

GUJARAT TECHNOLOGICAL UNIVERSITY**M. E. - SEMESTER – III • EXAMINATION – WINTER • 2013****Subject code: 734502****Date: 28-11-2013****Subject Name: EMC in Power Electronics****Time: 10:30 am – 13:00 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 basic terms and conducted EMI references with reference to EMI measurement. **07**
(b) Discuss the sources of EMI generation in detail. **07**
- Q.2** (a) Explain Spectrum Analyzers in detail. **07**
(b) Explain the classification of disturbances by frequency. **07**
OR
(b) Explain the classification of disturbances by transmission mode. **07**
- Q.3** (a) Explain the noise suppression in relay systems. **07**
(b) Explain the EMI measurements for consumer appliances. **07**
OR
- Q.3** (a) Explain the method for measuring Interference current. **07**
(b) Explain the application of RC- Snubbers to power semiconductors. **07**
- Q.4** (a) Explain the method for the calculation of Worst-Case Insertion loss. **07**
(b) Explain the design method for mismatched impedance condition. **07**
OR
- Q.4** (a) Briefly explain the reduction techniques for internal EMI. **07**
(b) Explain the design method for EMI filter with Common-mode choke coil. **07**
- Q.5** (a) Briefly explain the EMC tests as per IEC specifications. **07**
(b) Explain conductive noise and electromagnetic coupling. **07**
OR
- Q.5** (a) Explain the method for calculating energy content of transient disturbances. **07**
(b) Briefly explain the surge protection devices. **07**
