

M. Tech. Electrical Power System (CBCS Pattern) Semester-I
PEPS141 - Electrical Power Quality

P. Pages : 1

Time : Three Hours



GUG/S/25/10973

Max. Marks : 70

- Notes :
1. All questions carry equal marks.
 2. Due credit will be given to neatness and adequate dimensions.
 3. Assume suitable data wherever necessary.
 4. Illustrate your answers wherever necessary with the help of neat sketches.
 5. Use of slide rule, Logarithmic tables is permitted.
 6. Non programmable calculator is permitted.
 7. Answer **any five** questions.

1. a) What are the main sources of power transient? Compare the phenomena of impulsive and oscillatory transients on time frame. 7
b) Explain the power acceptability curve. 7

OR
2. a) Define the following terms 7
i) Voltage Sag ii) Voltage fluctuations
iii) Voltage imbalance iv) Waveform distortion
v) Harmonics.
b) Explain the impact of Non-linear load on feeder lines. 7
3. a) Explain power quality standards. 7
b) Discuss the spectrum analyzers and Harmonic analysers. 7

OR
4. a) Describe the Hartley transform algorithm for determining THD. 7
b) Define Voltage flicker. Discuss some of the flicker sources. 7
5. a) Explain in detail risk analysis and management in power outages. 7
b) Describe with neat sketch three phase static AC/DC Convertor. 7

OR
6. a) Explain the importance of transducers in monitoring of power quality in power system. 7
b) Discuss the classical load balancing problem. 7
7. a) Explain the following events based on disturbances. 14
i) Dip ii) Swell iii) Transients
b) Explain Fourier & Hartley transform method. 14

OR
8. a) Write a short note on network Reconfiguring device. 14
b) Explain GE Flicker curve. 14
