



Electrical Engineering Department
Power System Laboratory
EE 392

List of Experiments:

1. Power factor improvement
2. String efficiency of disc insulator
3. DC Distribution network
4. Study the performance of long transmission line.
5. Breakdown strength of liquid insulating material
6. AC distribution network
7. Study of different types of fault analyzer



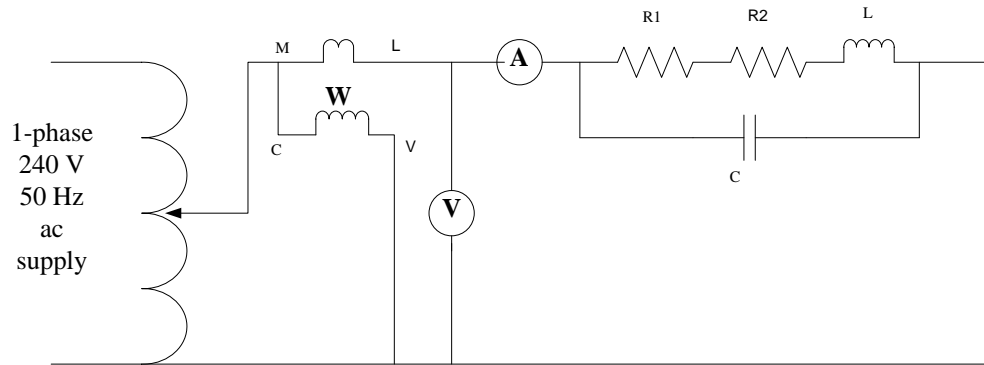
Electrical Engineering Department Power System Laboratory EE 392

Experiment no: 1

Title: Power factor improvement

Objective: To study the power factor of R, RL, RLC circuit

Circuit Diagram:



Circuit diagram of power factor improvement

Data Table:

Component	Voltage (V)	Current (A)	Power (W)	$\cos \phi = \frac{P}{VI}$
R				
RL in series				
RL and C in parallel				

Discussion:

Student Name:
Student Roll No:
Signature:

Signature of the teacher



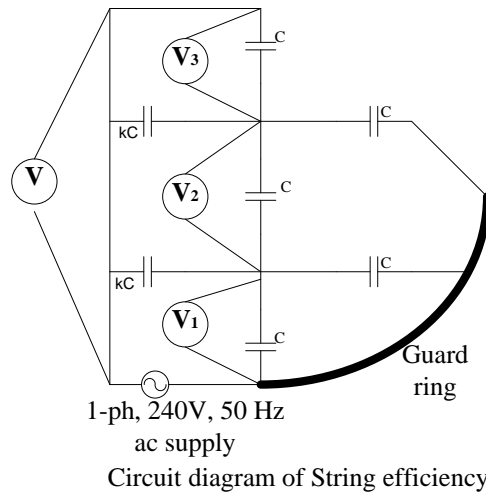
Electrical Engineering Department
Power System Laboratory
EE 392

Experiment no: 2

Title: String efficiency of disc insulator

Objective: To study the string efficiency of disc insulator (a) with guard ring, (b) without guard ring

Circuit Diagram:



Data table:

Guard ring Connected	No of disc (n)	V_1 (V)	V_2 (V)	V_3 (V)	V (V)	$\eta = \frac{V}{n \times V_1}$
No						
Yes						

Discussion:

Student Name:
 Student Roll No:
 Signature:

Signature of the teacher



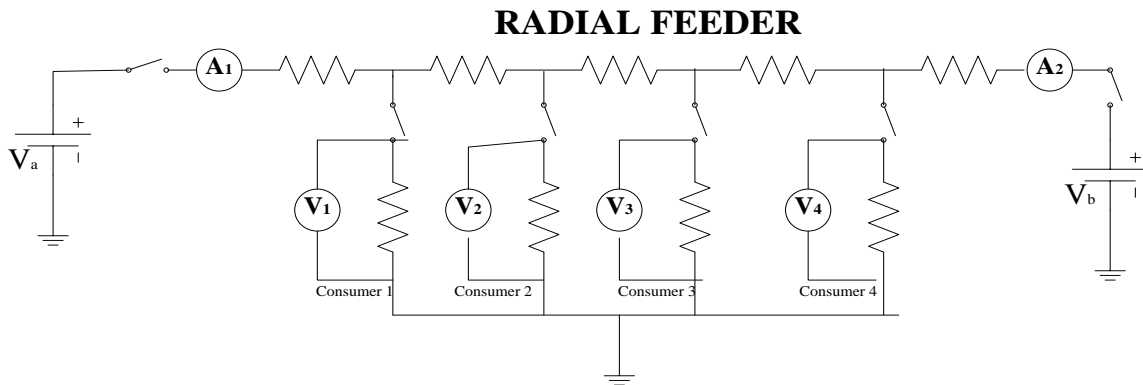
Electrical Engineering Department Power System Laboratory EE 392

Experiment no: 3

Title: DC Distribution network

Objective: To study the DC distribution network analyzer (I) single end feeding, (II) both end feeding, (III) Ring main system

Circuit Diagram:



Circuit Diagram of DC distribution network with single / double end feeding system

Data table:

Type of feeding	V _a (V)	V _b (V)	Mode of operation	I ₁ (A)	I ₂ (A)	When all the consumers are connected			
						V ₁ (V)	V ₂ (V)	V ₃ (V)	V ₄ (V)
Single end			Con1 is connected						
			Con 1, 2 are connected						
			Con 1, 2, 3 are connected						
			Con 1, 2, 3, 4 are connected						
Double end			Con1 is connected						
			Con 1, 2 are connected						
			Con 1, 2, 3 are connected						
			Con 1, 2, 3, 4 are connected						

Discussion:

Student Name:
Student Roll No:
Signature:

Signature of the teacher



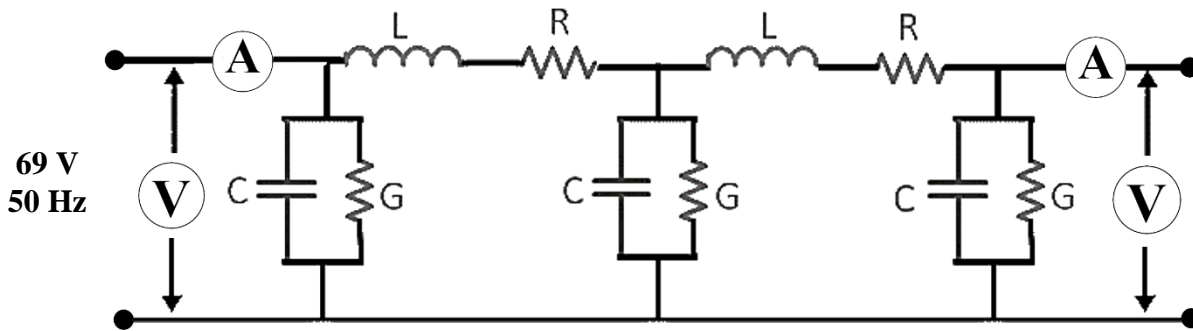
Electrical Engineering Department Power System Laboratory EE 392

Experiment no: 4

Title: Study the performance of long transmission line.

Objective: To study the performance of a transmission line, observe Ferranti effect, and to compute ABCD parameters

Circuit Diagram:



Circuit diagram of long transmission line

Date Table:

Sl No.	V_s	I_s	V_r	$A=V_s/V_r$	$C=I_s/V_r$
1					
2					
3					

Sl No.	V_s	I_s	I_r	$B=V_s/I_r$	$D=I_s/I_r$
1					
2					
3					

Discussion:

Student Name:
Student Roll No:
Signature:

Signature of the teacher