

GUJARAT TECHNOLOGICAL UNIVERSITY**PDDC - SEMESTER-III • EXAMINATION – WINTER 2013****Subject Code: X 30901****Date: 18-12-2013****Subject Name: Basic Electronics****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) Write a short note on atomic energy levels. **07**
(b) Explain what are insulators, semiconductors and metals. **07**
- Q.2** (a) Write a short note on Hall effect. **07**
(b) Explain P-N junction diode as a half wave rectifier with necessary diagram. **07**
- OR**
- (b) Write a short note on Tunnel Diode. **07**
- Q.3** (a) Write a short note on clipping circuit with necessary waveforms. **07**
(b) Explain V-I characteristic of P-N junction diode. **07**
- OR**
- Q.3** (a) Explain CE configuration with suitable diagram. **07**
(b) Write a short note on comparison of CC, CB and CE configurations. **07**
- Q.4** (a) Explain h-parameter for CB configurations. **07**
(b) Write a short note on Miller's theorem. **07**
- OR**
- Q.4** (a) Explain bias compensation technique for stabilization. **07**
(b) What is thermal runaway and thermal stability? **07**
- Q.5** (a) Explain working and construction of MOSFET. **07**
(b) Discuss V-I characteristic of FET. Explain what is pinch off voltage? **07**
- OR**
- Q.5** (a) Write a short note on Class B amplifier. **07**
(b) Write a short note on push pull amplifier. **07**
