(Established by the Uttar Pradesh Gautam Buddha University Act 2002 UP Act No. 9 of 2002, passed by the Uttar Pradesh Legislature)

Greater Noida – 201 312, Ph. 0120-2344200

Website : <u>www.gbu.ac.in</u>



## **BID FORM**

# SUPPLY & INSTALLATION OF EQUIPMENT FOR ELECTRICAL MACHINE LAB., SCHOOL OF ENGINEERING

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Tender	SUPPLY & INSTALLATION OF EQUIPMENT FOR ELECTRICAL MACHINE LAB., SCHOOL OF ENGINEERING
Opening Date of Bid	12.12.2024
Last date & Time of Bid Submission	01.01.2025 upto 3.30 p.m.
Technical Bid Opening Date, Time & Place	<ul> <li>01.01.2025 at 04.30 p.m.</li> <li>Venue : Conference Room of the Registrar Office, 1st Floor, Administrative Building, G.B.U., Gr. Noida.</li> <li>(Bidder/authorized representative of bidders may attend the bid opening proceedings on the above mentioned day and time).</li> </ul>
Estimated Cost	Rs.3,34,825.00 (Rupees Three Lakh Thirty Four Thousand Eight Hundred Twenty Five Only – incl. of GST)
Time of Completion	Two months
Earnest Money Deposit Tender Fee	Rs.4,500.00 (Rupees Four Thousand Five Hundred only)- (Refundable) Rs. 1,000.00 + @18% GST = Rs.1,180/- (One Thousand One Hundred Eighty only – incl. of GST) - (Non-refundable)
Bid System	Two Tier : 1) Technical Bid 2) Financial Bid
Bank Account Detail for submission of Tender Fee and Earnest Money Deposit (through NEFT/RTGS only)	Punjab National Bank, Gautam Buddha University, Greater Noida (U.P.) A/C No. 6660000100000681, IFSC Code: : PUNB0666000

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#### CHECK LIST

#### (Please mark number on each page submitted for the support of bid)

#### Total BID Pages : .....

Sr. No.	Document Name	Page No.
1	Tender fee through NEFT/RTGS only in prescribed account of Gautam Buddha University of Amount Rs.1000.00 + @18% GST= Rs.1,180/- (Rupees One Thousand One Hundred Eighty Only-incl. of GST) as per terms and conditions enclosed scan copy.	
2	Earnest Money through NEFT/RTGS only in prescribed account of Gautam Buddha University of Amount Rs.4,500.00 (Rupees Four Thousand Five Hundred Fifty only) as per terms and conditions enclosed scan copy.	
3	Filled up bidder's Performa (i.e. page no. 3,4 & 5) appended with the tender	
4	Detail of the similar type of items supplied / installed / maintained during three years out of last four financial years at IITs, NIT's or Central / State Universities / Organization / Any Academic Institute of National Repute / Reputed Private Organizations etc. Three purchase order/supply order out of last four financial years)	
5	Audited balance sheet counter signed by C.A. for three years out of last four financial years clearly indicating turnover and T.D.S. along with Form 3CB and 3CD. Average turnover should be at least 30% of the estimated cost during the last three financial years out of last four financial years.	
6	Attached PAN, OEM/Authorization Certificate & GST/IGST Registration Copy	
7	The vendor shall submit an affidavit (duly notarized) on Rs.10/- stamp paper as per below format only (the affidavit issues date/notarize date should not be earlier then the tender advertisement date): "I/We hereby confirm and declare that M/s proprietor/partner(s) is/are not blacklisted/de-registered/debarred by any Government department/Public Sector Undertaking, Universities, Institution and College or any other repute organization for which we have executed/undertaken the works/services during the last four financial years Deponent Signature"	

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### **"BIDDER'S PROFORMA"**

Name of the Organization			
Pl. mentioned whether a Government Company / Public Ltd. / Private Ltd. / Partnership / Proprietorship			
Specify the number of years in this line of activity by the company			
PAN registration Number			
GST / IGST registration Number			
Provide the postal address, telephone & fax numbers, and email address of the nearest office			
Are you the manufacturer / authorized dealer / distributor/ retailer for the product quoted (please attached relevant certificate):			
Whether technical specification are attached with Technical Bid or not.			
Deviations in specifications, if yes, please mention in separate sheet.			
Audited balance sheet counter signed by C.A. for three years out of last four financial years clearly indicating turnover and T.D.S. along with Form 3CB and 3CD. If the figures for 2023-24 are not available	2021-22	2022-23	2023-24
then they may furnish financial statement of year 2020-21. Average financial turnover should be at least 30% of the estimated cost during the last three consecutive financial years out of four financial years.			
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TENDER BID : SUPPLY & INSTALLATION OF EQUIPMENT FOR ELECTRICAL MACHINE LAB, SOE (GBU/S&P/07/2024 dt. 12.12.2024)

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Detail of the similar type of items supplied / installed / maintained during three years out of last four financial years at IITs, NIT's or Central / State Universities / Organization / any Academic Institute of National Repute / Reputed private organizations etc.

#### (enclose three purchase order/supply order out of last four financial years)

Amount of work	Contract Period	Name & Contact No. of the client		
done				
(lakh Rs.)				
n has been blad	cklisted by any	(Yes / No)		
Government Organization including Universities,				
eges during last fou				
	done (lakh Rs.) n has been blac inization includin	(lakh Rs.) n has been blacklisted by any		

#### DECLARATION

I/We hereby declare that the information given in the technical bid by the undersigned is correct and fulfill all conditions as published in the tender document.

#### ACCEPTANCE

I/We accept the above terms and conditions and shall comply with them strictly.

	(SIGNATURE OF THE BIDDER)
	WITH SEAL
	NAME:
	ADDRESS :
Tel./Mobile No.:	Email ID :
	BANK DETAILS OF VENDORS, in case of refund of EMD
	Bank A/c Name :
	Bank Name :
Bank Account No. :	IFSC Code :

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### **GENERAL TERMS AND CONDITIONS**

- 1. Detailed information about the items, specifications are available in tender document which can be downloaded from the University website <u>www.gbu.ac.in</u>.
- 2. Offer should be submitted in two parts, in two separate envelops; 1) Technical Bid and 2) Financial Bid. These two envelops shall be sealed in a common cover and addressed/sent to "The Registrar, Gautam Buddha University, Greater Noida, Gautam Budh Nagar -201312 (U.P.)" super scribing "Tender against Tender Advt. GBU/S&P/07/2024 dated 12.12.2024, Name of work : Supply & Installation of Equipment for Electrical Machine Lab., SCHOOL OF ENGINEERING" so as to reach us on or before last day of submission.
- 3. The Technical Bid and Financial Bid should be duly filled up.
- 4. The technical bid of the bidders will be opened first and the financial bid will be opened only of technically qualified.
- 5. List of Documents to be submitted by tenderer to qualify the Eligibility Criteria :

#### A. TECHNICAL BID

- i. The tenderer shall have to pay tender document fee of Rs. 1,000.00 + @18% GST = Rs.1,180/- (Rupees One Thousand One Hundred Eighty only incl. of GST) through NEFT/RTGS only payable in favour of Gautam Buddha University in the A/C No 6660000100000681, IFSC Code: PUNB0666000, Punjab National Bank, Gautam Buddha University, Greater Noida. The copy of NEFT/RTGS with transaction ID must be enclosed along with the bid. This tender document fee will be non-refundable. Bid without tender fee in the prescribe form will not be accepted.
- ii. The tenderer shall have to furnish, as part of its bid, a bid security/EMD of Rs. 4,500.00 (Rupees Four Thousand Five Hundred only) through NEFT/RTGS only in favour of Gautam Buddha University in the A/C No. 6660000100000681, IFSC Code: : PUNB0666000, Punjab National Bank, Gautam Buddha University, Greater Noida. The copy of NEFT/RTGS with transaction ID must be enclosed along with the bid.
- iii. Filled up bidder's proforma (page no. 3, 4, 5 & 6) appended with the tender.
- Purchase Order of works satisfactorily completed for three years out of the last four financial years at IITs, NIT's or Central / State Universities / Organization. Any Academic Institute of National Repute / Reputed private organizations etc.
- v. Audited balance sheet counter signed by C.A. for three years out of last four financial years clearly indicating turnover and T.D.S. along with Form 3CB and 3CD. The cumulative turnover during last three consecutive years should be 30% of the estimated value.
- vi. OEM/Authorized Firm Authorization Certificate.
- vii. PAN Certificate of the individual/Company/Firm.
- viii. The tenderer should submit the G.S.T. /I.G.S.T registration certificate.
- ix. The vendor shall submit an affidavit (duly notarized) on Rs.10/- stamp paper to the effect that the firm has never been blacklisted by any Government organization including

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Universities, Institutions and Colleges, as per below format (*the affidavit issues date/notarize date should not be earlier then the tender advertisement date*):

"I/We hereby confirm and declare that M/s. ...... proprietor/partner(s) is/are not blacklisted/de-registered/debarred by any Government department/Public Sector Undertaking, Universities, Institution and College or any other repute organization for which we have executed/undertaken the works/services during the last four financial years

#### Deponent Signature"

#### B. PRICE BID

- i. Price bid duly filled in all respects in tender. The price shall be in words and numeric numbers both.
- 6. Offer should be sent in a sealed envelope, submitted either in person or by post on which name and address of the supplier/firm shall be written. Tenders received through E-mails or FAX will not be considered.
- 7. The rate quoted should be F.O.R. Gautam Buddha University (Gautam Budh Nagar, Greater Noida, UP) in rupees inclusive of all charges e.g. packing, forwarding local taxes, railway freight, transit insurance etc. The total price should include all accessories required for final installation of the item. <u>Rates of imported goods should be quoted excluding custom duty</u>, as this University is exempted from payment of <u>custom duty</u> (by letter of Department of Scientific and Industrial Research, Ministry of Science & <u>Technology</u>, <u>GOI</u>).
- 8. The technical bids will be opened on scheduled date and time in the presence of the bidders/authorized representatives of bidders. Suppliers intending to attend the tender opening should intimate in advance.
- 9. The EMD of the successful bidder will be refunded after getting the "Performance Security Deposit (i.e. 10% of PO/WO value)". The Performance Security Deposit shall be deposited in the form of FDR/Bank Guaranty only, pledged in favour of "Gautam Buddha University" and should be valid for whole contract/warranty period. The PSD will be returned only after expiry of the successful contract/warranty period. The EMD of the unsuccessful bidders will be returned to the firm(s) immediately after finalization of the tenders. No interest will be paid on EMD in any case.
- 10. Detailed specifications with the mention of make and model/Version of each item should be clearly given supported by the illustrated pamphlets wherever possible. Quotations without specified make and Model/Version and other particulars may be rejected. The accessories included in the Equipments/Instruments should also be clearly mentioned.
- 11. Losses or damage in transit will be borne by the Supplier. The supplier may, if he so desires, get the goods insured and include such charges in the tendered rate.
- 12. Offered prices should be valid for at least 180 days from the last date of receipt of tenders.
- 13. a) The items delivery time should be preferably within stipulated period mentioned in purchase order, if fails
  - b) The Penalty Clause is as under:-

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Should the bidder fail to deliver the goods within stipulated period, the Competent Authority may, at his discretion, allow an extension in time subject to recovery from the bidder as agreed liquidated damages, and not by way of penalty, a sum equal to the percentage of the value of tender amount which the bidder has failed to supply for period of delay as stated below:-

i. Delay up to one week	1%
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ii. Delay exceeding one week but not 2%

exceeding two weeks

iii. Delay exceeding two weeks but 5%

not exceeding one month

iv. Delay exceeding one month 5% for each month and part there of subject to maximum 10%

- c) In case of failure to supply the goods within stipulated delivery period and in accordance with the specifications given in the quotations, the University shall be free to cancel the order.
- 14. Supply of the placed order in part will not be accepted.
- 15. No advance payment shall be released in any case. The payment shall be released on delivery of items in good condition, installation and putting those in satisfactory working conditions only.
- 16. No increase in price will be allowed after our purchase order(s) are placed.
- 17. Warranty certificate against all the Items/Equipment/Instruments developed defects covering warranty period, which commences from the date of installation shall be given at the time of supply of the items.
- 18. During the warranty period whenever the firm is called upon to attend to the rectification of the defects/faults in the consignments, the firm shall attend to the repair work within a period of a week. They should render timely back up service whenever called upon. A certificate to the effect should be attached to the tender.
- 19. A certificate to the effect that items supplied is fully operational and no additional accessory or space is required to fully functioning the Equipments/Instruments should be issued along with the delivery challans/invoice. GBU reserves the right to refuse payment in the event of not furnishing this certificate at the time of supply.
- 20. Complete user, technical and service manuals/installation drawings/documentation and spare parts catalogue are to be provided along with the supply of the item.
- 21. The GBU reserves the right to award job between the multiple bidders based on the item-wise L-1 firm for the supply of item. Further, GBU has also reserve the right to prepare the Annual Rate Contract for the said supply, if required.

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- 22. Failure to comply with all the terms and conditions mentioned herein would result in the tender being summarily rejected.
- 23. Conditional tenders will not be accepted.
- 24. GBU reserves the right to change the order quantity or split the orders among multiple vendors without assigning any reason (s) whatsoever.
- 25. GBU reserves the right to reject any or all the tenders without assigning any reasons whatsoever.
- 26. All legal proceedings, if necessity arises to the University may be any of the parties (University or Contractor/Supplier) shall have to be lodged in the courts situated at Distt. Gautam Budh Nagar and not elsewhere.

REGISTRAR

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#### **TECHNICAL SPECIFICATION OF EQUIPMENT FOR ELECTRICAL MACHINE LAB.**

S.No.	Equipment Description	Scope of learning
S.No. 1.	<ul> <li>Control Panel for Parallel Operation and Synchronization Including two drives. (synchronization of two alternators)</li> <li>Technical Specifications: <ul> <li>Operated on Mains power 415V, 50Hz +10%</li> <li>Variable DC Drive Module 5HP, 02 nos.</li> <li>4 Pole MCB of 415V, 16A with Power Indication for Gen-1</li> <li>4 Pole MCB of 415V, 16A with Power Indication for Gen-2</li> <li>Digital Voltmeter &amp; Ammeter Module for Gen-1</li> <li>Digital Voltmeter &amp; Ammeter Module for Gen-2</li> <li>Parallel Line for Generator-1 and 2 with Power Indication Module</li> <li>Digital Frequency Module Meter for Gen-1</li> <li>Digital Frequency Meter Module for Gen-2</li> <li>Analog phase sequence Indicator Module</li> <li>Synchroscope Module Operated on through PT 440/110V</li> <li>Instruction Manual with Schematic Diagram</li> <li>Experiments Manuals</li> </ul> </li> </ul>	Scope of learning To observe the: • Study of Parallel Operations of Two Ac Alternator (Synchronizing the 2 Alternator) • Study of Dark Lamp Method using Parallel Operations of Two Ac Alternator • Study of Bright Method using Parallel Operations of Two Ac Alternator • Study of Operation of 3Phase Synchronous Generation
	Instruction Manual with Schematic Diagram	
	<ul> <li>Each Module panel height compatible with Div A4 standard.</li> <li>Using 4 mm safety sockets and plugs. Each DC/AC power supply equipped with overload protection.</li> <li>Adopting digitized and microprocessor-based measuring instrument to provide high-accuracy measurement.</li> <li>Modularized design providing the most flexible</li> </ul>	
	<ul> <li>requirement of this experimental equipment</li> <li>High Voltage Test Points are provided With 4mm Safety Sockets</li> <li>Short Circuit protection with the MCB.</li> </ul>	

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2.	Control Panel for DC Machine-I	To observe the:
	<ul> <li>Technical Specifications <ul> <li>Operated on Mains power 230V, 50Hz +10%</li> <li>Variable DC Drive Module 5HP, 01 nos.</li> <li>Input Supply Module 230V AC</li> <li>Digital DC Voltmeter &amp; Ammeter Module 3 Nos</li> <li>Instruction Manual with Schematic Diagram</li> <li>Experiments Manuals</li> </ul> </li> <li>Salient Features: <ul> <li>Modularized design providing the most flexible requirement of this experimental equipment.</li> <li>Each Module panel height compatible with DIN A4 standard.</li> <li>Using 4 mm safety sockets and plugs. Each DC / AC power supply equipped with overload protection.</li> <li>Adopting digitized and microprocessor-based measuring instrument to provide high-accuracy measurement.</li> <li>High Voltage Test Points are provided With 4mm Safety Sockets Short Circuit protection with the MCB.</li> </ul> </li> </ul>	<ul> <li>Speed control of armature resistance method.</li> <li>Speed control of field resistance method.</li> <li>Load Test</li> </ul>
3.	<ul> <li>Control Panel for DC Machine-II</li> <li>Technical Specifications         <ul> <li>Operated on Mains power 230V, 50Hz +10%</li> <li>Variable DC Drive Module 5HP, 01 nos.</li> <li>Input Supply Module 230V AC</li> <li>Digital DC Voltmeter &amp; Ammeter Module 3 Nos</li> <li>Instruction Manual with Schematic Diagram</li> <li>Experiments Manuals</li> </ul> </li> <li>Salient Features:         <ul> <li>Modularized design providing the most flexible requirement of this experimental equipment.</li> <li>Each Module panel height compatible with DIN A4 standard.</li> <li>Using 4 mm safety sockets and plugs. Each DC / AC power supply equipped with overload protection.</li> </ul> </li> </ul>	<ul> <li>To observe the:</li> <li>Speed control of dc separately excited motor using Ward Leonard Leonard method.</li> <li>Hopkinson's Test on DC Machine</li> </ul>

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4.	<ul> <li>Adopting digitized and microprocessor-based measuring instrument to provide high-accuracy measurement.</li> <li>High Voltage Test Points are provided With 4mm Safety Sockets Short Circuit protection with the MCB.</li> <li>Control panel for slip ring induction motor</li> <li>Technical Specifications:         <ul> <li>Operated on Mains power 415V, 50Hz +10%</li> <li>Inbuilt Rotor Resistance Starter Three Phase rotor</li> <li>Resistance starter fully automatic type with 3 step timer circuit with</li> <li>Suitable interlock and protection</li> </ul> </li> </ul>	To observe the: • To plot Speed-Torque Characteristics of Slip- ring three phase induction motor
	<ul> <li>Input Supply Module 415V AC</li> <li>Digital AC Voltmeter &amp; Ammeter Module 2 Nos</li> <li>Instruction Manual with Schematic Diagram</li> <li>Experiments Manuals</li> </ul>	
	Salient Features:	
	<ul> <li>Modularized design providing the most flexible requirement of this experimental equipment.</li> <li>Each Module panel height compatible with DIN A4 standard.</li> <li>Using 4 mm safety sockets and plugs. Each DC / AC power supply equipped with overload protection.</li> <li>Adopting digitized and microprocessor-based measuring instrument to provide high-accuracy measurement.</li> <li>High Voltage Test Points are provided With 4mm Safety Sockets</li> <li>Short Circuit protection with the MCB.</li> </ul>	
5.	Control panel for synchronous machine	To observe the:
	<ul> <li>Technical Specifications:</li> <li>Operated on Mains power 415V, 50Hz +10%</li> <li>Variable DC Drive Module 5HP, 01 nos.</li> <li>3 Phase Input Supply Module</li> </ul>	<ul> <li>To estimate the voltage regulation of an alternator by Synchronous Impedance Method.</li> </ul>
	Digital DC Voltmeter & Ammeter Module 2 nos	To determine voltage

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	1	
	Digital AC Voltmeter & Ammeter Module 2 nos	regulation of an
	<ul> <li>3 Phase Power Analyzer Module 01 nos</li> </ul>	alternator using ZPF
	DC Exciter Module 01 nos	Method
	Circular type Field Rheostat Module 01	To determine OCC and
	<ul> <li>Instruction Manual with Schematic Diagram</li> </ul>	SCC of an alternator and
	Experiments Manuals	to draw its equivalent
	Salient Features:	circuit
	<ul> <li>Modularized design providing the most flexible requirement of this experimental equipment.</li> <li>Each Module panel height compatible with DIN A4 standard mounted on MS sliding.</li> </ul>	
	<ul> <li>Using 4 mm safety sockets and plugs.</li> <li>Each DC/AC power supply equipped with overload protection.</li> </ul>	
	<ul> <li>Adopting digitized and microprocessor-based measuring instrument to provide high-accuracy measurement.</li> </ul>	
	<ul> <li>High Voltage Test Points are provided With 4mm Safety Sockets</li> </ul>	
	• Short Circuit protection with the MCB.	
1		
6.	Control panel for 3 phase induction motor	To observe the:
6.	Control panel for 3 phase induction motor	To observe the: • Speed control of three
6.	Control panel for 3 phase induction motor Technical Specifications:	
6.		Speed control of three
6.	Technical Specifications:	<ul> <li>Speed control of three phase induction motor</li> </ul>
6.	<ul> <li>Technical Specifications:</li> <li>Operated on Mains power 415V, 50Hz +10%</li> <li>Variable Frequency Drive Module 5HP, 415V</li> </ul>	<ul> <li>Speed control of three phase induction motor</li> </ul>
6.	<ul> <li>Technical Specifications:</li> <li>Operated on Mains power 415V, 50Hz +10%</li> <li>Variable Frequency Drive Module 5HP, 415V</li> <li>3 Phase Input Supply Module</li> </ul>	<ul> <li>Speed control of three phase induction motor</li> </ul>
6.	<ul> <li>Technical Specifications:</li> <li>Operated on Mains power 415V, 50Hz +10%</li> <li>Variable Frequency Drive Module 5HP, 415V</li> <li>3 Phase Input Supply Module</li> </ul>	<ul> <li>Speed control of three phase induction motor</li> </ul>
6.	<ul> <li>Technical Specifications:</li> <li>Operated on Mains power 415V, 50Hz +10%</li> <li>Variable Frequency Drive Module 5HP, 415V</li> <li>3 Phase Input Supply Module</li> <li>Digital AC Voltmeter &amp; Ammeter Module 1 nos</li> </ul>	<ul> <li>Speed control of three phase induction motor</li> </ul>
6.	<ul> <li>Technical Specifications:</li> <li>Operated on Mains power 415V, 50Hz +10%</li> <li>Variable Frequency Drive Module 5HP, 415V</li> <li>3 Phase Input Supply Module</li> <li>Digital AC Voltmeter &amp; Ammeter Module 1 nos</li> <li>Digital RPM Meter Module 1 nos</li> </ul>	<ul> <li>Speed control of three phase induction motor</li> </ul>
6.	<ul> <li>Technical Specifications:</li> <li>Operated on Mains power 415V, 50Hz +10%</li> <li>Variable Frequency Drive Module 5HP, 415V</li> <li>3 Phase Input Supply Module</li> <li>Digital AC Voltmeter &amp; Ammeter Module 1 nos</li> <li>Digital RPM Meter Module 1 nos</li> <li>Instruction Manual with Schematic Diagram</li> <li>Experiments Manuals</li> </ul>	<ul> <li>Speed control of three phase induction motor</li> </ul>
6.	<ul> <li>Technical Specifications:</li> <li>Operated on Mains power 415V, 50Hz +10%</li> <li>Variable Frequency Drive Module 5HP, 415V</li> <li>3 Phase Input Supply Module</li> <li>Digital AC Voltmeter &amp; Ammeter Module 1 nos</li> <li>Digital RPM Meter Module 1 nos</li> <li>Instruction Manual with Schematic Diagram</li> <li>Experiments Manuals</li> </ul>	<ul> <li>Speed control of three phase induction motor</li> </ul>
6.	<ul> <li>Technical Specifications:</li> <li>Operated on Mains power 415V, 50Hz +10%</li> <li>Variable Frequency Drive Module 5HP, 415V</li> <li>3 Phase Input Supply Module</li> <li>Digital AC Voltmeter &amp; Ammeter Module 1 nos</li> <li>Digital RPM Meter Module 1 nos</li> <li>Instruction Manual with Schematic Diagram</li> <li>Experiments Manuals</li> </ul> Salient Features: <ul> <li>Modularized design providing the most flexible requirement of this experimental equipment.</li> <li>Each Module panel height compatible with DIN A4</li> </ul>	<ul> <li>Speed control of three phase induction motor</li> </ul>
6.	<ul> <li>Technical Specifications:</li> <li>Operated on Mains power 415V, 50Hz +10%</li> <li>Variable Frequency Drive Module 5HP, 415V</li> <li>3 Phase Input Supply Module</li> <li>Digital AC Voltmeter &amp; Ammeter Module 1 nos</li> <li>Digital RPM Meter Module 1 nos</li> <li>Instruction Manual with Schematic Diagram</li> <li>Experiments Manuals</li> </ul> Salient Features: <ul> <li>Modularized design providing the most flexible requirement of this experimental equipment.</li> <li>Each Module panel height compatible with DIN A4 standard mounted on MS sliding.</li> </ul>	<ul> <li>Speed control of three phase induction motor</li> </ul>
6.	<ul> <li>Technical Specifications:</li> <li>Operated on Mains power 415V, 50Hz +10%</li> <li>Variable Frequency Drive Module 5HP, 415V</li> <li>3 Phase Input Supply Module</li> <li>Digital AC Voltmeter &amp; Ammeter Module 1 nos</li> <li>Digital RPM Meter Module 1 nos</li> <li>Instruction Manual with Schematic Diagram</li> <li>Experiments Manuals</li> </ul> Salient Features: <ul> <li>Modularized design providing the most flexible requirement of this experimental equipment.</li> <li>Each Module panel height compatible with DIN A4</li> </ul>	<ul> <li>Speed control of three phase induction motor</li> </ul>
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	1	1
	measurement.	
	High Voltage Test Points are provided With 4mm	
	Safety Sockets	
	Short Circuit protection with the MCB.	
7.	Control panel for single phase Transformer-II	To observe the:
	<ul> <li>Control panel for single phase transformer-in</li> <li>Technical Specifications: <ul> <li>Operated on Mains power 230V, 50Hz +10%</li> <li>Input Supply Module 230V AC</li> <li>Digital AC Voltmeter &amp; Ammeter Module 3 Nos</li> <li>Digital AC Wattmeter Module 2 Nos</li> <li>Instruction Manual with Schematic Diagram</li> <li>Experiments Manuals</li> </ul> </li> <li>Salient Features: <ul> <li>Modularized design providing the most flexible requirement of this experimental equipment.</li> <li>Each Module panel height compatible with DIN A4 standard.</li> <li>Using 4 mm safety sockets and plugs. Each DC / AC power supply equipped with overload protection.</li> <li>Adopting digitized and microprocessor-based measuring instrument to provide high-accuracy measurement.</li> <li>High Voltage Test Points are provided With 4mm Safety Sockets</li> </ul> </li> </ul>	<ul> <li>To perform Sumpner's test and the parallel operation of two single phase transformers</li> <li>To perform polarity and ratio test.</li> </ul>
	<ul> <li>Short Circuit protection with the MCB.</li> </ul>	
8.	Digital Multi-meter	To observe the:
	Technical Specifications:	AC and DC voltage measurement
	Digital Multi-meter	AC and DC current
1	AC voltage: (0-600)V	measurement
		- NAsservasses at at
	• DC voltage: (0-600)V	Measurement of
	• AC and DC current: (0-10)A	resistance, capacitance
	<ul> <li>AC and DC current: (0-10)A</li> <li>Ohms Range -40M Ohms</li> </ul>	resistance, capacitance and frequency
	<ul> <li>AC and DC current: (0-10)A</li> <li>Ohms Range -40M Ohms</li> <li>Auto shutoff -yes</li> </ul>	resistance, capacitance
	<ul> <li>AC and DC current: (0-10)A</li> <li>Ohms Range -40M Ohms</li> <li>Auto shutoff -yes</li> <li>Continuity - yes</li> </ul>	resistance, capacitance and frequency
	<ul> <li>AC and DC current: (0-10)A</li> <li>Ohms Range -40M Ohms</li> <li>Auto shutoff -yes</li> </ul>	resistance, capacitance and frequency

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	padded carrying case-1, user manual-1	
9.	Tachometer (Contact type)	To observe the:
	Technical Specifications:	Speed measurement
	Range : 0-5000 rpm Display : 5 digit LED Accuracy: +/-0.05+1 digit Sampling rate: 1 second Standard accessories: male rubber contact tip-2, female	
	rubber contact tip-2, peripheral contact tip reflective tape (marks)-1, padded carrying case-1, user manual-1	

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Website : <u>www.gbu.ac.in</u>

#### **FINANCIAL BID OF**

#### **SUPPLY & INSTALLATION OF EQUIPMENT FOR ELECTRICAL MACHINE LAB, SOE**

S.NO.	ITEM DESCRIPTION	QTY	Quoted Model & Make	Unit Price (in Rs.)	Total Price (in Rs.)
1	Control Panel for Parallel Operation and Synchronization Including two drives. (synchronization of two alternators)	01			
2	Control Panel for DC Machine-I	01			
3	Control Panel for DC Machine-II	01			
4	Control panel for slip ring induction motor	01			
5	Control panel for synchronous machine	01			
6	Control panel for 3 phase induction motor	01			
7	Control panel for single phase Transformer-II	01			
8	Digital Multi-meter	04			
9	Tachometer (Contact type)	02			

I abide by all the terms & conditions of the tender.

(SIGNATURE OF THE BIDDER) WITH SEAL

NAME: .....