GUJARAT TECHNOLOGICAL UNIVERSITY

ME – SEMESTER II (OLD) – EXAMINATION – WINTER-2016 ode: 1724505 Date:21/11/2016

	•		Date:21/11/2016	
Subject Name: Power Quality Time: 02:30 pm to 05:00 pm Instructions: Total			Marks: 70	
	1. 2.			
Q.1	(a)	Explain the principle of Dynamic Voltage Restorer (DVR) operation with reference	07	
	(b)	to sag mitigation in Power System. Define Harmonics, Inter- Harmonics and Sub-Harmonics. Support the answer with neat diagram.	07	
Q.2	(a)	Explain causes and effect of the Voltage Flicker on Performance of System in terms of Power Quality.	07	
	(b)	Explain purpose of Grounding and problem caused due to poor Grounding. OR	07	
	(b)	With a neat sketch, explain the terms (i) Voltage sag, (ii) Voltage interruption and (iii) Voltage swells.	07	
Q.3	(a)	Define Surge Impedance and effect of the same on operation of the Power System.	07	
	(b)	Discuss the need of Passive and Active Filters with respect to Power Quality of System.	07	
		OR		
Q.3	(a)	Explain the term Voltage Regulation with respect to Power System. Support the answer with necessary example.	07	
	(b)	Explain various methods to mitigate Voltage Swells.	07	
Q.4	(a)	Explain Reactive Power Management and its Impact on Power Quality.	07	
		Explain need of Power Quality Measurement System. Also list important characteristics of Power Quality Measurement Equipments.	07	
0.4	(a)	OR	07	
Q.4	(a)	List importance of Harmonic Filtering. Explain any one Filter in detail.	07	
	(b)	Explain selection of Transducers with respect to Power Quality Monitoring,	U /	
Q.5	(a)	List various types of Transient Voltages occurring in Power System. Explain any one in detail with necessary diagram.	07	
	(b)	Explain Voltage Sag Immunity Standard SEMI F 42 Curve.	07	
		OR		
Q.5	(a)	Explain Harmonics Series and Parallel Resonance. Draw necessary diagram in support.	07	
	(b)	Explain Voltage Sag Immunity Standard CBEMA Curve.	07	
