SEMESTER	***DEPARTMENT***	***COURSE TITLE***
Seventh	*Power Engineering*	*Distribution Systems Lab*
COURSE CODE	***HOURS:*** 3	***COURSE SPECIFICATIONS***
EP709	***UNITS:*** 1	*Practical Content*

1. ***Describe the General Layout of the Distribution Systems.***
   - Know safety measures in the laboratory.
   - Know the voltage and current curves for the following feeders:
     Radial feeder fed at, one end, both ends (with equal or unequal voltages), and mid-point.
   - Defines and calculates the midpoint of the minimum voltage.
   - Graded radial distribution feeder.

2. ***Demonstrate the Operating Characteristics of the Transformers. Explain the Safety Earthing and Earthing Systems in Distribution Networks.***
   - Determine the voltage and current characteristics of the following feeders:
   - Uniformly distribution feeder.
   - Ring distribution feeder.
   - Ring distribution feeder with inter connection.

3. ***Demonstrate the Means of Transmitting the Generated Electrical Energy.***
   - Determine the transmitted power efficiency through different models of over-head lines and cables

4. ***Explain the Importance of Power Factor Improvement.:***
   - Investigate the losses, efficiency and voltage regulation at different power factors and loads (resistive, inductive and capacitive).

5. Explain the Methods Used in Solving the Problems of the Distribution System.

By experiment the student should verify:

- Explain distribution systems problems.
- Illustrate distribution systems planning.
- Design lighting networks.
- Determine the earth fault current passing through human body.

References:

1- Dr.M. Alam, Book, ***Power System Analysis***.

2- ***A.B.B. Library***