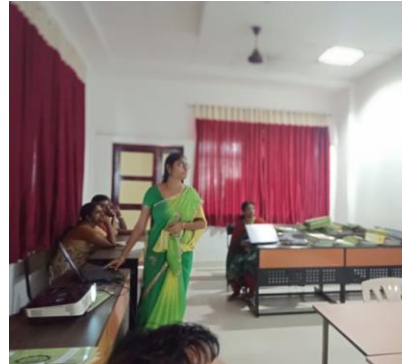


K L (Deemed to be University)

Department of Electrical and Electronics Engineering

FACULTY ORIENTATION LECTURE

- * **Department** : **EEE**
- * **S.NO. of Lecture** : **01**
- * **Room number of lecture** : **C323**
- * **Time** : **4.00 PM to 5.00 PM**
- * **Name of the speaker:** **Mrs.G.SWAPNA**
- * **Research Group of speaker** : **Power Systems**
- * **Topic selected from (Journal /Sponsored project/Project proposal):** **Project Proposal**
- * **Title of the topic** : **“Coordinated Reactive Power Control for Static Synchronous Compensators under Unbalanced Voltage Sags”**



* **Brief description of the topic:**

Unbalanced voltage sags strongly deteriorate the performance of power converters and electrical machines connected to the distribution network. In particular, a reduction of the power quality is noticed in these equipments, which is caused by a ripple in the output power and an increase of the current harmonic distortion. Several solutions based on reactive power compensation have been introduced to cope with this Problem. Among them, static synchronous compensators have confirmed the superior performance due to the possibility of using all rated power exclusively to voltage support. This paper presents a simple reactive power control algorithm for static synchronous compensators operating under unbalanced voltage sags. The main feature of the proposed algorithm is that it allows fine adjustment of the amount of reactive power injected by the positive- and negative-sequence components. Thus the control algorithm provides voltage support at the output of the static synchronous compensator. Specifically the proposed control conveniently corrects both the positive- and negative-sequence voltage. Selected simulation results are provided to validate the proposal