

## **1<sup>st</sup> Year M.E. Electrical Power System : Semester -II : Course Outcomes**

### **EP2201 : Power System Dynamics & Control**

#### **Course Outcomes :**

After successful completion of this course the students will be able to

**CO 1 :** Solve Power System Stability Problems.

**CO 2 :** Understand the Modeling of Power System Components for Stability Studies.

**CO 3 :** Perform Analysis of Single machine and multi machine Systems.

**CO 4 :** Interpret Eigen value analysis.

**CO 5 :** Understand Small signal Angle Instability.

**CO 6 :** Do the analysis of voltage instability.

### **EP2202 : Electrical Machines analysis & Control**

#### **Course Outcomes :**

After successful completion of this course the students will be able to

**CO 1:** Apply conventional analysis methods to solve problems related to electrical machines.

**CO 2:** Evaluate the accuracy of coordinate transformations and critically assess the effectiveness of applied generalized theory in solving real-world problems.

**CO 3 :**Apply transformation techniques to analyze and model three-phase induction motors in different frames.

**CO 4 :**Evaluate the efficiency and applicability of different control techniques in diverse operational conditions for three-phase synchronous motors.

**CO 5 :** Explain the principles and significance of the (d-q) machine model for permanent magnet synchronous motors.

**CO 6 :** Analyze the impact of steady-state and transient performance on the stability and efficiency of power systems.

## **EP2203 : Power Quality Improvement Techniques**

### **Course Outcomes :**

After successful completion of this course the students will be able to

**CO 1 :** Illustrate the concept, need, and standards of Power Quality.

**CO 2 :** Explain the fundamental, cause, and effects of harmonics.

**CO 3:** Select method for mitigation of harmonics.

**CO 4 :** Make use of active power filters for power quality improvement.

## **EP2204 : HVDC Transmission**

### **Course Outcomes :**

After successful completion of this course the students will be able to

**CO 1 :** Compare HVDC and HVAC Transmission system on the basis of economic operation, stability limit and reactive power limit.

**CO 2:** Calculate transmission line parameters and sequence impedances for different types of lines

**CO 3:** Analyse various control methodologies and characteristics of converters.

**CO 4:** Explain series and parallel operation of converters.

**CO 5:** Elaborate the concept of corona phenomenon and electrostatic field of EHV lines.

**CO 6:** Demonstrate the knowledge of lightning phenomenon along with the theories of charge formation in clouds.

## **EP2205 : Application of Power Electronics to Power System**

### **Course Outcomes :**

After successful completion of this course the students will be able to

**CO 1:** Understand the application of power electronics to power systems.

**CO 2 :** Apply the concept of load compensation and reactive power control to AC power system.

**CO 3 :** Design and develop the various FACTS controllers.

**CO 4 :** Understand and analyze the various Power Quality Problems.

**CO 5:** Design and develop the various techniques for mitigations of power quality problems.