Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

M. E. - SEMESTER – II • EXAMINATION – WINTER 2012

Subject code: 1724505 **Date: 02-01-2013**

Subject Name: Power Quality

Time: 10.30 am – 01.00 pm **Total Marks: 70**

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1	**(a)**	Discuss in Brief - Power quality.	**07**
	(b)	Explain long duration & short duration voltage variations.	**07**
Q.2	**(a)**	Explain purpose of grounding & problem related to poor grounding.	**07**
	(b)	Define following terminology 1. Impulse transient 2. Oscillatory transient 3. Notching 4. Noise 5. Inter harmonic 6. DC offset 7. Grounding	**07**
		OR	
	(b)	Write a short note on CBEMA & ITI curves.	**07**
Q.3	**(a)**	What is voltage sag? Explain sensitivity of equipment to voltage sag.	**07**
	(b)	Enlist the equipment use for sag mitigation. Explain any two in brief.	**07**
		OR	
Q.3	**(a)**	Discuss the area of Vulnerability.	**07**
	(b)	Explain in brief source of Transient Over Voltage.	**07**
Q.4	**(a)**	Discuss the term harmonic. How the harmonics are generated in power system network?	**07**
	(b)	Explain parallel & series resonance.	**07**
		OR	
Q.4	**(a)**	Explain the effect of harmonic on Capacitor bank, Transformer & Motor.	**07**
	(b)	Briefly Discuss different method of modifying the system frequency response.	**07**
Q.5	**(a)**	Differentiate - Active filter & Passive filter.	**07**
	(b)	Enlist the devices used for voltage regulation. Explain any two in brief.	**07**
		OR	
Q.5	**(a)**	List out power quality measuring instrument & explain any two.	**07**
	(b)	Write a short note - Power Quality Monitoring.	**07**

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