

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 **07**
1. Impulse transient
2. Oscillatory transient
3. Notching
4. Noise
5. Inter harmonic
6. DC offset
7. Grounding
- 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**
