received after due date shall not be considered.
9. The college reserves the right to change the number of items to be procured as also their quantity
10. The relevant college technical committee may ask the vendors for sample reviewing and demonstration and reserves the right to reject before opening of the financial bids

**For Imported Equipment/Item**

11. The prices quoted should be C.I.F., New Delhi. That should include insurance, packing, forwarding, freight etc.
12. The agency commission, if any, payable in Indian rupees should be mentioned separately.
13. The bids should be valid for a period of 180 days from the date of its opening.
14. For imported equipment/s, payment can be made against the letter of Credit/Sight draft. The firm opting for Letter of Credit (LC) opening should clearly mention the address of foreign bank in the financial bid.
15. Custom duty will be paid by the College at the time of clearing the consignment from customs, as per Govt. rules.

## **Indigenous Equipment/Item/s**

16. The prices quoted should be F.O.R. Delhi that includes insurance, packing, forwarding, freight etc.
17. The bids should be valid for a period of 180 days from the date of its opening.
18. For indigenous equipment/s, the payment terms are 100% advance against a bank guarantee of 110% amount, valid for 6 months or 100% payment after receipt of supply in good conditions.

## **Other terms and Conditions**

19. The firm must be reputed and must be registered with Sales Tax Authority. (Attach Sales Tax Registration number copy and income tax return papers of the last three years)
20. Indian Agents representing Foreign suppliers/manufacturers shall be registered with DGS and D.
21. The selected vendors will have to provide the complete bank details in case the college desires to make the payment through ECS/RTGS.
22. Earnest Money Deposit (EMD) (refundable) in the form of a single demand draft of Rs.4000/- in favour of Principal, Acharya Narendra Dev College, should be deposited along with the bid enclosed in the outermost envelope. Name, address and telephone number of the bidder should be clearly written on the backside of the Demand Draft.
23. In case of any deviation from the tender specification or any misconduct, the firm will be held responsible and may lose the Earnest Money Deposit with additional penalty imposed.
24. No tenders will be considered after the due date and time under any circumstances. The tender should be sent not later than 04<sup>th</sup> July 2016. The tenders will be opened on 05<sup>th</sup> July, 2016 at 11:30 a.m.
25. No advance payment will be made. TDS applicable for professional services will be deducted.
26. While sending bids, the firm/company/s shall ensure that the terms/conditions mentioned in the tender document against which the tender is being given are acceptable to the vendor/firm.
27. In the event of non-execution of the order within the specified period, a penalty of 5% of the total cost shall be imposed on the suppliers.
28. Principal, ANDC reserves its right/s to reject or accept wholly or partly the tender without assigning any reason/s.

Principal  
Acharya Narendra Dev College  
(University of Delhi)  
Govindpuri, Kalkaji, New Delhi-110 019

**Undertaking Form**

(To be submitted along with the Quotation)

The Principal  
Acharya Narendra Dev College  
University of Delhi  
Govindpuri, Kalkaji  
Delhi-110 019

We the undersigned (herein after called as Contractor/Vendors/Suppliers) hereby offer to execute supply of items as per specification against which we have quoted our rates and for which this tender may be accepted at the rates stated there in and subject to the terms & conditions set forth for such items as may be ordered by the Principal, Acharya Narendra Dev College or officer acting on his/her behalf.

Date this \_\_\_\_\_ Day of \_\_\_\_\_

Signature of Contractor \_\_\_\_\_

Address \_\_\_\_\_

\_\_\_\_\_  
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