



**INDIRA GANDHI INSTITUTE OF TECHNOLOGY SARANG,
DHENKANAL (ODISHA) - 759 146
(An Autonomous Institute of Govt. of Odisha)**

Advt. No.
No - IGIT/Elect - 322

Date: 29.08.2019

Invitation for Quotation

For and on behalf of IGIT Sarang, sealed quotations are invited from eligible reputed agencies / vendors / manufacturer / suppliers having valid GST registration/PAN/TIN clearance for works under laboratory development of Electrical Engineering Department. The details specifications are given in the Annexure which is also available in the office of Electrical Engineering Department and our website www.igitsarang.ac.in. The detail quotation completed in all aspect may be submitted in sealed envelope in the office of the Director I.G.I.T. Sarang, Dist. – Dhenkanal – 759146 (Odisha) by Speed Post / Registered Post under strong sealed cover marked as “Quotation for Advanced Energy Systems and Drives Lab” for the Department of Electrical Engineering.

Important Dates & Time

Sl. No.	Particulars	Important Dates	Time
1	Date of notification	29/08/2019	10:30 A M
2	Last date & time for submission of quotation	19/09/2019	2:00 PM
3	Date & time of opening of quotation	20/09/2019	11:00 AM

S. Mahanta
29/08/2019
DIRECTOR

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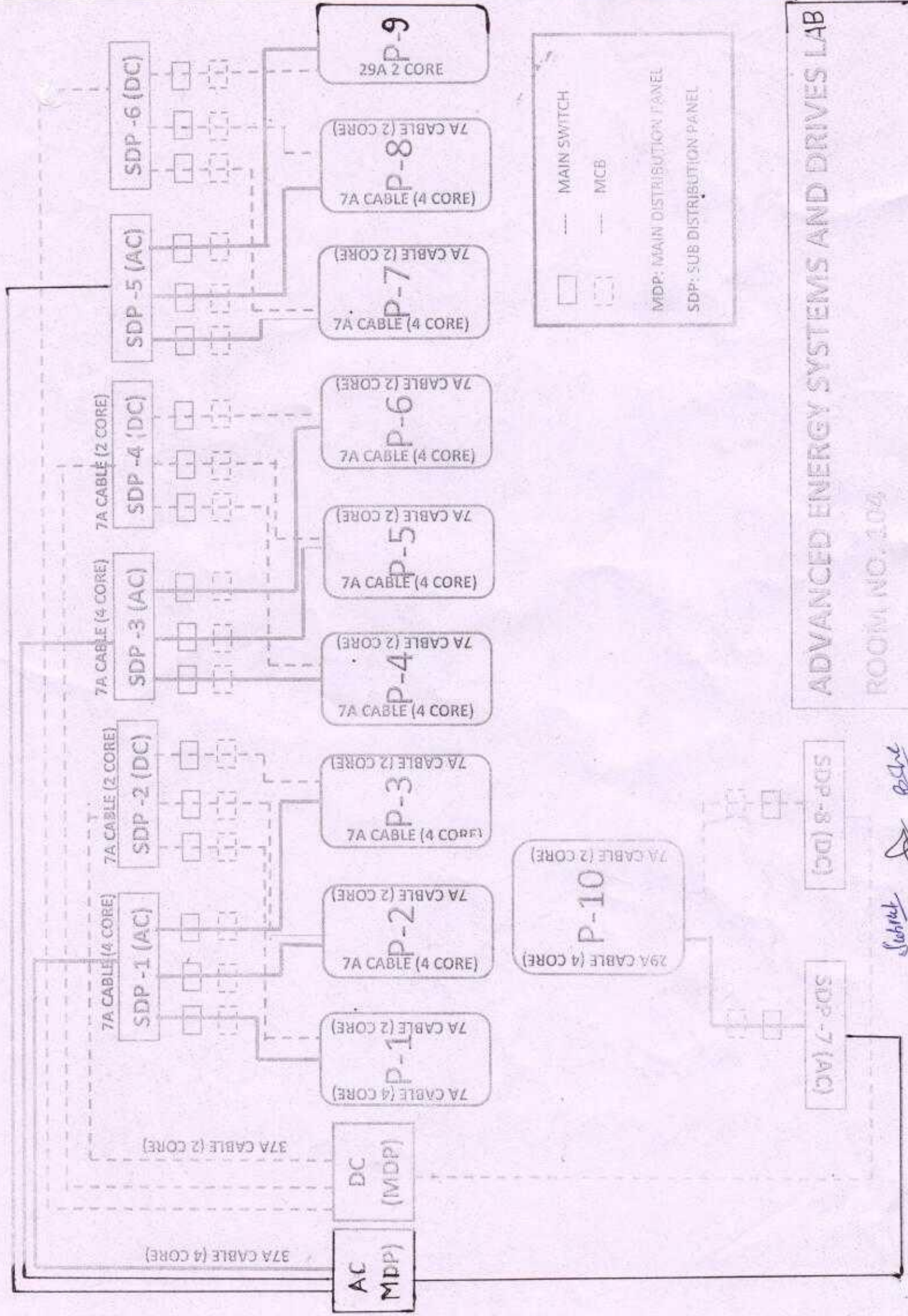
1. Accounts Officer for information and necessary action
2. Coordinator Diploma steam for information and necessary action
3. Sri G Ghosh, Asst. Professor, Mech.Engg. & Prof. in charge, Institute Website for kind information and for uploading at the institute Website.

Department of Electrical Engineering, IGIT Sarang
List of items to set up Advanced Energy Systems and Drives Laboratory (Room No-104)

Sl No.	Description of the materials with detail	Specifications	Quantity	Cost per unit	Total cost including all taxes and charges
1	Service cable(3-phase,4 wire with armour)	215A(70 sq.mm)	60m		
2	Main switch (3-phase)	3 phase, 4 pole 415V, 200A	1		
3	Cable 3-phase,4 wire with armour (from Main switch to MDP)	215A (70 sq.mm)	6m		
4	Copper cable 3-phase, 4-wire with armour (from MDP to SDP)	37A (6 sq.mm),29 A(4 sq.mm)	As required		
5	Main distribution panel (MDP) each consisting of the following items		1no		
	Main switch(handle type) for AC	3phase,415V,63A, 4 pole	4nos		
	Main switch(handle type) for DC	240 v, 50A, 2 pole	4nos		
	Bus Bar Copper for three phase supply		6 sets		
6	Sub Distribution Panel (SDP) each consisting of the following items		8nos		
	Main Switch (AC)	3 phase, 415v, 16A, 4 pole	8nos		
	Main Switch (AC)	3 phase, 415V, 32A, 4 pole	2no		
	Main Switch (DC)	240V, 16A, 2 pole	9nos		
	Main Switch (DC)	240V, 32A, 2 pole	1no		
	MCB	16A(2 pole) / 32A (2 pole)/16A (4 pole)/ 32A(4 pole)	9nos / 1no/8nos / 2 nos		
	Bus bars(for DC supply)		8 sets		
7	Cables (SDP TO PB)	7A (0.5 sq. Mm) /29A (4 sq.mm) /12A(1 sq.mm)	As required		
8	Panel board				
	Iron Angle				
	Bakelite plates(2' x 2'5")				
	Indicators				
	Fuses for AC and DC				
	Ammeters (on Board ammeters)	5 A, MI TYPE	8 nos		
		30 A, MI TYPE	2nos		
		10 A, MC TYPE	9nos		
		30 A, MC TYPE	1nos		
	Voltmeters (on Board ammeters)	500V, MI	10nos		
		300V, MC	10nos		
	Handle main switch (panel BOARD)	3 phase,415v,16A, 4 pole	8nos		
		3 phase,415V,32A,4 pole	2nos		
		240V, 16A,2 pole	9nos		
		240V, 32A,2pole	1nos		
9	plinth	4'x 22''x 2'	9nos		
10	Plinth	5'x 2'6''x2'	1no		
11	Plinth	2'x 4'x 2'	1no		
12	Plinth	3'x 4'x 2'	2nos		
13	Pipe earthing with copper wire for connection		8nos		

Department of Electrical Engineering, IGIT Sarang
List of items to set up Advanced Energy Systems and Drives Laboratory (Room No-104)

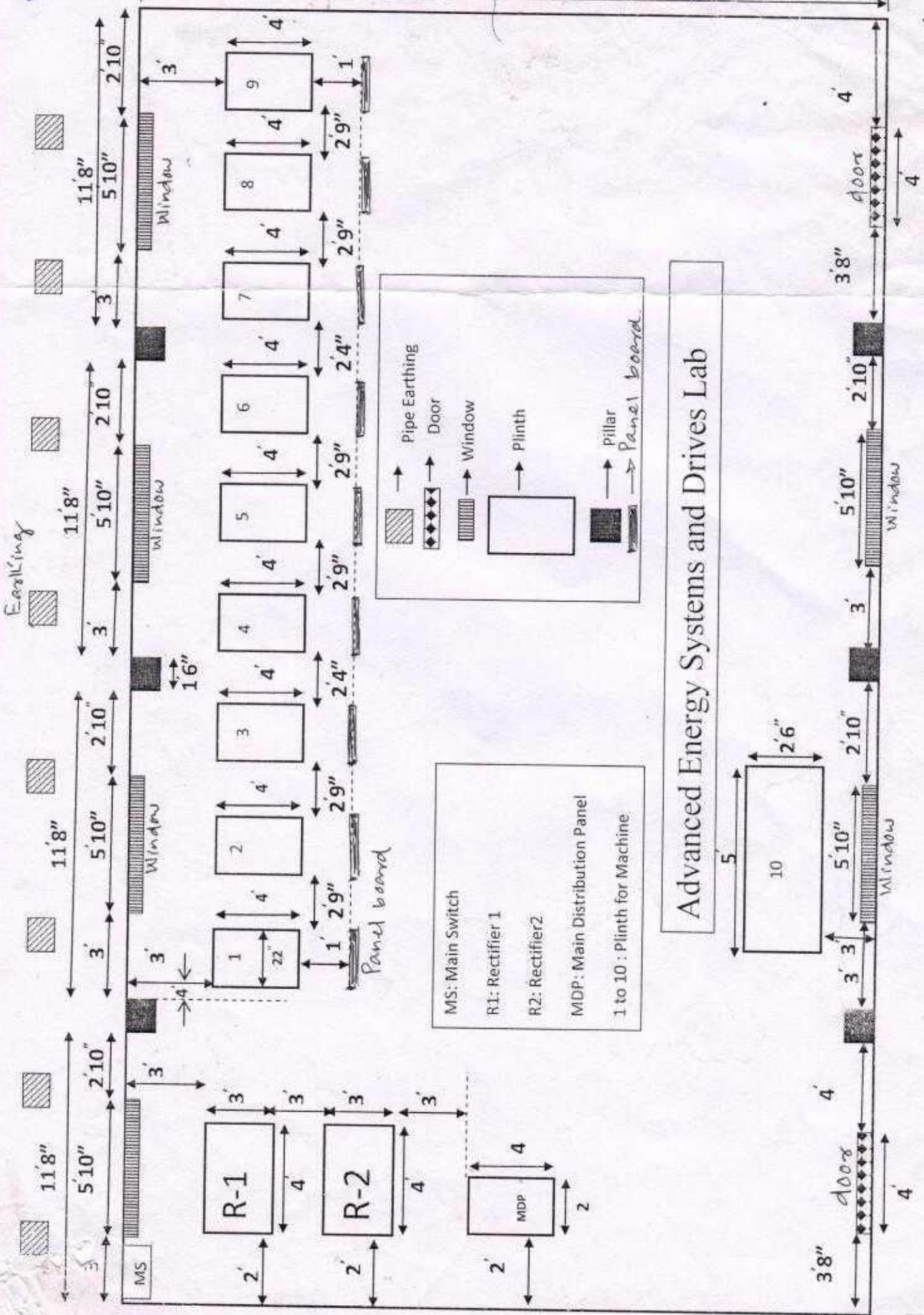
Sl No	Description of the materials with detail	Specifications	Quantity	Remarks
1	Service cable(3-phase,4 wire with armour	215A (70 sq.mm)	60m	Pole to Main switch
2	Main switch (3-phase)	3 phase, 4 pole 415V,250A	1	
3	Cable 3-phase,4 wire with armour (from Main switch to MDP)	215A (70 sq.mm)	6m	Main switch to Main Distribution Panel(MDP)
4	Copper cable3-phase,4 wire with armour(from MDP to SDP)	37A (6 sq.mm),29 A(4 sq.mm)	As required	Main Distribution panel to Sub Distribution Panel(SDP)
5	Main distribution panel (MDP) each consisting of the following items		1no	
	Main switch(handle type) for AC	3 phase,415V,63A, 4 pole	4nos	For controlling AC supply to SDP
	Main switch(handle type) for DC	240 v, 50A, 2 pole	4nos	For controlling DC supply to SDP
	Bus Bar Copper for three phase supply		2.sets	1 nos for AC 1 nos for DC
6	Sub Distribution Panel(SDP)/box each consisting of the following items		8nos	
	Main Switch (AC)	3 phase, 415v, 16A, 4 pole	8nos	For controlling the panel.
	Main Switch (AC)	3 phase, 415V, 32A, 4 pole	2no	For 3-phase, 15hp & 15kW squirrel cage induction motor.
	Main Switch (DC)	240V, 16A, 2 pole	9nos	For controlling the panel.
	Main Switch (DC)	240V, 32A, 2 pole	1no	For controlling DC motor (5 hp, 19A) of wind emulator.
	MCB	16A(2 pole) / 32A (2 pole)/16A (4 pole)/ 32A(4 pole)	9nos/1nos/8 nos/2 nos	For each panel according to the rating.
	Bus bars(for DC supply)		8 sets	4 nos for AC 4 nos for DC
7	Cables	7A (0.5 sq. Mm) /29A (4 sq.mm) /12A(1 sq.mm)	As required	From SDP TO Panel Board.
8	Panel board			
	Iron Angle Bakelite plates (Length=2', height=2'5") Indicators Fuses for AC and DC			For each Panel Board
	Ammeters (on Board ammeters)	5 A, MI TYPE 30 A, MI TYPE 10 A, MC TYPE 30 A, MC TYPE	8 nos 2nos 9nos 1nos	For each Panel Board according to Rating
	Voltmeters (on Board ammeters)	500V, MI 300V, MC	10nos 10nos	
	Handle main switch (panel BOARD)	3 phase,415v,16A, 4 pole 3 phase, 415V, 32A, 4 pole 240V, 16A,2 pole 240V, 32A,2pole	8nos 2nos 9nos 1nos	
9	plinth	4'x 22'x 2'	9nos	For Drives(Panels 1 to 9)
10	Plinth	5'x 2'6"x2'	1no	For Wing Turbine Trainer
11	Plinth	2'x 4'x 2'	1no	For MDP
12	Plinth	3'x 4'x 2'	2nos	For Rectifier Units
13	Pipe earthing with copper wire for connection		8nos	



1/2

31'6"

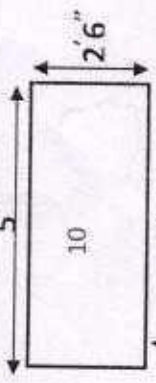
Earthing



MS: Main Switch
 R1: Rectifier 1
 R2: Rectifier 2
 MDP: Main Distribution Panel
 1 to 10: Plinth for Machine

Pipe Earthing
 Door
 Window
 Plinth
 Pillar
 Panel board

Advanced Energy Systems and Drives Lab



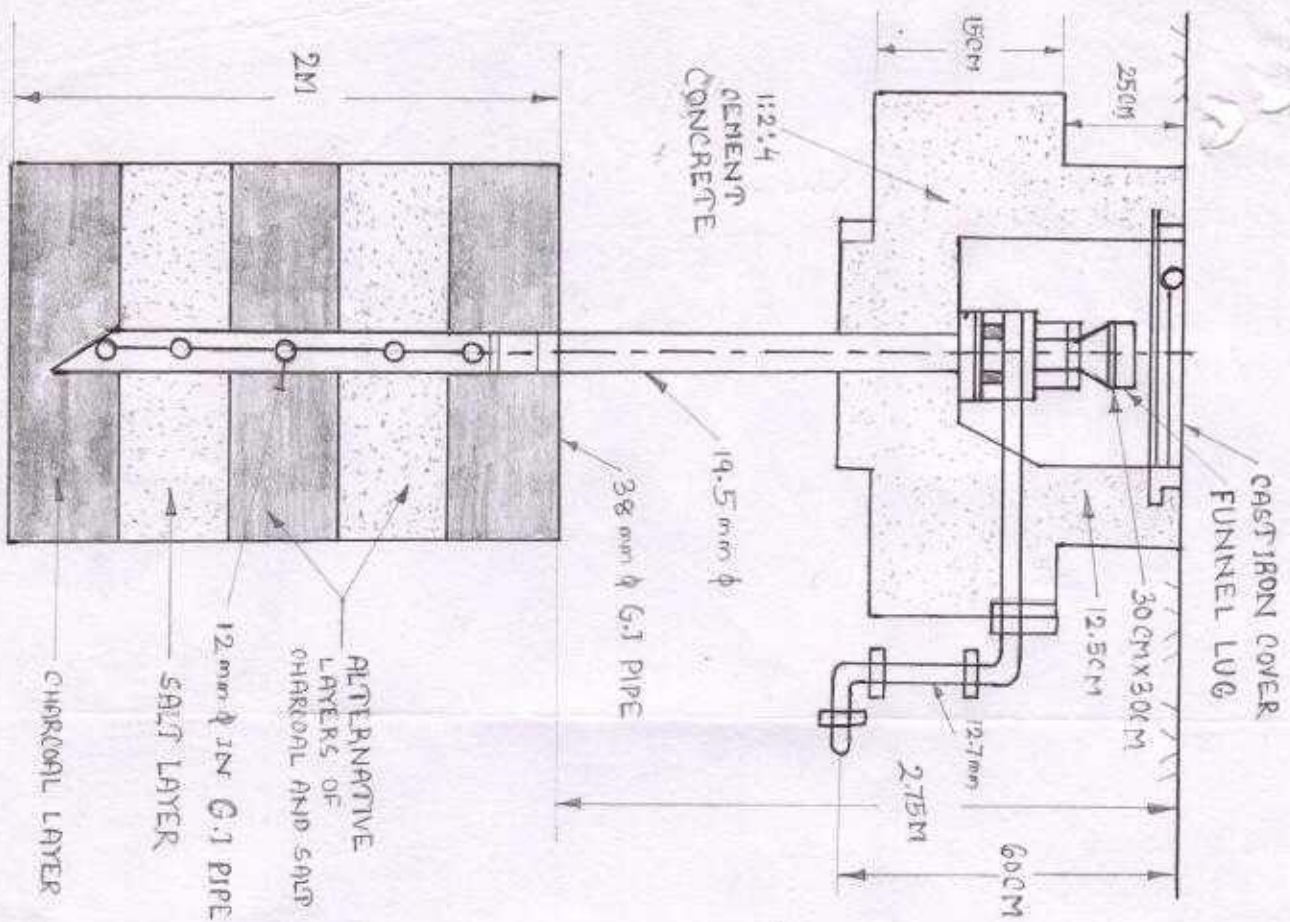
51'6"

Room No. 104

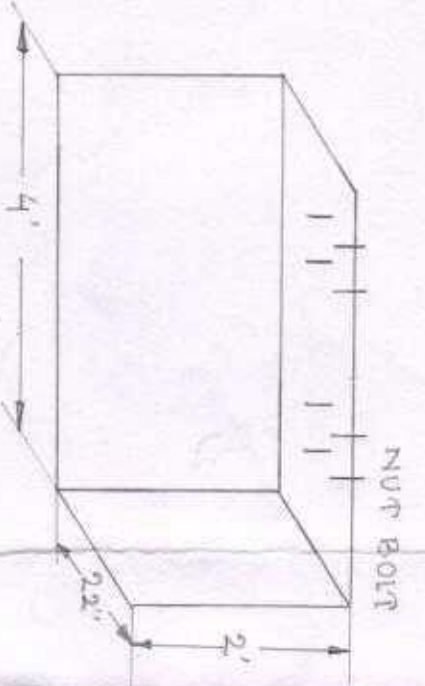
Teacher Red

CSJL

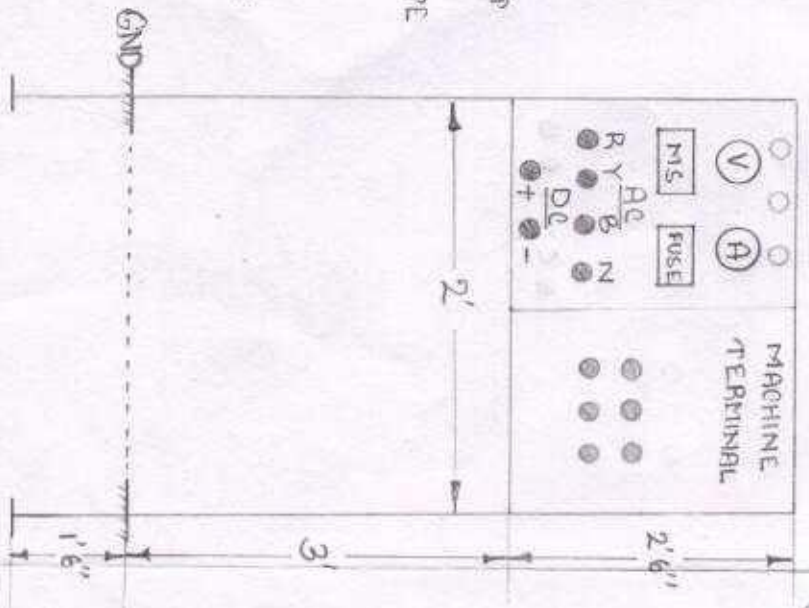
PIPE EARTHING



PINCH DIMENSION DETAILS



PANEL BOARD DETAILS



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 Rink
 GSE
 PDA

Department of Electrical Engineering, IGIT Sarang
Room No- 104

List of the Machines to be installed for Advanced Energy Systems and Drives Laboratory

Plinth No	Machine setup	Specifications
1	FPGA Based SRM Drive Unit	SR Motor- Eddy Current Load with sensor (Switched Reluctance Motor: 1 hp, 6000 rpm, 4 phase, 8/6 Type, 150 V DC, Eddy Current Loading Arrangement with dial indication plus 2 no of position sensors)
2	DSP Based Slip ring Induction Motor with DC Generator loading	Slip ring Induction Motor: 1HP, 3-phase, 415V, 1410rpm with DC shount generator: 1kW, 220V
3	DSP based Motor Control and Drives with PSM Basic coupled with DC generator for loading	Motor module: 3 phase, 1hp, 415V Squirrel cage induction motor DC Generator: 220 volts, 2.7 amp, 0.6 kw.
4	DTC based Induction motor drive coupled with DC motor for loading arrangements	Induction motor: 0.75 Kw, 1,8 Amp, speed 1415 rpm, power factor 0.80 DC generator : 0.75 kw, 180 volts, 1500 rpm, 6.1 amp
5	5-phase induction Motor drive control coupled with DC generator for loading	A. Induction Motor: 0.75kW, 5-phase, phase voltage- 220V, Star connected, 50Hz, 1440rpm coupled with DC generator as loading arrangement B. DC generator -1kW, 220V, DC C. Inverter: 415V, 3kVA, 5 leg, 2-level with in-built over voltage, under voltage, over current and over temperature protection. D. Isolation Transformer: Single phase, 3kVA, 230/230 Volt(3-Nos)
6	Speed control of DC Shunt Motor using Four-Quadrant Chopper	DC Motor: 1hp, 220V, 5A, (Siemens/CG/BENN/RAMSON & SONS) with suitable loading arrangement with 2 spring balances. Power modulator: • Input voltage: 440V AC, 3phase, 50Hz. • Output voltage : [0 to 200V] DC (variable voltage) • Output rating: +10A

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7	Transfer Function of DC Motor / Generator Transfer Function Study Trainer	1. 1hp, 220V, 5A DC shunt motor.
10	wind Emulator(Induction Generator	Dc Motor: 5HP, 19 Amp, 220 V, 1500rpm, insulation class-F Field volt: 220 V, 1.2A coupled with 3phase squirrel cage Induction Motor: 15kW, 220/380V, 7.6A, Pf=.69
11	Wind turbine Trainer	3-Phase Squirrel cage Induction Motor: 11kW(15HP). 21Amp, 415V, 1455rpm

Ramesh

05/10

IPD