

## NEE-651: POWER SYSTEM LAB

Note: - Minimum 10 experiments are to be performed from the following list: (A)Hardware Based Experiments:

1. To determine fault current for L-G, L-L, L-L-G and L-L-L faults at the terminals of an alternator at very low excitation.
2. To Study the over-current relay and the effect of PSM and TSM.
3. To study percentage differential relay.
4. To study Impedance, MHO and Reactance type distance relays and zones of protection.
5. To study Ferranti effect of a transmission line/cable.
6. To measure the dielectric Strength of transformer oil.
7. To study the Synchronization of alternator with infinite bus bar.
8. To determine positive sequence, negative sequence and zero sequence reactance of an alternator.
9. To Study the effect of different shape of electrodes on dielectric (air) breakdown.
10. To Study the gas actuated Buchholz relay for oil filled transformer.
11. To determine the sub-transient ( $xd''$ ), transient ( $xd'$ ) and steady state reactance ( $xd$ ) of a synchronous machine.







# RAJKIYA ENGINEERING COLLEGE, AMBEDKAR NAGAR

## INVENTORY SHEET

Department: **Electrical Engineering**

Inventory of Room No./Office: **Power system Lab**

Date of Inventory Preparation: 10.03.2019

<u>S. No.</u>	<u>Product</u>	<u>Product Description</u>	<u>Quantity</u>	<u>Remarks</u>
1.	PANAL FOR $X_d$ & $X_q$ OF SYNCHRONOUS MACHINE BY SLIP TEST	3 KW DC MOTOR COUPLED WITH 2 KVA ALTERNATOR	1	
2.	PANAL FOR NEGATIVE & ZERO SQUENCE REACTANCE OF SYNCHRONOUS MACHINE	3 KW DC MOTOR COUPLED WITH 2 KVA ALTERNATOR	1	
3.	PANAL FOR FAULT STUDY ON THREE PHASE AC GENERATOR	3 KW DC MOTOR COUPLED WITH 2 KVA ALTERNATOR	1	
4.	PANAL FOR $X_d''$ & $X_q''$ OF SYNCHRONOUS MACHINE	3 KW DC MOTOR COUPLED WITH 2 KVA ALTERNATOR	1	
5.	OIL TEST SET		1	
6.	PANAL FOR PERCENTAGE DIFFERENTIAL REALY		1	
7.	PANAL FOR I.D.M.T. OVER CURRENT RELAY		1	
8.	PANAL FOR PERFORMANCE OF LONG TRANSMISSION LINE UNDER DIFFERENT LOAD ( FERRANTI EFFECT )		1	
9.	STUDY OF DISTANCE PROTECTION RELAY		1	
10	STUDY THE TESTING SET OF DISTANCE PROTECTION RELAY		1	
11	SINGLE PHASE RECTIFIER		1	

12	TABLE	WOODEN, (4X3FT)	<u>8</u>	
13	STOOL	WOODEN	<u>30</u>	
14	CLAMP METER		<u>1</u>	
15	MULTI METER		<u>1</u>	
16	RHEOSTAT		<u>7</u>	
17	COMPUTER	HP DESKTOP (I7, 6gb RAM)	2	
18	COMPUTER TABLE	WOODEN	2	
19	FAN	BAJAJ 1200MM 3 BLADE	8	
20	BOX LIGHT	BAJAJ DUAL ROD	12	
21	ALMIRA	METTALIC CLOSED OPEN	1 1	
22	GREEN BOARD	WOODEN (4X3)	1	
23	CHAIR		4	

