

## **Long answer questions in 4 easy chapters**

### **1. Introduction of power quality**

- I. Transients
- II. Long duration voltage variations
- III. Short duration voltage variations
- IV. Wave form distortion

### **2. Voltage imperfections in power systems**

- I. Sources of transient over voltages
- II. Devices for over voltage protection
- III. Methods to avoid utility capacitor switching transients
- IV. Sources of sag and interruption

### **3. Voltage regulation and power factor improvement**

- I. Devices for voltage regulation
- II. End user capacitor applications
- III. Flicker ( sources, mitigation techniques )
- IV. Capacitor for voltage regulations

### **4. Harmonic distortion and solutions**

- I. Sources of harmonics ( commercial and industrial )
- II. Effects of harmonic distortion
- III. Active and passive filters
- IV. Harmonic indices

## **Short answer questions in 4 easy chapters**

### **1. Introduction of power quality**

- I. What is power quality
- II. Concern about power quality
- III. General classes of power quality and characteristics
- IV. Voltage imbalance
- V. Voltage fluctuation
- VI. Power frequency variations