

## INVITATION LETTER

ME/TEQIP-III/2019/.....

Dated: 24.06.2019

Package Code: TEQIP-III/2019/HR/fetg/23

Current Date: 21-Jun-2019

Package Name: TRIBOLOGY LAB

Method: Shopping Goods

To,

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**Sub: INVITATION LETTER FOR QUOTATION OF FOUR BALL TESTER (TRIBOLOGY 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 (In days)	Place of Delivery	Installation Requirement (if any)
1	FOUR BALL TESTER Details at (Annexure-I)	1	120 days	Department of Mechanical Engineering Guru Jambheshwar University of Science & Technology Hisar (INDIA)-125001	Please see (Annexure-II)

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 % :0.50

Liquidated Damages Max % : 5
  11. All supplied items are under warranty of **36** months from the date of successful acceptance of items and AMC/Others is.
  12. **You are requested to provide your offer latest by 15:30 hours on 10-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**  
**Mechanical Engineering Department**  
**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

Name of the Item: **FOUR BALL TESTER**  
Quantity: 01 (one)

### Technical Specifications :

Sr.No.	Parameter	Requirement	Remarks
1	Ball size	12.7 mm Diameter	SAE-52100 steel with grade EP polish, hardened to 64-66 HRC
2	Speed range	300 to 10,000 RPM	(Speed Accuracy: $\pm 1\%$ )
4	Frictional Torque	0 to 16 Nm	
5	Maximum Axial Load	10,000 N	(variable, software controlled)
6	Temperature (oil)	Ambient to 120° C	(Variable)
7	Scar Range	100 to 4000 $\mu\text{m}$	Range covered by (IAS + Microscope)
8	Power requirement	415V / 3 Phase /50Hz	As per Indian power supply

### Instrument shall have the following capabilities:

1. Automatic (pneumatic) loading arrangement with suitable Air- compressor system of best quality
2. Branded Dell/HP Desktop Computer system and MFP printer: Intel i5, 8<sup>th</sup> generation or higher/1TB HDD/ 8 GB RAM/21"Monitor/Keyboard/Mouse/DVD Writer/Window 10 Professional with 3 year warranty/commercial series with 1 KVA UPS Double Battery for PC and one HP LaserJet Pro Multifunction Printer.
3. Data acquisition system with data acquire software
4. Digital image acquisition system (integrated with PC for WSD)
5. Manual Microscope system (for WSD).
6. Electronically controlled
7. instrument shall have the following capabilities:  
Shall record and display
  - a. Frictional Torque
  - b. Temperature
  - c. Load
  - d. Coefficient of Friction
8. Determination EP (extreme pressure) and WP (Wear preventive)
9. Compliance to ASTM standards i.e. D 2783, D2596, D 2266, D 4172, D 5183 and IP 239.
10. KRL-Shear stability Attachment (CEC-L-45-A-99)
11. Rolling contact fatigue test attachment (As per IP300)
12. Advanced reporting tool for comparison of multiple test results using Compare View with 'COF- Coefficient of friction' window Screen shot.
13. Instrument must be CE certified.
14. Safety interlocks to ensure safe operations at all times within manufacture's permissible maximum limits shall be provided.
15. Tool-kit, spares and necessary accessories
16. Operating and maintenance manual (English) (02)
17. Warranty : 03 Year

**Scope of Supply Four Ball Tester:**

<b>Sr. No.</b>	<b>Item Description</b>	<b>Quantity</b>
1	Four Ball Tester basic unit	1 no.
2	Electronic Controller	1 no.
3	Pneumatic Loading Arrangement (integrated)	1 no.
4	Suitable air compressor system	1 no.
5	Data Acquisition system with software	1 no.
6	Signal, power and data acquisition cables	1 set
7	Digital image acquisition system (for WSD)	1 no.
8	Manual Microscope system (for WSD)	1 no.
9	Rolling contact fatigue Attachment	1 set
10	KRL-Shear Stability Attachment	1 Set
11	Ball pot assembly	2 no.
12	Steel Balls ( $\phi$ 12.7 mm)	1300 no.
13	Collets (Ball Chucks)	4 no.
14	Collet Master	1 no.
15	Torque Wrench	1 no.
16	Tool Kit (handling tools set)	1 no.
17	Dust cover for machine and controller	1 set
18	Operating and maintenance manual (English)	2 no.

<b>Sr. No.</b>	<b>KRL ATTACHMENT</b>	<b>Quantity</b>
1	KRL Ball pot assembly	2 no.
2	KRL Collet	04no.
3	Water re-circulation unit	1 set.
4	Taper roller bearing (Qualified)	2 no.
5	Hook Spanner	1 no.
6	Cooling Adaptor	1 set
7	Suitable UPS for KRL	1 no.
<b>RFA ATTACHMENT</b>		
1	RFA Ball pot assembly	1 no.
2	Oil Tank	1 no.
3	Peristaltic pump	1 no.
4	Vibration sensor (to detect initiation of pitting)	
5	Special ball race to match ball Profile	1 no.

Any attachments/ consumables/instrument required for smooth experimentation are to be supplied with the machine. These attachments/instruments must be compatible with the four ball tester and should be of well-known brand. The suitable branded furniture items/stand etc. required for the machine/ machine accessories are to be supplied with machine.

**Note: The machine should be provided in fully packed condition**

## **ANNEXURE-II**

### **Installation Requirement:**

- The Unloading of machine will be done in the presence of the engineer deputed by supplier at his own cost.
- Installation and commissioning will be done by the supplier at his own cost
- First fill of all oils/ lubricants/coolants will be done by the supplier
- All types of consumables, tools, foundation bolts etc. will be provided by the supplier at the time of installation, commissioning & inspection of the machines.
- Training on machine to be provided by the supplier free of cost at Mechanical Engineering Department, GJUS&T, Hisar up to the satisfaction level of the department.

**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. \_\_\_\_\_