B.E. Eighth Semester (Electrical Engineering (Elect. & Power Engg.)) (CGS)

10472 : Professional Elective-II : Power Quality : 8 EE 04 / 8 EP 04 / 8 EL 04 / 8 EX 04

P. Pages : 2 | **AU - 3027**

Time : Three Hours | Max. Marks : 80

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Notes : 1. Answer **three** question from Section A and **three** question from Section B.
2. Due credit will be given to neatness and adequate dimensions.
3. Assume suitable data wherever necessary.
4. Illustrate your answer necessary with the help of neat sketches.
5. Use of pen Blue/Black ink/refill only for writing the answer book.

SECTION - A

1. a) Explain the term: **6**
a) Utility b) End Users
Concern to power quality

b) Why power quality is needed? **7**

OR

2. a) Define: **6**
a) Non linear loads b) Sensitive loads
Explain in details.

b) Mention the major power quality problems concerned to the end users. **7**

3. a) Describe the various types of transients and their causes. **7**

b) Define : **6**
i) Electrical Noise ii) Voltage unbalance

OR

4. a) Define harmonics. Explain various types of harmonics. **6**

b) Explain Power Quality Problem solving procedures? **7**

5. a) Name any three ANSI (American National Standard Institute) that define power Quality. **7**

b) Describe the standards for wiring and grounding? **7**

OR

6. a) Explain IEEE in details, with respect to power Quality standard. **7**

SECTION - B

7.	a)	Explain static VAR compensators (SVCs) in detail.	7
	b)	How selection of appropriate power conditioning equipment is done?	7

OR

8.	a)	What is surge suppression? Explain it's importance in power system.	7
	b)	Describe the role of power conditioning equipments?	7
9.	a)	Define Ground loops & attack of the Triplens.	6
	b)	Explain Active and Passive Harmonic filters.	7

OR

10.	a)	Explain :	
		a) Multi point Grounding	3
		b) Separately derived source grounding	3
	b)	Explain the term "3-5" in wiring solution.	7
11.	a)	Explain the need for planning of power quality survey.	7
	b)	State and explain the application of oscilloscope in power system.	6

OR

12.	a)	Mention and explain the basic categories of instruments for harmonic analysis.	7
	b)	What are different power Quality Measurement tools?	6

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