



**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. : 05/2018-169 Due Date : 20.08.2018

Name of Tenderer :

Name of Item : D.C. GENERATORS

S. No.	Specifications	Qty.	Make & model	(* ) Specify variation in Specification if any, otherwise write "No variation" / as per Specification.
01	<p><b>D.C. Compound Generator with Control Panel including fitted Rheostat, Voltmeter, Ammeter and Breaker, 2.5 KW, 220 V &amp; 3 Phase Squirrel Cage Induction Motor, 5 HP, 440V, with Control Panel &amp; Star Delta Starter :-</b></p> <p>DC self excited Compound generator, 2.5 KW, 220 V. with control panel board. The armature assembly of generator should be made from silicon steel laminated core with winding in slots of SE copper wire.</p> <p>a) DC compound wound self excited generator  b) Capacity 2.5 KW 220 V.  c) Insulation class 'B' type.  d) RPM 1500 for maximum output (Approx)  e) Screen protected, horizontal foot mounted, Internal fan cooled.</p>	83 Nos.		



**AC Motor:- (Acts as prime mover)**

1. Three phase AC Squirrel cage induction motor
2. Capacity 5 HP, 415V 50Hz
3. Speed 1440 RPM
4. Insulation class B type and above
5. Screen protected, horizontal foot mounted, internal fan cooled & copper wound.

The control panel should be provided to fit the instrument mention below

**Equipment & Accessories :-**

1. MCB Two pole DC16 Amp, 250 Volt
2. Digital DC Ampere meter 96 x 96 mm size- 02 Nos.
3. Digital DC Volt Meter 96 x 96 mm size
4. Regulator shunt field flush mounted
5. Indicating Lamps LED type 22.5mm size
6. BTI Terminals
7. HRC Fuse Bakelite type base with top 16 A, 440 V

**For AC Motor :-**

1. Star Delta Starter Semi Automatic Current Range 15 Amp
  2. MCB Three pole 16 Amp.
  3. Digital AC Ampere meter 96 x 96 mm size.
  4. Digital AC Volt Meter 96 x 96 mm size.
  5. BTI Terminals
  6. Indicating Lamps LED type 22.5 mm. size for all three phases.
- All panel accessories (MCB, Meters & Indicators) should be of standard quality make.

**Control Panel Board :-**

The Control panel should be high grade Fire Resistive Bakelite with 1200 x 600 x 150 mm will be fitted on the dark brown color Bakelite hylam sheet thickness of 6mm 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



02	<p>mt. With panel foundation setting depth not less than 30 cm having projected legs. Painted with red oxide &amp; machine gray color all equipment, accessories &amp; terminals should be fitted on front side of panel &amp; marked properly</p> <p><b>D.C. Shunt Generator with Control Panel, 2.5 KW, 220V &amp; 3 Phase Squirrel cage Induction Motor, 5 HP, 440 V with Control Panel &amp; Star Delta Starter :-</b></p> <p>DC self excited shunt generator with control panel board. The armature assembly should be made from silicon steel laminated core with winding in slots of SE copper wire.</p> <p><b>Generator rating :</b></p> <ol style="list-style-type: none"><li>1. DC shunt wound self excited generator.</li><li>2. Capacity 2.5 KW, 220 V.</li><li>3. 1500 RPM for maximum output. (Approx)</li><li>4. Class 'B' type insulation.</li><li>5. Screen protected, horizontal foot mounted, Internal fan cooled.</li></ol> <p><b>AC Motor:- (Acts as prime mover)</b></p> <ol style="list-style-type: none"><li>1. Three phase AC Squirrel cage induction motor</li><li>2. Capacity 5 H, 415 V 50Hz</li><li>3. Speed 1440 RPM</li><li>4. Insulation class B type and above</li><li>5. Screen protected, horizontal foot mounted, internal fan cooled &amp; copper wound.</li></ol> <p>The control panel should be provided to fit the instrument mention below</p> <p><b>Equipment &amp; Accessories :</b></p> <ol style="list-style-type: none"><li>1. MCB Two pole DC16 Amp.250 Volt.</li><li>2. Digital DC Ampere meter (96 x 96 mm size)</li><li>3. Digital DC Voltmeter (96 x 96 mm size)</li><li>4. Regulator- Shunt field type.</li><li>5. Indicating Lamps LED type 22.5 mm size</li><li>6. HRC Fuse Bakelite type base with top 16 A 440 V.</li></ol> <p><b>For AC Motor:-</b></p> <ol style="list-style-type: none"><li>1. Star Delta Starter Semi Automatic Current Range 15 Amp.</li><li>2. MCB Three pole 16 Amp.</li><li>3. Digital AC Ampere meter 96 x 96 mm size.</li></ol>	83 Nos.	
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4. Digital AC Volt Meter 96 x 96 mm size.  
 5. Indicating Lamps LED type 22.5 mm size for all three phases  
 All panel accessories (MCB, Meters & Indicators) should be of standard quality make.  
 Generator should be fitted on suitable heavy duty MS channel of size 75 x 40 mm & 6 mm thick on fabricated frame with coated & painted.  
 Generator should be coupled with motor by standard flexible coupling arrangement.  
**Control Panel Board :-**  
 The Control panel should be high grade FRB 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.

**D.C. Generators-Series Type :-**  
 D.C. series self excited generator demonstration and overhauling purpose  
 – Rating 2 KW, 220 V, 1500 RPM (Approx), Horizontal, foot mounted screen protected.  
 DC Generator The armature assembly should be made from silicon steel Laminated core with winding in slots of SE copper wire. Current should be collected through carbons brushes with holders and ride on commutator mounted on shaft. Two end shield type, fitted with ball bearings, Key-way shaft extension on One side. Suitable for normal raise of temp.

03

93  
Nos.





