PRN:		Course Code :	ELE2603

Third Year **B. Tech** End Semester Examination Summer 2024

Power Quality

Day and Date: 25 MAY 2024, Sat Max Marks: **100**

Time : 02:00PM To 05:00PM Duration: **03** hrs

Instructions: All questions are compulsory.

			Marks	Bloom's Level	CLO
Q.1		**Attempt the following**			
	a)	Explain the types of loads in detail with examples.	08	L4	CLO1
	b)	Explain power quality in detail also write desired features of electrical power supply.	08	L2	CLO1
		OR			
	b)	Write short note on i] Voltage Sag ii] Voltage Swell iii] Voltage Unbalance	08	L2	CLO1
Q.2		**Attempt the following**			
	a)	Explain the effect of harmonics on power system equipment's in detail	08	L2	CLO2
	b)	Define harmonics and explain the types of harmonics.	08	L1	CLO2
		OR			
	b)	Explain different sources of harmonics in detail.	08	L3	CLO2
Q.3		**Attempt any two from the following**			
	a)	State the types of filters also explain the advantages & limitations of passive filters.	08	L2	CLO3
	b)	Explain Unified Power Quality Conditioner in detail	08	L3	CLO3
	c)	Explain the classification of active filter in detail.	08	L2	CLO3
Q.4		**Attempt any two from the following**			
	a)	Describe the working and use of Ferro resonant Transformers in power system	08	L3	CLO1
	b)	Draw and explain DVR (Dynamic Voltage Restorer).	08	L2	CLO1
	c)	Draw and explain DSTATCOM (Distribution Static Compensator) in short.	08	L3	CLO1
Q.5		**Attempt any Two of the following**			
	a)	Illustrate different grounding practices used and use of signal reference grid in power system.	09	L3	CLO4
	b)	Explain the different wiring and grounding problems occurs in power system.	09	L2	CLO4
	c)	Write a short note on Power Quality Analyser.	09	L2	CLO4
Q.6		**Attempt any Two of the following**			
	a)	Draw the power flow diagram in ac system and explain it.	09	L2	CLO4
	b)	Draw and explain the basic types of different FACTS controllers.	09	L3	CLO4
	c)	Give comparison between HVDC and FACTS.	09	L1	CLO4

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