





DST-PURSE- II
Central Project Section
JADAVPUR UNIVERSITY
KOLKATA - 700032, INDIA

Dated: 21/05/2019

Dear Sirs,

I shall be pleased to receive your lowest possible quotation in a SEALED COVER with our ENQUIRY NUMBER and the DUE DATE duly superscripted on the COVER and on the face of the offer letter for the supply of the under mentioned goods or articles, subjects to the TERMS AND CONDITIONS outlined in the below.

Last date for submission of quotation is 03/06/2019 at the Central Monitoring Cell, 2nd floor Aurobindo Bhavan (within 16:00 p.m.)

SL No.	PARTICULARS	Quantity
1.	<p style="text-align: center;">Annexure - I</p> <p>Power Semiconductor Drives – Equipments/ Specification</p> <p>1. DC Motor Speed Control Trainer consisting of</p> <p>(a) Instrumentation Power Supply cum Multi-channel DPM panel: (i) +/- 12 V/500 mA, (ii) + 5V, 300 mA (iii) unregulated 17 V DC, 750 mA (iv) Line synchronizing signal (v) Multi-channel DPM for Digital display of speed.</p> <p>(b) SCR actuator (variable DC) cum sensor signal conditioning panel – 2 nos. (for armature and field control) (i) Full bridge SCR based 0-195 V/ 12 A, cosine firing with linear characteristics (ii) support signal conditioning circuit for speed output 0-2.5 V DC</p> <p>(c) DC Voltmeter and Dc Ammeter panel (i) DC Voltmeter - 0-300 V, (ii) Dc ammeter – 0-5A with polarity protection diode (iii) Field failure relay to control armature supply</p> <p>(d) DC integrated Motor – 180 V/300W/1500 RPM with series, shunt and compound winding, Chasis mounted table top with spring balance (5 kg) loading arrangement and Electronic Tacho: 1V/1000 RPM</p> <p>2. AC Motor Speed Control Trainer consisting of</p> <p>(a) Instrumentation Power Supply cum Multi-channel DPM panel: (i) +/- 12 V/500 mA, (ii) + 5V, 300 mA (iii) unregulated 17 V DC, 750 mA (iv) Line synchronizing signal (v) Multi-channel DPM for Digital display of speed.</p> <p>(b) SCR actuator (variable AC) cum sensor signal conditioning panel (i) Full bridge SCR based 0-230 V AC/ 12 A, cosine firing with linear characteristics – for AC motor armature (ii) support signal conditioning circuit for speed output 0-2.5 V DC , Electronic Tacho: 1V/1000 RPM</p> <p>(c) AC Voltmeter and AC ammeter panel- 0-300V voltmeter and 0- 5A Ammeter</p> <p>(d) AC Motor Specification Table top machines/accessories: Fractional hp AC/DC motor 230 V AC, 1/12 hp, Chasis mounted table top with spring balance (5 kg) loading arrangement</p> <p>3. 3 Phase induction motor speed control Trainer (with VVVF) consisting of</p> <p>(a) Table top aluminum profile modulator flat demo panel for housing various high voltage components in plastic enclosure – 1 phase motor, Alternator& synchronous motor panel – 1 phase MCBs of 4A/1.6A – 2 nos. bulb load</p>	<p style="text-align: center;">01(One)</p> <p style="text-align: center;">01(One)</p> <p style="text-align: center;">01(One)</p>
<p style="text-align: center;">  Head Dept. of Power Engg. Jadavpur University Salt Lake 2nd Campus K </p> <p style="text-align: center;">  Professor Dept. of Power Engineering Jadavpur University Salt Lake 2nd Campus Kolkata-700 098 </p>		<p>Page: 1/2</p>

- (b) **Integrated AC (1 phase) measurement panel** – Bidirectional multi-function meter 3 Phase ¼ wire, 415 V, CT input 15 A, LCD/LED display, Aux supply 230 V, 45-66 Hz, 5 W, V, L, Hz, KVA, KW, KWh
- (c) **AC voltmeter panel**- 500 V AC, 1 pole 4 way switch to select line voltage for 3 Phase
- (d) **Dual range AC ammeter panel** – current range 2A/6A selectable, 1 pole 7 way switch to select phase current for three phase.
- (e) **IGBT control AC Drive panel** – input 230 V AC, 50 Hz. Output: 3- phase 200-230 VAC, Frequency control range: 0.1 Hz to 100/400 Hz. Control Mode: sine wave PWM, Capacity ½ hp, reverse and forward protection:
- (f) **Motor Specification** - 3 phase squirrel cage induction motor, ½ hp, 4 pole, 1500 RPM, 6 terminal (delta 220 V AC/ star 440 V AC) with hand held tacho meter

4. **Motor Braking Methods Trainer consisting of**

- (a) **Input 3-phase DOL Starter panel** - (i) 4 pole MCB of 415 V/2A RYB three phase color indicators (ii) DOL 9A contactor with 230 V/ 50 Hz/11 VA coil (iii) Bimetallic O/L relay with the range 1.4 A- 2.3 A
- (b) **Integrated Ac (3/1 phase measurement panel)** – Digital meters for measurement 3 phase and 1 phase parameters including power factor, frequency, Watts, VAR, VA and energy in kWh. Current for three phase up to 5A.
- (c) **Variable AC/DC Power Supply Panel (2 Nos.)** - Ac output 0-270 V/3 A Dc output 0-230 V/3A
- (d) **DC Ammeter Panel** – Dc Ammeter (0-5A) with polarity protection diode, Field failure relay to control armature supply.
- (e) **Timer & Elapsed Time Counter Panel** – Elapsed time counter range 999.0001 sec, 25 µF/4300 V AC capacitor x 3 Nos. for self excited braking, required NO & NC contactors with relays, manually settable & cyclic timer, , Aux supply (2 VA max 20/240 V Ac and 12/240 V DC operated supply coil), Timer on indication LED and with NO relay contact
- (f) **Resistive Load Panel** – AC resistors: 5K, 3.5K, 2K, 1.5K, 200 W, x 3phases/6 taps
- (g) **3 phase AC integrated Machines**- 415 C AC, 50 Hz, 300 W/4 pole/1500 RPM, 10 terminals: Star connected, 4 terminals including star point brought out on 4 slip rings mounted on shaft, 6 terminals to be brought to start the machine using Star-delta starter.
- (h) **DC integrated Machine** – Armature Voltage 180 V, Field Voltage 180, 300 W/2 pole/1500 RPM, 6 terminals, standard commutator, brush arrangement, separately excited field winding.
- (i) **Flywheel** –200 mm dia, 12 mm thick, shaft mounted

01(One)

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N.B:-

- **Earnest Money Deposit (E.M.D)**
Agency should deposit Earnest money Rs. 14,000/- (Rupees Fourteen Thousand) by the DD-(Demand Draft) in favour of "Registrar, Jadavpur University" payable at "Jadavpur Kolkata". For Non Enlisted Party of Jadavpur University & EMD be dropped to the Central Monitoring Cell, "Aurobindo Bhavan" 2nd floor, Jadavpur University (Main Campus), Kolkata- 700032.
- **J.U. Enlisted parties are exempted from payment of EMD.**
- Tenderers having valid / Relevant NSIC or MSME Certificate or Registration are exempted payment of EMD, where such proof needs to be submitted.
- EMD will be refunded after selection of bidder without any accrued interest for all unsuccessful bidders.
- Quotation shall be accepted only from GST registered Vendor/Dealer/Manufactures etc.The GST registration number must be mentioned on the quotation.
- Sealed envelope containing detail specification of material with price bid shall be submitted in the tender box assigned for the tender in Central Monitoring Cell, "Aurobindo Bhavan" 2nd floor, Jadavpur University (Main Campus), Kolkata- 700032
- Warranty must be mentioned in your offer on the above items.
- GST percent must be mentioned on the above items.
- The last date of submission of tender is 03/06/2019 within 16:00 p.m. at the Central Monitoring Cell, "Aurobindo Bhavan" 2nd floor, Jadavpur University (Main Campus), Kolkata- 700032. University reserves the right of selection.
- Party may be requested to keep in touch with the Power Engineering Department (H.O.D), before quoting the rate for better knowledge of specification & quality of material.

Yours faithfully,

[Signature]
FINANCE OFFICER

TERMS & CONDITIONS OF TENDER

1. Quotation should be for FREE DELIVERY at Jadavpur unless otherwise arranged.
2. Prices quoted should be nett and minimum period of validity of the quotation SHOULD BE FOR SIX MONTHS from the closing date.
3. Quotations should be free from CORRECTIONS and ERASURES.
4. Manufacturer's NAME and the COUNTRY OF ORIGIN of the materials offered must be clearly specified failing which the Tender will not be considered.
5. Samples must be submitted where specified so as to reach this office before the DUE DATE of Enquiry. Samples must be labeled clearly with our ENQUIRY NUMBER, DUE DATE, NAME OF FIRM and number on sample must correspond to the items in the tender.
6. The tenders will not be entitled to ask for any further information other than whether their tenders have been received or not.
7. The University does not bind itself to accept the lowest or any tender or assign any reason for non-acceptance. It further reserves the right to accept any tender in part or in whole at its option.
8. If the University finds that the materials supplied are not of the contract quality or not according to the specification required by the University or otherwise not satisfactory owing to any reason, of which the University shall be the sole judge, the University shall be entitled to refuse the acceptance of the said materials, cancel the order and buy its requirement elsewhere at supplier's responsibility.
9. Tenderers must as far as possible, arrange to supply the materials according to the terms of delivery specified in the orders. If however this is not possible, they shall clearly specify the time in which the delivery of the articles can be affected. This delivery time must be strictly adhered to. Failure to supply within the specified time will lead to cancellation of the order without notice.
10. If the deliveries are not regular and if on that account the University is forced to buy the materials elsewhere, any loss or damage that the University may sustain thereby will be recovered from the supplier for non-delivery at the scheduled periods.
11. THREE consecutive failure to supply within the scheduled time or times will entail removal of the Tenderer's name from the Approved List of Suppliers.
12. If any tenderer proposes to charge GST & Delivery Charges, in addition to his quoted rates this fact should be stated specifically in his quotation. In the absence of such statement the rate quoted will be deemed to be inclusive of Sales Tax & Delivery charges.
13. Non Compliance of a order may lead to cancellation of estimate and no enquiry will be issued in future.
14. Upto 10% of bill value may be deducted for default on delivery.
15. IN ALL CASES OF DISPUTES, THE DECISION OF THE UNIVERSITY SHALL BE FINAL & BINDING ON YOU.
16. GST registration is required.

BY ORDER