

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

M. E. - SEMESTER – II • EXAMINATION – SUMMER • 2014

Subject code: 1724505

Date: 23-06-2014

Subject Name: Power Quality

Time: 02:30 pm - 05:00 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)** Explain following terminology **07**
1. Sag
 2. Swell
 3. Flickers
 4. DC offset
 5. Interruption
 6. Noise
 7. Inter harmonics
- (b)** Explain reason for grounding & problem associated with poor grounding. **07**
- Q.2 (a)** Discuss various causes of voltage flicker and their effects also suggest various means to reduce flickers. **07**
- (b)** Enlist and Explain any two devices used for voltage regulation. **07**
- OR**
- (b)** What are transient over voltages? Explain the different types of transient over voltages. **07**
- Q.3 (a)** Explain the various causes and effects of voltage sags. **07**
- (b)** Discuss about the computer Business Equipment Manufactures Associations (CBEMA). **07**
- OR**
- Q.3 (a)** Explain UPS and SMEs Device. **07**
- (b)** Explain Area of vulnerability. **07**
- Q.4 (a)** Explain the harmonic effects on power system equipments briefly. **07**
- (b)** Explain series and parallel active filter. **07**
- OR**
- Q.4 (a)** How will you find the harmonic sources from point of common coupling? Give the identification procedure on the basis of voltage indices. **07**
- (b)** Explain the power system response characteristics under the presence of harmonics. **07**
- Q.5 (a)** What are the objectives of power quality monitoring? **07**
- (b)** Explain different type of Potential transformer used as a transducer in power quality monitoring. **07**
- OR**
- Q.5 (a)** Explain the steps involved in power quality monitoring. What is the Information from monitoring site surveys? **07**
- (b)** Explain in short harmonic analyzer, flicker meter, disturbance analyzer. **07**
