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| **S NO** | **QUESTION** | **KNOWLEDGE****LEVEL** | **CO** |
| **UNIT I** |
| **1** | What is the impact of transient on power quality? Classify the transients that occur in power systems. | **K2** | **CO1** |
| **2** | Explain the short-duration voltage variations. Compare short-duration voltage variations with long- duration voltage variations. | **K2** | **CO1** |
| **3** | Define power quality .Explain the reasons for increased concern in power quality | **K2** | **CO1** |
| **UNIT 2** |
| 1 | Explain different types of transient over voltages.  | **K2** | **CO1** |
| 2 | What is the need for protection against over voltages? What are the basic principles of over voltage protection of load equipment? | **K4** | **CO1** |
| 3 | Explain in detail about power frequency variation and Utility capacitor switching transients | **K3** | **CO1** |
| **UNIT 3** |
| **1** | Discuss the working of various devices for voltage regulation | **K2** | **CO2** |
| **2** | Explain the practical procedure to determine best capacitor allocation. | **K2** | **CO2** |
| **3** | Explain the static VAR compensations for power factor improvement. | **K2** | **CO2** |
| **UNIT 4** |
| **1** | Explain the impact of harmonics on, (i) Capacitors (ii) Transformers. | **K1** | **CO3** |
| **2** | Explain briefly about the phenomena of current distortion and the voltage distortion under the presence of harmonics. | **K1** | **CO3** |
| **3** | Explain briefly about the single phase power supply as commercial loads. | **K1** | **CO3** |
| **UNIT 5** |
| **1** | Explain about types of electrical system inter-faces | **K1** | **CO4** |
| **2** | Discuss the various distributed generation technologies | **K2** | **CO4** |
| **3** | Discuss in detail how the DG can interference with relaying | **K2** | **CO4** |
| **UNIT 6** |
| **1** | Explain the objectives of power quality monitoring. | **K4** | **CO4** |
| **2** | Explain in detail about choosing monitoring locations. | **K3** | **CO4** |
| **3** | Explain about the duration required for power quality monitoring for a given level of accuracy. | **K4** | **CO4** |