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

15

Advt. No.
No-IGIT/ELEC/-52

Date: 01.02.2019

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	01/02/2019	10:30 A M
2	Last date & time for submission of quotation	21/02/2019	2:00 PM
3	Date & time of opening of quotation	22/02/2019	11:00 AM

S. Mahanta
01/02/2019
DIRECTOR

Copy to:

1. **Accounts Officer for information and necessary action**
2. **Coordinator Diploma steam for information and necessary action**
3. **Dr. S.Sethi, Asso. Professor & Prof. in charge, Institute Website for kind information and for uploading in the institute Website.**

Department of Electrical Engineering, IGIT Sarang

List of the materials for installation of M. Tech. Laboratories:

Advanced Energy Systems and Drives Laboratory (Room No-104)

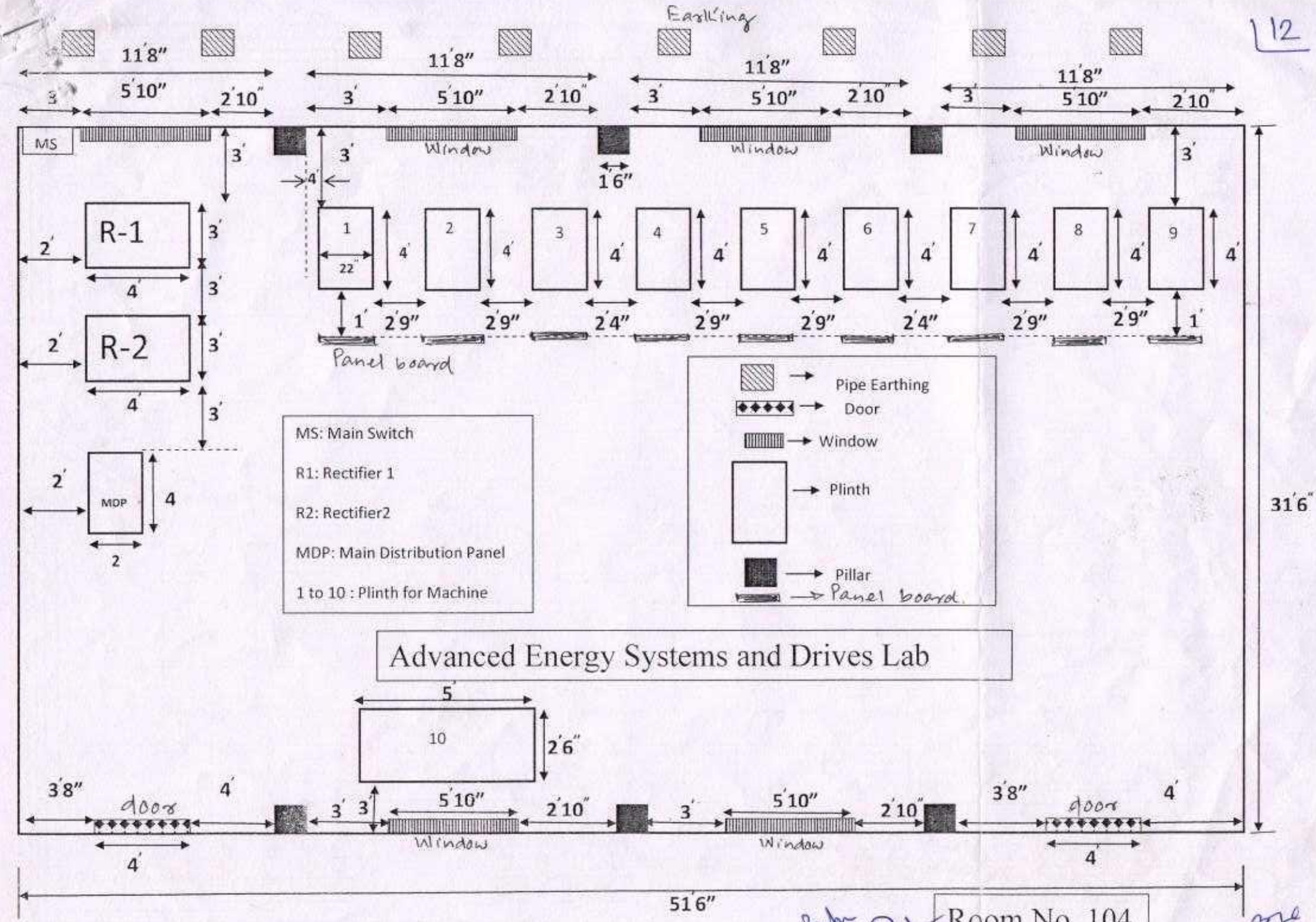
Sl no.	Description of the materials with detail	Specifications	Quantity	Cost per unit in Rupees	Total cost in Rupees including all taxes and all charges
1	Service cable(3-phase,4 wire with armour	76A	60m		
2	Main switch (3-phase)	240A,500V	1		
3	Cable 3-phase,4 wire with armour	76 A	6m		
4	Copper cable3-phase,4 wire with armour	38A	**As required**		
5	**Main distribution panel (MDP) each consisting of the following items (a-c)**	240A,500V	1no		
	a) Main switch(handle type) for AC	60A,500V	4nos		
	b) Main switch(handle type) for DC	60A,500V	4nos		
	c) Bus Bar Copper for three phase supply		6nos		
6	**Sub Distribution Panel(SDP)/box each consisting of the following items (a-f)**	60A,500V	**8nos**		
	a) Main Switch (AC)	15A,500V	16nos		
	b) Main Switch (AC)	60A,500V	1no		
	c) Main Switch (DC)	15A, 300V	16nos		
	d) Main Switch (DC)	30A,300V	1no		
	e) MCB		34nos		
	f) Bus bars		8sets		
7	Cables	15A/30A	**As required**		
8	Panel board a) Iron Chanel b) Bakelite plates (Length=2', height=2'5") c) Ammeter 20A d) Voltmeter 500V e) Handle main switch(15A,500V)AC f) Indicators g) Fuses for AC and DC		17nos		
9	plinth	22"×4'	9nos		
10	Plinth	2'×4'	1no		
11	Plinth	2'6"×5'	1no		
12	Plinth	3'×4'	2nos		
13	Pipe earthing with copper wire for connection		8nos		

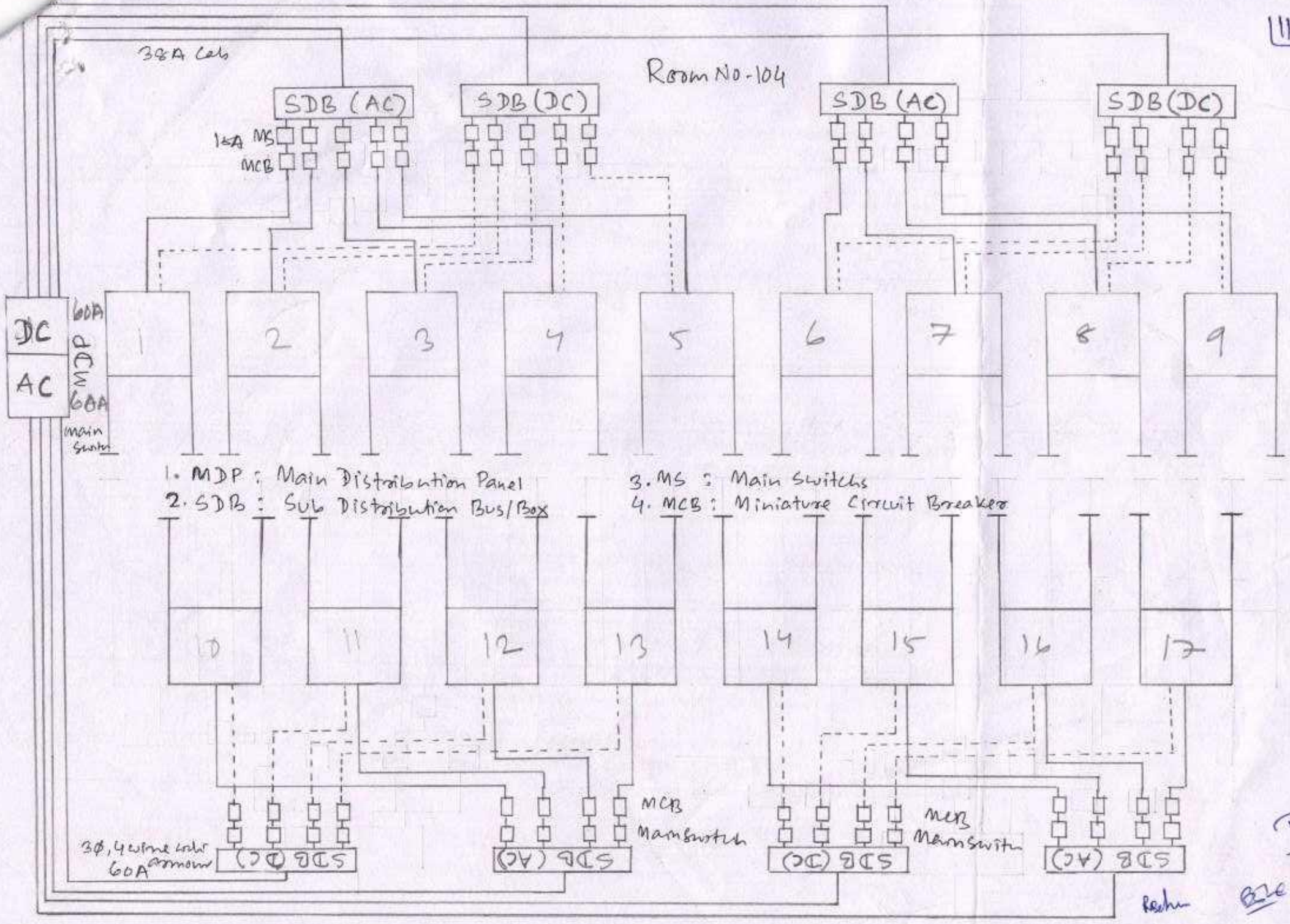
Department of Electrical Engineering, IGIT Sarang

List of the materials for installation of M. Tech. Laboratories:

a) **Advanced Energy Systems and Drives laboratories (Room No-104)**

Sl no.	Description of the materials with detail	Specifications	Quantity	Remarks
1	Service cable(3-phase,4 wire with armour	76A	60m	Pole to main switch
2	Main switch (3-phase)	240A,500V	1	
3	Cable 3-phase,4 wire with armour	76 A	6m	Min switch to main distribution panel(MDP)
4	Copper cable3-phase,4 wire with armour	38A	**As required**	MDP to Sub Distribution bus/box (SDB)
5	**Main distribution panel (MDP)with following fittings**		1no	
	a) Main switch(handle type) for AC	60A,500V	4nos	For controlling AC supply to SDB
	b) Main switch(handle type) for DC	60A,500V	4nos	For controlling DC to SDB
	c) Bus Bar Copper for three phase supply		6nos	4nos for AC 2nos for DC
6	**Sub Distribution Panel(SDP)/box**		**8nos**	4nos for AC and 4nos for DC
	a) Main Switch (AC)	15A,500V	16nos	For controlling each setup
	b) Main Switch (AC)	60A,500V	1no	**For wind turbine trainer to controling 3-phase Induction motor (11/15HP,21A,415V)1455rpm**
	c) Main Switch (DC)	35A, 300V	16nos	For controlling each setup
	d) Main Switch (DC)	30A,300V	1no	For controlling DC motor (5HP,19A,220V)of wind Emulator
	e) MCB		34nos	For each setup according to the setup
	f) Bus bars		8sets	For supplying power to the panel boards
7	Cables	15A/30A	**As required**	SDP to Penal boards
8	Panel board a) Iron Chanel b) Bakelite plates (Length=2', height=2'5") c) Ammeter 20A d) Voltmeter 500V e) Handle main switch(15A,500V)AC f) Indicators g) Fuses for AC and DC		17nos	For each set up
9	plinth	22"×4'	9nos	For drive side(9nos)
10	Plinth	2'×4'	1no	MDP
11	Plinth	2'6"×5'	1no	For induction generator
12	Plinth	3'×4'	2nos	For rectifiers
13	Pipe earthing with copper wire for connection		8nos	For room no 104


Earthing
11'8"
3'
5'10"
2'10"
MS
Window
3'
4'
1'6"
R-1
R-2
MDP
2'
4'
1
22"
2
3
4
5
6
7
8
9
2'9"
2'4"
1'
Panel board
MS: Main Switch
R1: Rectifier 1
R2: Rectifier2
MDP: Main Distribution Panel
1 to 10 : Plinth for Machine
Pipe Earthing
Door
Window
Plinth
Pillar
Panel board
31'6"
Advanced Energy Systems and Drives Lab
10
5'
2'6"
3'8"
door
3'
51'6"
Room No. 104



1. MDP : Main Distribution Panel
2. SDB : Sub Distribution Bus/Box
3. MS : Main Switchs
4. MCB : Miniature Circuit Breaker

Department of Electrical Engineering, IGIT Sarang

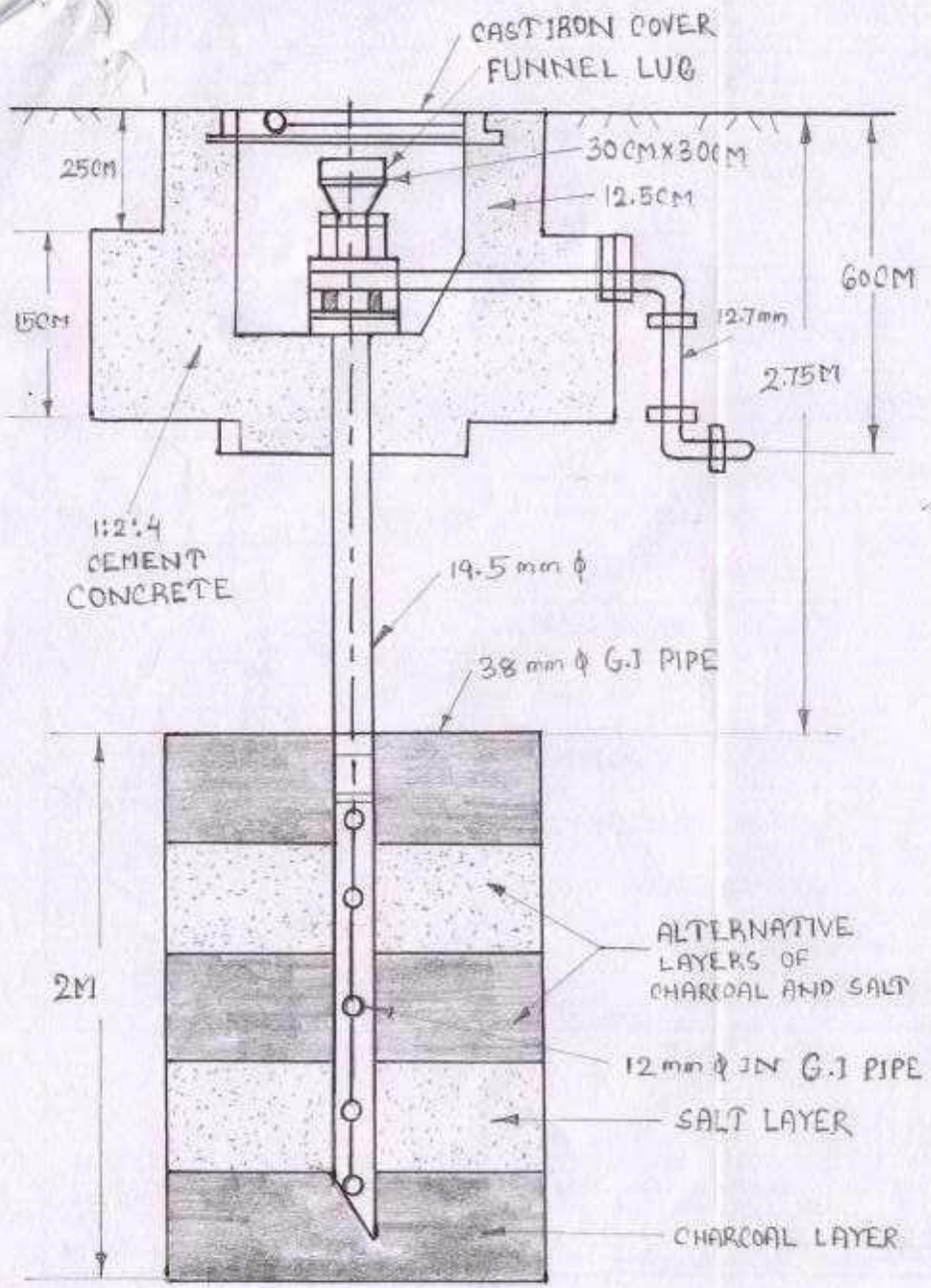
Room No- 104

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

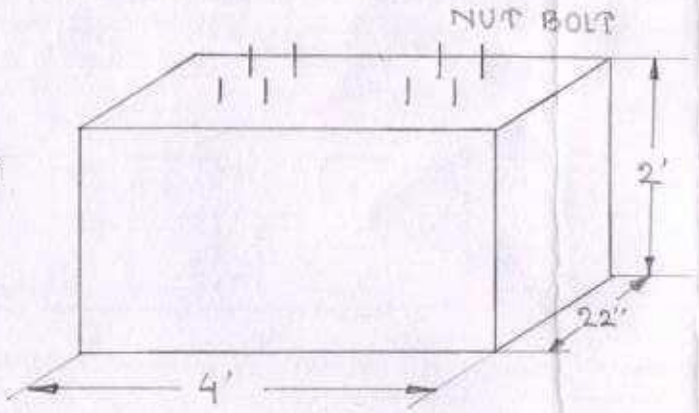
Plinth No	Machine setup	Specifications
1	FPGA Based SRM Drive Unit	SR Motor- Eddy Current Load with sensor (Switched Reluctance Motor: **1 hp, 6000 rpm, 4 phase, 8/6 Type, 150 V DC**, Eddy Current Loading Arrangement with dial indication plus 2 no of position sensors)
2	DSP Based Slip ring Induction 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 PSIM 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, o**ver current and over temperature protection. D. Isolation Transformer: Single phase,**3kVA,230/230 Volt(3-Nos)** E. Load Box
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**

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, 1.2Acoulped 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

PIPE EARTHING



PLINTH DIMENSION DETAILS



PANEL BOARD DETAILS