



**DR. BABASAHEB AMBEDKAR TECHNOLOGICAL
UNIVERSITY, LONERE**

At. Po. Lonere, Tal. Mangaon, Dist. Raigad 402 103 MS (www.dbatu.in)

INVITATION FOR QUOTATION

10 JUN 2026

Our Ref No. : DBATU/store/Ele.Engg/DC Machine /2026/2476

Date:08/06/2026

Quotation For: DC Machine Laboratory Trainer Kit

Due On:15/06/2026

Date of Opening: 16/06/2026

Time:11:30AM

To,

Sub: QUOTATION FOR THE SUPPLY OF STORE

Dear Sir,

Your quotation for the items listed overleaf, may please be submitted to the under signed, so as to reach this Office not later than: **15/06/2026**

While submitting your quotation, the following procedure may please be observed and other points borne in mind.

1. The maker's name must be specified.
2. The "Terms and Conditions" for supply and delivery of stores, should be clearly indicated in the quotation, stating whether rates are, inclusive of all taxes, Packing and forwarding charges Freight charges, etc. or not, however rates offered as including all taxes will be more welcome.
3. If packing and forwarding charges are to be charged separately, it should be so clearly stated in your quotation.
4. Please mention clearly whether consignment would be Ex-Godown, Ex-Shop, of F.O.R. dispatching stations. Preferably terms offered as "Delivery of consignment of stores, on F.O.R."
5. Envelope should be super-scribed "**Quotation for reference No..... of dated.....**" It should also be superscripted as per the format given above.
6. The quotation would be opened as per date and timing given above, if desired by you, you may depute an authorized representative with a letter of authority to be present at the time of opening of the quotation at this Office on the aforesaid day, date & time.
7. Your quotation must be valid for a minimum 30 (Thirty) working days from the date of its opening.
8. Quotation received after the date of opening may not be taken into consideration.
9. Items tendered should confirm to the specification shown in the attached list when and where, full or no specifications are indicated against items in the list. Kindly furnish your full specification in accordance with accepted standards against each item tendered. Where reference to catalogue is made, the relevant catalogues/ Pamphlets/ Literature should accompany the quotation.
10. Your quotation should be for all new items and not for second hand.
11. Please state whether items will be available Ex-Stock. If not the minimum period for delivery, or for supplying the items or stores.
12. It should be clearly stated whether **GST**, Insurance, Freight or packing and forwarding charges, or any other taxes and duties, etc. leviable.



13. It would be appreciated if illustrated catalogues/Literature etc. is furnished with the quotation.
14. Expression to as "Complete with standard Equipment" complete with standard accessories "Equipment to" As good as should be avoided. If at all their use is unavoidable then it should be very specifically indicated as to what exactly they mean and what exactly would be supplied under them. Any ambiguity or vagueness should be avoided.
15. For convenience, kindly adopt while quoting the same serial Nos. as given in the list detailed below.

Thanking You.

Yours faithfully,


Registrar

Dr. Babasaheb Ambedkar Technological University,
Lonere

Specification

Dc Machine Lab trainer Kit

Technical Specifications (1 HP / 220V Setup)

Component	Technical Specifications	Brands
DC Shunt Motor-Generator Set	Motor: 1 HP, 220V, 1500 RPM, Shunt Wound, Class 'F' insulation. Generator: 1 HP, 220V, Shunt Wound. Directly coupled on a C-channel base.	Crompton Greaves
DC Power Supply	Power supply, three phase variable input (415V), DC output up to (250V, 40A), with Proper cooling system.	.
Experimental Control Panel	Includes Voltmeter (0-300V), and mimic diagram terminals.	Meco
	Ammeters (0-2A & 0-10A)	Meco
	3-point/4-point starters	Bharath Electric Motors
Brake Test Loading Unit	Aluminium water-cooled pulley, rope brake arrangement, and two spring balances (0-10 kg or 0-20 kg).	trainer Kit Providers
Field & Armature Rheostats	Field: 500 Ω / 1.2A (Tubular Wire Wound). Armature: 50 Ω / 5A (for Speed Control experiment).	trainer Kit Providers
Resistive Load Bank	220V DC, 1.5 kW / 2 kW, with step-switches for load increment (for Generator Load Test).	trainer Kit Providers
Tachometer	Digital Non-contact Optical Type (Range:0-10,000 RPM).	Kusam-Meco

The Experiments

1. No Load Characteristics of DC Shunt Motor
2. Load Characteristics of Separately Excited DC Shunt Generator
3. Speed Control of DC Shunt Motor by Field current control and Armature voltage control methods
4. Load Characteristics of Separately Excited DC Shunt Motor Self Excited DC Shunt Motor
5. No Load Characteristics of DC Shunt Motor
6. Load Characteristics of Separately Excited DC Shunt Generator

7. Speed Control of DC Shunt Motor by Field current control and Armature voltage control methods

8. Load Characteristics of Separately Excited DC Shunt Motor Self Excited DC Shunt Motor

1. No-Load Characteristics (No-Load Performance)

- **Method:** Run the motor at rated speed without any mechanical load.
- **Data:** Measure no-load current (I_0) and voltage (V). Used to pre-determine efficiency and separate constant losses.

2. Load Characteristics (Separately vs. Self-Excited)

- **Separately Excited:** The field winding is powered by an independent DC source.
- **Self-Excited:** The field winding is connected in parallel with the armature.
- **Observation:** Compare the "Voltage Drop" (Regulation) between both types. Separately excited generators usually show better voltage stability.

3. Speed Control (Field vs. Armature)

- **Field Control:** Increasing field resistance weakens flux (ϕ), increasing speed **above** rated RPM.
- **Armature Control:** Decreasing armature voltage reduces speed **below** rated RPM.

4. Brake Test (Mechanical Load)

- **Objective:** To find the efficiency (η) directly by measuring the net force on the pulley.
- **Formula:** Torque (T) = $(S_1 - S_2) * R * 9.81$ (where S is spring reading and R is pulley radius).