

# GUJARAT TECHNOLOGICAL UNIVERSITY

## M.E. Power Electronics

### Semester: I

Subject Name: **Measurement and Instruments for Power Electronics**  
(Major Elective-I)

Sr. No.	Course Content
1.	Elements of measuring instruments, Transducers, displays, Recording instruments.
2.	FFT analyser, Effect of non-sinusoidal waveforms on the measuring instruments, Transducers, cables, EMI and its measurement and effect on instrumentation. EMI improvements and compatibility.
3.	Enunciations in power electronics equipments, Nature of faults and enunciation techniques, Recording of order of consequent faults.
4.	Control of power electronics equipments by the plant computer, Signal processing dead-bands and resolutions, Process optimization, Interfacing of control electronics with process computer, Electrical and optical communication.
5.	Faults on power electronics equipments, Non-destructive and destructive faults. Electronics protection, Limitations and advantages. Fuses in power electronics, Characteristics, Selection and location of fuses. Circuit breakers, Types and selection, Methods of limiting the severity of faults, Surge protection.

#### Reference Books:

1. Semiconductor Power Electronics Vol. III, C.M.Paoddar.
2. Digital Measurement Techniques by T.S.Rathore, Narosa pub.
3. Electrical Measurements & Measuring Instruments, Golding and Widdis, Wheeler books.
4. Measurement Systems-Application and Design by Doebelin E.O, McGraw-Hill.
5. Instrumentation Devices and Systems by Rangan, Sharma, Mani, TMH.
6. Principles of Electronic Instrumentation, by Patranabis.