



**DEPARTMENT OF
INSTRUMENTATION & CONTROL ENGINEERING**

COEP TECHNOLOGICAL UNIVERSITY, PUNE, 411005

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ENQUIRY LETTER

09 FEB 2026

Sealed Quotations are invited by the Department of Instrumentation and Control Engineering, COEP Technological University Pune from reputed manufacture/vendor/service provider for the providing materail/services.

Enquiry Number :-	COEPTech/Instru/Enq/ Power Electronics & Drives /2025-26/ 471
Enquiry Date:-	05/02/2026
Material/Service Description & Qty:-	Power Electronics & Drives trainer kit Detailed Specifications/Requirement & Commercial Annexure 'A' is attached
Location:-	Power Electronics Laboratory (Second Floor, Instrumentation and Control Engg. Department) COEP Technological University Pune-411005
Quotation Submission Date@ Time:-	Up to 18/02/2026 @ 4.00 pm
Quotation Submission/ Opening Place:-	Department of Instrumentation and Control Engineering, COEP Technological University Pune-411005

Terms & Conditions:-

1. Fax and Email quotation are not acceptable.
2. The taxes, GST, insurance, freight, packing and forwarding charges if any are quoted in Indian Rupees separately & clearly.
3. The rates shall be valid for 10 days.
4. Validity: Quotation Validity at least 10 days from the due date.
5. Quotations shall be sent in sealed envelopes clearly marked. Quotation for **Power Electronics & Drives**, (Second Floor) Instrumentation and Control Engg. with Enquiry Number, Enquiry date and Enquiry due date addressed to The Registrar, COEP Technological University Pune-411 005.
6. 100% payment will be paid after satisfactory completion of work.
7. Delivery/Working Period and Terms Conditions should be mentioned clearly.
8. Delayed supplies: The penalty conditions are applicable for the late delivery/working as per norms.
9. Optional items should be quoted in separate sheet otherwise your quote will be rejected.
10. The Vice Chancellor, COEP Technological University Pune-411 005 reserves rights to reject any one or all the quotation(s) without assigning any reasons therefore.


Registrar,

COEP Technological University Pune

Annexure 'A'

(Quotation submitted by bidder on letterhead)

Sr. No.	Name of the equipment	Qty.
1	<p>Single phase-controlled rectifier with ramp comparator firing scheme kit (24V,30w lamp load)</p> <p>The system comes with,</p> <ul style="list-style-type: none"> • 24V,1.5A isolated ac supply • 24v,30wlampload • Single phase full wave controlled converter configuration • Digital IC based RAMP comparator firing circuit • Pot for firing angle controlled. • TYN 612 or equivalent lamp load. • 2n5294 transistors for drivers • Test point for CRO for each stage • ref isolated tapping 0-9 v • Neatly printed diagram on front panel. • MS powder coated box and polycarbonate front panel. p) 230V, 50hz operated system. • Comprehensive technical Manual. 	1
2	<p>3 phase-controlled converter kit (6 pulse bridge, 415, R load) 3 phase half and full wave-controlled converter (400w lamp load, isolating transformer)</p> <p>The system comes with</p> <ul style="list-style-type: none"> • 0-92V,0-92V,0-92 V isolated step down transformer for each phase • 400w, 230V lamp load • 25TTS (25amp) SCRs.6no • 4n35opto isolators 6no • 16F870 microcontroller based firing circuit (ZCD and MAINIC) • 1K pot for firing angle control. • 1no of DC digital ammeter and voltmeter. • In built DC power supply 5 V1 no, 12 V 4no,unregulated DC1no. • Test point for CRO for each stage • Ref isolated tapping0 -9v • Neatly printed diagram on front panel. • MS powder coated box and polycarbonate front panel. p) 440V, 50hz operated system . • Comprehensive technical Manual. 	1
3	<p>Buck converter trainer (MOSFET, L/C R/RL. load buck converter trainer)</p> <p>The system comes with,</p> <ul style="list-style-type: none"> • 24V, 1.5 A power supply1no. • 250 ohm resistive load c)Inductance 100 mh ,2A • 2200 mfd/ 63v condensers 2 no • 16F870 micro controller based firing circuit (PWM generation) • 1 K pot for PWM control (0-90%),output 0-20 v buck output • 1 no of DC meter (shared as ammeter and voltmeter) 	1

	<ul style="list-style-type: none"> • Current wave form test point. • Test point for CRO for each stage • Neatly printed diagram on front panel. • MS powder coated box and polycarbonate front panel. p) 230V, 50 hz operated system. • Comprehensive technical Manual. 	
4	<p>Boost converter trainer (inductor input) boost converter trainer</p> <p>The system comes with,</p> <ul style="list-style-type: none"> • 24V, 1.5 A power supply 1no. • 250 ohm resistive load c) Inductance 100 mh ,2A • 2200 mfd/63 v condensers 2 no • 16F870 microcontroller based firing circuit (PWM generation) • 1 K pot for PWM control 0-60%, 24 to 50-60 v output (boost mode) • 1no of DC meter (shared as ammeter and voltmeter) • Current wave form test point. • Test point for CRO for each stage • Neatly printed diagram on front panel. • MS powder coated box and polycarbonate front panel. p) 230V, 50hz operated system. • Comprehensive technical Manual. 	1
5	<p>Buck-Boost converter trainer</p> <p>The system comes with,</p> <ul style="list-style-type: none"> • 24V, 1.5A power supply 1no. • 250 ohm resistive load c) Inductance 100 mh ,2A • 2200mfd/63v condensers 2 no • 16F870 microcontroller based firing circuit (PWM generation) • 1 K pot for PWM control 0-60%, 0 to 50-60 v output (buck-boos tmode) • 1no of DC meter (shared as ammeter and voltmeter) • Current wave form test point. • Test point for CRO for each stage • Neatly printed diagram on front panel. • MS powder coated box and polycarbonate front panel. p) 440V, 50 hz operated system. • Comprehensive technical Manual. 	1
6	<p>DC drive training system</p> <p>4 quadrant chopper motor controller with 1 hp dc separately excited motor. loading arrangement, open loop/closed loop. LCD display</p> <p>The system comes with,</p> <ul style="list-style-type: none"> • 180, 3 ADC power supply 1no. • SEPERATLY EXCITED 1 HP dc motor as load with loading arrangement. • 1no of DC ammeter. • LCD display for speed indication with proximity switch • 4 no of IGBT stoform 4 quadrant chopper configuration • 4 n 354 no • 1 k pot with LED sto select quadrants (1st and 3rd) • Switch for selection of NORMAL (motoring) and BRAKING QUADRANTS. • Fixed field supply 1A, 230V unisolated. • system demonstrate two motoring modes and 2 braking modes. • Also Selection switch for open loop and loop is provided. 	1

	<ul style="list-style-type: none"> • Test points for each stage is provided. • 1000 mfd / 250 v1no • 16F870 microcontroller based firing circuit (PWM generation) • Neatly printed diagram on front panel. • MS powder coated box and polycarbonate front panel. p) 230V, 50hz operated system. • Comprehensive technical Manual. 	
7	<p>BLDC (brushless DC) motor training system with 48V.25A step down isolating transformer, 60A DC bridge, 1kw BLDC motor, with 1kw BLDC drive with test points for hall sensors, motor output. meters, speed indicator. MCB</p> <p>The system comes with,</p> <ul style="list-style-type: none"> • 48V, 25 Amp isolating transformer. • 60 ADC bridge • 1000 mfd/250V • Advanced BLDC motor drive with microcontroller • 1 KWBLDC motor with loading arrangement • 1noammeter and1Voltmeter • MCB32A,1Phase,230V,50hz • Aluminium profile structure. • Test points for CRO for hall effect sensor • Test point for CRO for mot or output. • Motor forward and reverse direction control. • Sturdy frame for motor base. • Separate housing for Step down transformer. o) Proximity switch for speed measurement. • Speed indicator 48mm. 48mm • Neatly printed diagram on front panel. • MS powder coated box and polycarbonate front panel. • 230V, 50 hz operated system. • Comprehensive technical Manual. 	1
8	<p>Single phase-controlled bridge converter drives</p> <p>single phase fully controlled bridge converter drive with 1hp de separately excited motor with loading arrangement (microcontroller-based firing circuit), meters, speed indicator, isolating transformer for CRO</p> <p>The system comes with,</p> <ul style="list-style-type: none"> • 230 V isolated supply for CRO • 400w,230V lamp load • 25 TTS (25amp) SCRs.4 no, single phase fully bridge configuration. • 4n35optoisolators4no • 16F870 microcontroller based firing circuit(ZCD and MAINIC) • 1 K pot for firing angle control. • 1no of DCdigital ammeter and voltmeter. • Inbuilt DC power supply 5 V1no,12 V 4 no,unregulated DC1no. • Test point for CRO for each stage • Refisolated tapping0-9v • Neatly printed diagram on front panel. • MS powder coated box and polycarbonate front panel. o) 440V,50 hz operated system . • Proximity switch with speed indicator. • Open loop control • Comprehensive technical Manual. r) 230V,50Hz operated system. 	1

9	<p>SCR firing circuit trainer (with R, RC, UJT, DC, microcontroller based)</p> <p>System comes with</p> <ul style="list-style-type: none"> • Inbuilt 0-20 V ac tapping • 0-20 V DC supply • TYN612SCR5no • Separate section for each method with DC ,R,RC,UJT and microcontroller firing sections • 47 KR3 no,0.22 mfd 2 no,UJT 2646,one ofelico switch. • 1k pot for firing angle control for SCR firing circuit using microcontroller using 16F870 microcontroller with ZCD . • One section can be tested at time by using 2 mm stackable patch cords. • 24V,30 w lamp load. • MS powder coated box and polycarbonate front panel is provided. • Neatly printed diagrams for each section. • 230V,50 Hz operated system. 	1
10	<p>Study of commutation methods (A, B, C, D, E, F) (microcontroller based)</p> <p>The system comes with,</p> <ul style="list-style-type: none"> • 24v,1.5DCsupply • 100ohm /50ohm load resistance • TYN612SCRs2no, IGBT1no. • Selection switch for AB,C,D,E firing circuits. • f) 4n35opto isolators 2 no • 16F870 based firing circuit. • 1K pot for frequency /1k pot for duty cycle control g) g) Condenser bank, Centre tap inductance. • inbuilt DC power supply 5V 1no,12 V 2no • Test point for CRO for each stage • User need to patch the required circuit as per the diagram by using 2mm stackable patch cords provided. • System demonstrates CLASS A,B,C,D,E,F commutation methods. • Neatly printed diagram on front panel. • MS powder coated box and polycarbonate front panel. p) 4230V, 50hz operated system. • Comprehensive technical Manual. 	1
11	<p>Study of series and parallel inverter (class C and class A)</p> <p>The system comes with,</p> <ul style="list-style-type: none"> • 24v,1.5 DC supply • 230v,15W lamp load • TYN 612 SCRs 2 no, • f) 4n 35 opto isolators 2 no • 16F870 based firing circuit. • 1K pot for frequency /1k pot for duty cycle control g) Condenser, Centre tap inductance Inbuilt DC power supply 5V 1no, 12V 2no • Test point for CRO for each stage • Step up transformer for output • 2 mm stackable patch cords provided. Series and parallel configurations are given • Neatly printed diagram on front panel. • MS powder coated box and polycarbonate front panel. • 230V, 50 hz operated system • Comprehensive technical Manual. 	1

12	<p>Study of single phase cycloconverter</p> <p>The system comes with,</p> <ul style="list-style-type: none"> • 20-0-20 isolated step down transformer • 24v,30 W lamp load • TYN612 (12amp) SCRs.4NO • 4n35optoisolators 4no • 16F870 microcontroller based firing circuit (ZCD and MAINIC) • 1 K pot for firing angle control. • in built DC power supply 5 V1 no,12 V 4no,unregulated DC1no. • Test point for CRO for each stage • Ref isolated tapping 0-9v • Selection switch for frequency variation with 10hz, 12.5, 16.66 ,25 hz frequencies possible . • Neatly printed diagram on front panel. • MS powder coated box and polycarbonate front panel. p) 230V, 50hz operated system • Comprehensive technical Manual. 	1
13	<p>Study of single-phase bridge inverter (square only) (full bridge /half bridge) Single Phase Bridge Inverter (Full Bridge Half Bridge) With Square /Sine Wave /Square Wave Output</p> <p>The system comes with,</p> <ul style="list-style-type: none"> • 24v,2.5Asmps as DC source to inverter (+12v,-12 v configuration possible) • 230v,15W lamp load • 20RH1203IGBTs 4 no • 4n35opto isolators 4 no • ATMEGA328 based advanced firing circuit (SQUARE AND SPWM) • 1 K pot for PWM control • LC filter (step up transformer and Condenser 3mfd/10mfd/250v) • Inbuilt DC power supply5V1no,12 V 4no, unregulated DC1no. • Test point for CRO for each stage • Selection switch for Square and Sinewave • Neatly printed diagram on front panel. • MS powder coated box and polycarbonate front panel. p) 230V, 50hz operated system. • Comprehensive technical I Manual. 	1
14	<p>Single phase bridge inverter (full bridge half bridge) with square/sine wave/square wave output (SQUARE ONLY)(FULL BRIDGE /HALF BRIDGE)</p> <p>The system comes with,</p> <ul style="list-style-type: none"> • 24v,2.5Asmps as DC source to inverter(+12v,-12 v configuration possible) • 230v,15W lamp load • 20RH1203IGBTs 4 no • 4n35opto isolators 4 no • ATMEGA328 based advanced firing circuit (SQUARE AND SPWM) • 1 K pot for PWM control • LC filter (step up transformer and Condenser 3mfd/10mfd/250v) • Inbuilt DC power supply5V1no,12 V 4no, unregulated DC1no. • Test point for CRO for each stage 	1

	<ul style="list-style-type: none"> • Selection switch for Square and Sine wave • Neatly printed diagram on front panel. • MS powder coated box and polycarbonate front panel. p) 230V, 50hz operated system • Comprehensive technical Manual 	
15	<p>120/180 inverter kit (3 phase IGBT bridge) 3 phase PWM inverter (Square/Sine quasi square wave output) with IC filter, 24V, 30w lamp load</p> <p>The system comes with,</p> <ul style="list-style-type: none"> • 24 v, 2.5 A smps as DC source to inverter (+12v,-12 v configuration possible) • 24V,30 w lamp load • 20RH1203IGBTs 6no • 4n35 opto isolators 6no • ATMEGA 328 based advanced firing circuit (SPWM) • 16f 870 firing circuit for SQUARE AND QUASI SQUARE MODE. • 1K pot for PWM control and 1 k pot for frequency control with push button • LC filter (Inductance and Condenser 3mfd/10 mfd /250v) for each phase for SPWM mode • Inbuilt DC power supply5V1no,12 V 5no. • Test point for CRO for each stage • Selection switch for Square and Sine wave • 120/180 mode of conduction selections witch in QUASI SQUARE WAVE. • Neatly printed diagram on front panel. • MS powder coated box and polycarbonate front panel. q) 230 V,50 hz operated system . • Comprehensive technical Manual. 	1
16	<p>Study of IGBT characterises with one meter</p> <p>The system comes with,</p> <ul style="list-style-type: none"> • 24v,1.5DC supply (variable) • 150 ohm load resistance • IGBT1no. • 7812based variable gate power supply • 2n5294 for main power supply • 1 no of ammeter for load current measurement. • Inbuilt DC power supply 5 V1no,12 V 2no • System enables to study V- I charachtertics/Transfer charachtertics. • Neatly printed diagram on front panel. • MS powder coated box and polycarbonate front panel. p) 230V, 50hz operated system . • Comprehensive technical Manual. 	1

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