

**INVITATION TO TENDER**  
**AND**  
**INSTRUCTIONS TO TENDERERS**  
**FOR THE SUPPLY OF INTERNET OF THINGS**  
**(IoT) TO COMPUTER SCIENCE AND**  
**ENGINEERING DEPARTMENT OF**  
**JNTUA COLLEGE OF ENGINEERING**  
**PULIVENDULA**



**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR**  
**COLLEGE OF ENGINEERING (Autonomous),**  
**PULIVENDULA – 516 390, Y.S.R. Dist. (A.P)**

# **JNTUA COLLEGE OF ENGINEERING, PULIVENDULA**

## **INVITATION TO TENDER AND INSTRUCTIONS TO TENDERERS**

### **FOR THE SUPPLY OF INTERNET OF THINGS (IoT) TO COMPUTER SCIENCE AND ENGINEERING OF JNTUA COLLEGE OF ENGINEERING, PULIVENDULA**

JNTUA College of Engineering, Pulivendula invites tender for the supply of Internet of Things (IoT) to Computer Science and Engineering Department, JNTUA College of Engineering, Pulivendula, as per specifications given in the schedule attached to the Tender form annexed hereto. All offers should be made in English and should be written in both figures and words.

The tender schedule can be obtained from the Principal, JNTUA College of Engineering, Pulivendula on payment of **Rs. 2,360/- (Rs. 2,000/- + 18% GST)** in the form of crossed Demand Draft on any Nationalised Bank drawn in favour of the “Principal, JNTUA College of Engineering, Pulivendula” payable at Pulivendula not earlier than 09-05-2018. Alternatively the tender schedules can be downloaded from the website [www.jntuacep.ac.in](http://www.jntuacep.ac.in). Such vendors who use downloaded tender schedules for submitting bids must enclose a demand draft for Rs. 2,000/- +GST 18% towards the tender fee along with the bid in addition to EMD, otherwise the bid will be rejected.

Note: The DD for Rs. 2,360/- (Rs. 2000 + GST 18%), towards the tender document fee, drawn in favour of the Principal, JNTUA College of Engineering, Pulivendula on any Nationalized bank should have been obtained not before 09-05-2018.

Tender fee once paid is neither refundable nor adjustable for other tenders.

The JNTUA College of Engineering, Pulivendula reserves the right to select the item or to reject it. The JNTUA College of Engineering, Pulivendula also reserves the right to revise or alter the specifications of the Internet of Things (IoT) before acceptance of any tender.

Incomplete tenders, amendments and additions to tender after opening or late tenders are liable to be ignored, and rejected.

#### **EMD:**

A Demand Draft, for Rs. 14, 342/- (Rupees Fourteen Thousand Three Hundred and Forty Two only) drawn in favour of the “Principal, JNTUA College of Engineering, Pulivendula” towards EMD must accompany the tender. Those without EMD will be rejected. The EMD will be refunded to all the unsuccessful tenderers only after the purchase orders are placed on the successful tenderer. The successful tenderer has to deposit an additional amount @3% on the contract value as security money deposit.

The final acceptance of the material will be made only after delivering at our end in good condition and subject to satisfying all the specifications given by the University/College.

**BID PRICE:**

1. The contract shall be for the full quantity as described in the tender. Corrections, if any, shall be made by crossing out, initialling, dating and re-writing.
2. All duties, taxes and other levies payable by the vendor shall be included in the total price. Further, it is to be noted that JNTUA is registered with the Department of Scientific & Industrial Research (DSIR) for availing Customs/Central Excise duty exemption and the prices shall be quoted accordingly.
3. The rates quoted by the bidder shall be fixed for the duration of the contract and shall be included in the total price.
4. The prices should be quoted in Indian Rupees only.
5. The prices should be quoted with FOR destination.
6. Packing, forwarding, insurance etc. to vendors account.
7. After satisfactory installation, testing and demonstration, training has to be provided to faculty and staff to the satisfaction of the purchaser at vendor's cost.
8. The operation and maintenance manuals and lab manuals are to be supplied at vendor's cost.
9. All essential accessories cost must be included in the price quoted.
10. The costs of essential spares are to be quoted separately. This will be taken into consideration while bids are evaluated.
11. Price bids are to be essentially signed by the vendor or person authorized by him.
12. Each bidder shall submit only one quotation. Alternatives offer option, if any, must be quoted in separate tender schedule.

**VALIDITY OF QUOTATION:**

Quotation shall remain valid for a period of three months after the deadline date specified for submission. The vendor shall extend the validity if required.

**BIDDER QUALIFICATIONS:**

1. The bidder must be ISO 9001-2008 certified company
2. Bidder must be a registered company with Goods and Service Tax, Sales Tax and Excise Departments and a true copy of such registration documents (PAN, GST, VAT, Service Tax & TIN) should be submitted along with the bid.
3. The bidder should submit the financial turnover report for the last three years.
4. The bidder should submit the list of customers (Govt. Organizations/Universities) along with year of supply and details of equipment supplied.
5. The bidders should submit Satisfactory Performance Certificate from the customers of this equipment. The product approval certificate, if any, from reputed organizations may also be submitted.

6. Bidder debarred/blacklisted by any Central or State Govt. / Quasi-Govt. Departments or organizations as on bid calling date for non-satisfactory past performance, corrupt, fraudulent or any other unethical business practices shall not be eligible.
7. The Principal, JNTUA College of Engineering, Pulivendula reserves the right to assess the capacity/capability of the suppliers in the overall interest of the Institute without assigning any reason.

### **EVALUATION OF QUOTATIONS:**

The purchaser will evaluate and compare the quotations determined to be substantially responsive i.e whether they are:

- a) Are properly signed; and
- b) Conform to the terms and conditions, and specifications mentioned in this
- c) The quotations unless otherwise specified would be evaluated separately for each item, and
- d) If the bidder is not the Original Equipment Manufacturer (OEM) they must provide an authorization certificate from the Original Equipment Manufacturer, stating that the bidder is an approved agent of OEM and service warranty will be guaranteed by OEM in case the agent's license is aborted or any other reason whatsoever during the warranty period.

### **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.

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.
2. The institution reserves the right to place the orders for individual items with different tenders.
3. **Right to Acceptance:**  
The Principal, JNTUA College of Engineering, Pulivendula does not bind himself to accept the lowest on any tender and reserve to himself the right of accepting the whole or any part of the tender or portion of the quantity offered the tenderer shall supply the same at the rate quoted.
4. The bidder, whose bid is accepted, will be notified for the award of contract by the purchaser prior to expiry of the quotation validity period. The terms of the accepted offer shall be incorporated in the purchase order.

## **DELIVERY:**

All the goods ordered shall be delivered with proper packing within 15 days from the date of issue of order.

## **TERMS OF PAYMENT:**

- a) **Payment shall be made by JNTUA College of Engineering, Pulivendula**, after delivery at the specified location, and after installation, commissioning and satisfactory demonstration of the goods with all specifications and standards to the entire satisfaction of the college.
- b) The bidder may give the details of bank Account into which the payments are to be made.
- c) Normal commercial warranty/guarantee shall be applicable to the supplied goods.

## **DELIVERY OF TENDER:**

Bid for schedule of the tender is to be placed in a bigger envelope, clearly mentioning schedule No. on it. The Envelop must be super-scribed with the reference No. (JNTUACEP/CED/TENDERS/Internet of Things/2018, dated: 09-05-2018).

The sealed tender should be addressed to:

**The Principal,  
JNTUA College of Engineering,  
Muddanur Road, Pulivendula – 516390  
YSR Dist., A.P., India.**

**Bids in sealed covers should reach the above address latest by 4:00 PM hours on 30-05-2018. Tenders submitted after the specified time shall not be considered and no intimation will be sent in this regard.**

The college reserves the Right to reject any tender which fails to comply with the above instructions. All tenders should be sent by Post or through messenger, to drop the tender in the sealed tender box provided in the office. It is the responsibility of the tenderer to see that his tender offer is delivered by the specified time at the above address. All further communication should be addressed to the officer named above and by title only.

## **OTHER TERMS:**

Tenderer should make their representative available on 30-05-2018 at 4:00 PM at the time of opening tenders in the chambers of Principal or any other designated place within the college.

The tenderer should produce Goods and Services Tax (GST) & Value Added Tax (VAT) - Registration certificate.

**Tenderer should responsible and bear any price escalation within the validity period and also after the indent has been placed till the supply.**

Sd/-PRINCIPAL

## **BID PARTICULARS**

1. Name of the Supplier :

2. Address of the Supplier :

3. Address of the Show Room/Workshop :

4. Display of goods : Yes / No

5. EMD enclosed : Yes / No

DD No. \_\_\_\_\_ Bank: \_\_\_\_\_ Amount: \_\_\_\_\_

6. Name and address of the officer to whom all reference shall be made regarding this tender enquiry

Name :

Address :

Telephone No.:

Fax No. :

Mobile No. :

e-mail :

Website :

## FORMAT OF QUOTATION

| S. No | Schedule No...<br>(As given in the Annexure) | Description of Goods | Specifications | Qty | Unit | Quoted Unit rate in Rs. | Total Amount |          |
|-------|--|----------------------|----------------|-----|------|-------------------------|--------------|----------|
|       |  |                      |                |     |      |                         | In Figures   | In Words |
|       |  |                      |                |     |      |                         |              |          |

**Gross Total Cost: Rs.** \_\_\_\_\_

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

We also confirm that the normal commercial warrantee / guarantee of \_\_\_\_\_ months shall apply to the offered goods.

**Signature of Supplier  
with seal**

**ABSTRACT OF EQUIPMENT**  
**SCHEDULE**

Name of the Equipment: **Internet of Things Equipment**

Department: Computer Science & Engineering Department

| SI. No. | Product                     | Qty. |
|---------|-----------------------------|------|
| 01      | IoT Development Boards      | 01   |
| 02      | Add on Shields              | 01   |
| 03      | Wireless Modules            | 01   |
| 04      | Sensors                     | 01   |
| 05      | Prototyping and Consumables | 01   |

|                 |                           |
|-----------------|---------------------------|
| Component Make  | Specified by the Vendor   |
| Component Model | Raspberry pi 3            |
| Warranty        | 2 Years                   |
| Installation    | On-site with free of cost |

Detailed specifications of Schedule is given in ANNEXURE.



## Annexure

### IoT Development Boards

| Name of the component  | Quantity |
|--|----------|
| Raspberry Pi 3 (Made in UK), Single Board Computer           | 15       |
| Arduino Uno R3 with USB Programming Cable                    | 15       |
| Node MCU - ESP8266 IoT Development Board                     | 10       |
| Beaglebone Black Rev C                                       | 5        |
| Intel Edison with Arduino Breakout Board                     | 2        |
| Particle Photon (WiFi IoT Development Board)                 | 5        |
| Arduino Genuino 101 (Intel Curie Dev Board with onboard BLE) | 5        |
| LPG Gas Sensor (MQ2)   | 30       |
| Body Temperature Sensor                                      | 20       |
| Blood Pressure Sensor  | 6        |

### Add on Shields for above Dev Boards

| Name of the component                      | Quantity |
|--|----------|
| LCD Shield                                 | 5        |
| Sense Hat for Raspberry Pi                 | 5        |
| SD Card Shield                             | 5        |
| RTC Module shield                          | 10       |
| Dot Matrix display Module with MAX 7219 IC | 5        |

### Wireless Modules

| Name of the component                      | Quantity |
|--|----------|
| ESP-8266-01 - WiFi Module                  | 10       |
| Bluetooth Low Energy BLE HM-10             | 10       |
| Bluetooth Classic Module HC-05             | 10       |
| RFID Module With RFID Cards (3 tags)       | 10       |
| GSM/GPRS Module (SIM 800)                  | 10       |
| GPS Module (Ublox 6M)                      | 5        |
| Finger Print Module (R305)                 | 2        |
| Raspberry Pi Camera Module (8Mp Camera V2) | 10       |

## Sensors

| <b>Name of the component</b>                     | <b>Quantity</b> |
|--|-----------------|
| HC SR-04 (Distance Sensor)                       | 10              |
| PIR Sensor (Motion Detection Sensor)             | 10              |
| DHT 11 (Humidity and Temperature Sensor)         | 10              |
| LM35 (Temperature Sensor)                        | 10              |
| LDR (Light Sensor for Arduino )                  | 20              |
| BH1750 Sensor (Light Sensor for Raspberry Pi 2)  | 5               |
| Colour Sensor                                    | 5               |
| Soil Moisture Sensor                             | 10              |
| ADXL sensor (Accelerometer Sensor) ADXL345       | 10              |
| Water proof Temperature Sensor (DS18B20)         | 10              |
| Xbee S2c series with Base board                  | 10              |
| Alcohol sensor Module (MQ-03)                    | 10              |
| Air quality sensor Module (MQ-135)               | 10              |
| Carbon Monoxide Sensor Module (MQ-07)            | 10              |
| Smoke Sensor (MQ-02)                             | 10              |
| Barometric Pressure Sensor (BMP 10)              | 10              |
| Compass Module (HMC5885)                         | 10              |
| DHT22 Humidity and Temp sensor Module            | 10              |
| Flex Sensor 2.2                                  | 5               |
| Flex Sensor 4.2                                  | 5               |
| Force sensor                                     | 5               |
| IR Long Range sensor                             | 5               |
| IR Obstacle Avoidance sensor                     | 10              |
| Pulse Sensor                                     | 5               |
| Raindrop sensor                                  | 10              |
| Reflective Optical Sensor with Transistor Output | 10              |
| Sound Sensor Module                              | 10              |
| Tilt sensor Module                               | 10              |
| Hall effect sensor Module                        | 10              |
| ECG Module                                       | 2               |
| EMG/EKG Shield                                   | 2               |

## Prototyping and Consumables

| <b>Name of the component</b>        | <b>Quantity</b> |
|-------------------------------------|-----------------|
| Breadboard (Medium size)            | 10              |
| Breadboard (Normal size)            | 20              |
| Dot Board (Small size)              | 10              |
| Dot Board (Medium size)             | 10              |
| Dot Board (Large size)              | 10              |
| Power Adapters for Raspberry Pi 3   | 15              |
| Power Adapters for Beaglebone Black | 5               |
| Power Adapters for GSM/GPRS Module  | 10              |

|   |      |
|---|------|
| 16gb Class 10 Sd Card for pi 3              | 15   |
| HDMI to VGA Convertors                      | 15   |
| Ehternet Cables                             | 15   |
| LEDS  | 500  |
| De-soldering Pump                           | 5    |
| Resistor Box                                | 10   |
| Capacitor Box                               | 10   |
| Laser Doide                                 | 10   |
| Digital Multimeter                          | 10   |
| Multimeter Probes                           | 10   |
| Push Buttons                                | 100  |
| Potentiometer                               | 50   |
| Stepper Motors -5v                          | 10   |
| Stepper Motors -12v                         | 10   |
| stepper Motor Driver Module                 | 20   |
| Batteries (9V Hw)                           | 10   |
| Snap Connectors with Power Plug             | 10   |
| Servo Motor-1kg torque                      | 10   |
| Servo Motor-5kg torque                      | 10   |
| USB to RS232 Convertor                      | 10   |
| 1-channel relay module                      | 10   |
| 4-channel relay module                      | 5    |
| Buzzer                                      | 20   |
| Raspberry Pi cases                          | 15   |
| Aluminium heat sinks                        | 15   |
| LCD 16*2 character                          | 15   |
| 32 in 1 screw tool kit                      | 10   |
| 8gb sd card for raspberry                   | 15   |
| 4-digit seven display                       | 10   |
| 16keypad membrane                           | 10   |
| 7-segment display                           | 20   |
| Assorted connecting wires (M-M) (M-F) (F-F) | 1000 |
| Soldering wire                              | 2    |
| Breadboarding wire                          | 2    |
| Solderon Iron                               | 10   |
| Soldering Stand                             | 10   |
| Soldering Lead 50Gm                         | 10   |
| Cutter                                      | 10   |
| Stripper                                    | 10   |
| 32 in 1 Screwdriver tool kit                | 5    |
| Glue Gun                                    | 5    |
| Glue Stick                                  | 20   |