



TECHNICAL SPECIFICATION

01. The scanned copy of this annexure (original downloaded) duly completed and seal signed by the bidder must be uploaded otherwise bid should not be considered. Any supplementary information may be uploaded separately.
02. The samples where-ever mentioned in specifications must be submitted in this Directorate along with physical submission of DD's of EMD etc, otherwise concerned item will not be considered for technical evaluation.
03. Scanned Copies of Original Literature/Leaflets/Catalogue etc. must be enclosed in support of your Make and Specifications otherwise concerned items will not be considered for Technical Evaluation.
04. The delivery period will be 90 Days.
05. The Material will be Supplied F.O.R. at District Level Industrial Training Institutes / Concerning Industrial Training Institutes as per enclosed List.
06. Authorization Certificate of manufacturer where-ever mentioned in specifications must be submitted in prescribed format (Annexure-L) otherwise concerned item will not be considered for Technical Evaluation.
07. All the required literature/ leaflets/Catalogues, authorisation certificates must be submitted with the tender and these will not be demanded by the department after receipt of tender.

Item No. : 04/2018-19 Due Date : 20.08.2018

Name of Tenderer :

Name of Item : ELECTRICAL MACHINE TRAINER

S. No.	Specifications	Qty.	Make & model	(*) Specify variation in Specification if any, otherwise write "No variation" / as per Specification.
01	<p>Electrical Machine Trainer – Suitable for Demonstrating the construction and functioning of different types of DC machines and AC machines (single phase and three phase). Should be fitted with friction brake arrangement, dynamo meter, instrument panel and power supply unit :-</p> <p>01. Fixed poles stator having 4 fixed poles & 4 inter poles, mounted on poles, Body with coils, terminals of each coil brought in educational type board.</p> <p>02. Multiple slot type starter : having multiple poles with coils, terminals brought on education type board, mounted on MS base.</p> <p>03. Multiple slot motor : having multiple slots with 2 layers winding, commutator on the end & slip ring on other, coupling on one end and centrifugal clutch on other. Listed with 2 self aligning bearing.</p>	83 Nos		



04. Fixed poles type motor : having four poles with coils on one side of the shaft and generator binding in multiple slots at the other end fitted with self aligning bearing.
 05. Slip ring holders : fitted on steel rod with a clamp at the one end to be fitted on pedestal of stator.
 06. Brush holder : fitted on Bakelite holding.
 07. Mold coil : mounted on poles for exciter generator.
 08. Capacitor : with clutch switch arrangement.
 09. Solid steel base plate : 12 thick solid steel plate duly machined mounted on thick heavy duty. Special channel frame, having 4 pedestal, having split casing for bearing with provision for mounting starter.
 10. Motor swinging field type, DC machine capable to run from 500 to 2000 RPM, 2.5 KW, at 250 V. DC supply, fitted on steel base plate, shaft housed on one of the pedestal, fitted on body are two spring balance at 180 deg. To give direct reading of torque.
 11. Capable of study of Alternator 1Ph & 3Ph, auto start synchronous motor , DC Shunt Series Compound Motors as well as generators, rotary Converter and Rotary inverter, Rotational frequency changer 10Hz to 100 Hz, Slip ring Motors, 3 phase and 1 Ph induction motors and self excited induction generator, Capacitor Start Induction Run Motor, repulsion Motor, Universal Motor, AC Series motor etc.
- The control panel should be provided to fit the instrument mention below –
1. 4 Pole MCB 16 Amp. 415 Volt. With contactor 16 A and Overload relay ON OFF push buttons
 2. 3 Ph Multi function Meter (V, I, W, PF, KVA, KVAR, Hz) 20 Amp – 1 No.
 3. On board provided with 3 Ph AC supply, Variable AC Supply 0-230V , Variable DC Supply 0-230V , Static DC supply 230 V DC with field failure protection.
 4. All Power supplies should be controlled separately using rotary ON OFF Switches 16A
 5. Indicating lamps.
 6. Bulb loads 1 KW
 7. Synchronizing Board
 8. DC Voltmeter Digital panel Flush mounted 96 x 96 mm size 500V – 2



Nos.
9. DC Ammeter Digital panel Flush mounted 96 x 96 mm size 20 A – 2
Nos.
10. RPM Meter with QEP Sensor
Control Panel Board :-
The Control panel should be provided with powder coated M.S. fabricated box (Sheet thickness should be 20 SWG and above) with 1200 x 600 x 150 mm will be fitted on the dark brown color Bakelite hylam sheet thickness of 6 mm and above with duly marked engraved printed circuit termination and also back door of the panel will have lock facility for safety of the panel. Educational type panel board for above mentioned equipments & accessories with required brass terminals & should be fitted neatly spared & back side properly wired up and necessary arrangement will be made to kept the panel on 32 x 32 x 6 mm of M.S fabricated frame with four legs. Top height of panel frame from ground level should be 1.85 mtr. With panel foundation setting depth not less than 30 cm having projected legs. Painted with red oxide & machine gray color all equipment, accessories & terminals should be fitted on front side of panel & marked properly.



DISTRIBUTION

District RO	Ajmer				Bharatpur				Bikaner			Jaipur				Sikar																																										
	Ajmer		Nagaur		Bharatpur		Sawaimadhopur		Bikaner			Dausa		Jaipur			Jhunjhunu																																									
Item S. No.	Ajmer	Masooda (Ajmer)	Gen	1	Bharatpur Jail	Gen	1	Nagar (Bharatpur)	Choth Ka Barwada (Sawaimadhopur)	Bamanwas (Sawaimadhopur)	Gangapur City (Sawaimadhopur)	Loonkaransar (Bikaner)	Panchu (Bikaner)	Shridungargarh (Bikaner)	Sriganganagar Jail	Laxmangarh (Alwar)	Suheta (Alwar)	Neemrana (Alwar)	Kishangarhwas (Alwar)	Tijara (Alwar)	Lawaan (Dausa)	Sikrai (Dausa)	Jaipur Jail	Jaipur P.C.	Kho-Nagoriyan (Jaipur)	Navalgarh (Jhunjhunu)	Laxmangarh W.	Shree Madhopur (Sikar)																														
		Tatoti (Ajmer)	Gen	1		Gen	1																						Gen	1	Gen	1	Gen	1	Gen	1	Gen	1	SC	SP	1																	
		Ajmer Jail	Gen	1		Gen	1																						Gen	1	Gen	1	Gen	1	Gen	1	Gen	1	Gen	1	Gen	1	Gen	1	Gen	1	Gen	1	Gen	1	Gen	1						
		Nasirabad (Ajmer)	Min	1		Min	1					Min	1	Min									1	Min	1				Min	1	Min	1	Min	1	Min	1	Min	1	Min	1	Min	1	Min	1	Min	1	Min	1										
	Aasind (Bhilwara)	Gen	1	Jayal (Nagaur)	Gopalgarh (Bharatpur)	Nagar (Bharatpur)	Choth Ka Barwada (Sawaimadhopur)	Bamanwas (Sawaimadhopur)	Gangapur City (Sawaimadhopur)	Loonkaransar (Bikaner)	Panchu (Bikaner)	Shridungargarh (Bikaner)	Sriganganagar Jail	Laxmangarh (Alwar)	Suheta (Alwar)	Neemrana (Alwar)	Kishangarhwas (Alwar)	Tijara (Alwar)	Lawaan (Dausa)	Sikrai (Dausa)	Jaipur Jail	Jaipur P.C.	Kho-Nagoriyan (Jaipur)	Navalgarh (Jhunjhunu)	Laxmangarh W.	Shree Madhopur (Sikar)																																
	Banera (Bhilwara)	Gen	1																								Gen	1	Gen	1	Gen	1	Gen	1	Gen	1	Gen	1	Gen	1	Gen	1	Gen	1	Gen	1	Gen	1	Gen	1	Gen	1						
	Kotadi (Bhilwara)	Gen	1																								Gen	1	Gen	1	Gen	1	Gen	1	Gen	1	Gen	1	Gen	1	Gen	1	Gen	1	Gen	1	Gen	1	Gen	1	Gen	1	Gen	1	Gen	1		
	Raipur (Bhilwara)	Gen	1																								Gen	1	Gen	1	Gen	1	Gen	1	Gen	1	Gen	1	Gen	1	Gen	1	Gen	1	Gen	1	Gen	1	Gen	1	Gen	1	Gen	1	Gen	1		
	Sahada (Bhilwara)	Gen	1																								Gen	1	Gen	1	Gen	1	Gen	1	Gen	1	Gen	1	Gen	1	Gen	1	Gen	1	Gen	1	Gen	1	Gen	1	Gen	1	Gen	1	Gen	1	Gen	1
	Mandal (Bhilwara)	SC	SP																								1	SCS	P	1	SCS	P	1	SCS	P	1	SCS	P	1	SCS	P	1	SCS	P	1	SCS	P	1	SCS	P	1	SCS	P	1	SCS	P	1	

