

### HVDC TRANSMISSION

#### **Course Outcomes:**

1. Identify the requirements of DC transmission system.
2. Analyze the characteristics of pulse converters and different control systems.
3. Determine the reactive power control in HVDC.
4. Explain the AC and DC power flow.
5. Recognize the faults by providing proper protection.
6. Choose the filters for different harmonics.

### Linear Systems Analysis

#### **Course Outcomes:**

- Analyze the electrical networks by using state variable analysis.
- Apply Fourier series and Fourier Transforms to different signals and compare Fourier Transform with Laplace Transform.
- Derive the equations for RLC networks in Laplace Transform.
- Determine the testing polynomials for real functions.
- Synthesis the RL, RC, LC one port networks by using Foster-Cauer methods
- Analyze the graphical signals by using sampling methods.
- Explain the Z-Transform for continuous and discrete signals.

### ADVANCED CONTROL SYSTEMS

#### **Course outcomes:**

1. Apply the modeling concepts.
2. Examine the stability analysis of linear and non linear systems.
3. Infer how the time responses of linear time-invariant systems are linked to state space parameters.
4. Design basic control systems to achieve transient/steady state time response related performance goals.