



Faculty of Engineering & Technology, Guru Jambheshwar University of  
Science & Technology, Hissar, Haryana, (Haryana)-125001

INVITATION LETTER

Package Code: TEQIP-III/2019/HR/fetg/22

Current Date: 20-Jun-2019

Package Name: CNC LAB

Method: Shopping Goods

To,

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**Sub: INVITATION LETTER FOR QUOTATION OF MULTIPURPOSE FOUR AXIS ROBOTIC ARMS (CNC LAB).**

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	Item Name	Quantity	Delivery Period	Place of Delivery	Installation Requirement (if any)
1	MULTI-PURPOSE FOUR AXIS ROBOTIC ARMS	1	30 days	Department of Mechanical Engineering Guru Jambheshwar University of Science & Technology Hisar (INDIA)-125001	N.A.

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, initialling, 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 **90** 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:  
**Satisfactory Acceptance - 100% of total cost**
10. Liquidated Damages will be applied as per the below:  
Liquidated Damages Per Day Min % : 1  
Liquidated Damages Max % : 5
11. All supplied items are under warranty of 36 months from the date of successful acceptance of items and for AMC/Others is not applicable.
12. You are requested to provide your offer latest by 15:00 hours on 15-Jul-2019.
13. Detailed specifications of the items are at Annexure I.
14. Training Clause (if any): Yes
15. Testing/Installation Clause (if any): Yes
16. Performance Security shall be applicable: 10%
17. Information brochures/ Product catalogue, if any must be accompanied with the quotation clearly indicating the model quoted for.
18. Sealed quotation to be submitted/ delivered at the address mentioned below:  
**Chairman**  
**Department of Mechanical Engineering**  
**Guru Jambheshwar University of Science & Technology**  
**Hisar, Haryana**  
**PIN - 125001**
19. We look forward to receiving your quotation and thank you for your interest in this project.

(Authorized Signatory)

Name & Designation

**Annexure-I**

<b>Item</b>	<b>Specifications</b>	<b>Quantity</b>
<b>Multipurpose 4 Axis Robotic Arms</b>	<b>Robotic Arm with soldering and 3D printing</b> <ul style="list-style-type: none"> <li>• PCB Soldering</li> <li>• 3D printing with dual extruder</li> </ul> Number of Axis : 4 <u>Axis Movement</u> Joint 1 rear arm : -85° to + 85° Joint 2 forearm : -135° to +135° Joint 3 Z-axis : 0 to 250 mm Joint 4 rotation : 360° Payload : 1.5 kg Connecting Interface: USB, WIFI, Serial, LAN, Bluetooth.	<b>01</b>
	<b>Robotic Arm with linear sliding support.</b> Functions: <ul style="list-style-type: none"> <li>• 3D printing,</li> <li>• laser engraving</li> <li>• Writing and drawing.</li> <li>• Pick and place.</li> </ul> Number of Axis : 4 <u>Axis Movement</u> <ul style="list-style-type: none"> <li>▪ Joint 1 base : -90° to + 90°</li> <li>▪ Joint 2 rear arm : 0° to + 85°</li> <li>▪ Joint 3 forearm : -10° to + 95°</li> <li>▪ Joint 4 rotation : -90° to + 90°</li> </ul> Payload : 500g (minimum) <u>End effectors</u> 3D Printer Kit <ul style="list-style-type: none"> <li>▪ Print Size (L × W × H): 150 × 150 × 150 mm (maximum)</li> <li>▪ Printing material : ABS, PLA</li> </ul> Laser Engraver <ul style="list-style-type: none"> <li>▪ Power: 500 MW</li> <li>▪ Type : 405 nm ( Blue laser )</li> </ul> Pen Holder <ul style="list-style-type: none"> <li>▪ Pen Diameter : 10mm</li> </ul> Vacuum Suction Cup <ul style="list-style-type: none"> <li>▪ Diameter : 20 mm (maximum)</li> <li>▪ Pressure : 35 kPa</li> </ul> Gripper <ul style="list-style-type: none"> <li>▪ Opening Range : 25 mm</li> <li>▪ Drive Type : Pneumatic</li> <li>▪ Force : 8N</li> </ul> Connecting Interface: USB, WIFI, and Bluetooth. <b>ACCESSORIES</b> i. Conveyor Belt <ul style="list-style-type: none"> <li>▪ Metal base PVC belt.</li> <li>▪ Dimensions (min.) L=600 mm, W=80 mm</li> <li>▪ Controlled by axis driver in robot controller</li> <li>▪ Variable travel speed</li> <li>▪ Photoelectric switch and Color recognizing unit Sensor</li> </ul> ii. Liner Sliding Rail	<b>02</b>

- Overall travel: 1000mm
  - Travel velocity:100mm/sec
  - iii. Automated Guided Vehicles (AGV) Kits
    - Functions :
      - Color recognition
      - Line tracking
        - Motion Recognition
 cameras should allow images to be transferred via USB or WiFi,
   
AGV to include:
      - 2 encoder motor
      - 3 indicator light
      - Buzzer
      - Ultrasonic distance sensor
      - Optical color sensor
      - Camera
      - push buttons
    - Robotic Controller:
      - Processor : dual core 32 Bit
      - Memory capacity :128 MBDDR3 RAM,64 MB flash
      - Memory expansion : Micro SD Card
      - Display : color and touch display (320x 240 Pixels minimum)
      - USB port for Camera connection,
      - Power Supply : 9.0 V DC adapter
    - Software Functions
      - Programming
      - Flow charts
  - iv. 02 Computers (Should be Certified Branded)
    - Minimum specifications:**
      - i7 8<sup>th</sup> generation
      - 32 GB ram
      - 1 TB hard disk
      - windows (latest licenced)
      - 21 inches monitor
      - 4 USB ports
      - Keyboard and mouse.
  - v. Working Table
    - Size (L × W × H) : 2. 5 × 0.75 × 0.75 m
    - Drawers with individual locks
    - Top surface with granite stone
    - Carrying capacity : 400 kg (minimum)
  - vi. Consumables
    - First time requirement will be given by supplier.
    - 3D printing material 5 kg (multicolour)
    - Laser Engraver : 2
    - High quality pens : 10
    - Multi color Blocks : 100
    - Soldering Wire : 10 kg
    - PCB Boards: 20
- Any other attachments/consumables/ instrument for experiments are to be supplied with equipments. The suitable branded furniture items etc. required are to be supplied with the equipment.

## 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. \_\_\_\_\_