

GUJARAT TECHNOLOGICAL UNIVERSITY**BE – SEMESTER V • EXAMINATION – WINTER - 2012****Subject code: 151006****Date: 23-01-2013****Subject Name: Applied Electronics****Time: 02:30 pm to 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) Draw and explain block diagram of Switched Mode Power Supply (S.M.P.S.) **07**
(b) Draw and Explain block diagram of IC 555 **07**
- Q.2** (a) Draw and Explain close loop OP-AMP configurations with equations. **07**
(b) Explain working of Astable Multivibrator using IC 555 with the help of neat circuit diagram and waveforms **07**
- OR**
- (b) Briefly explain (1) Slew Rate (2) Input Offset Voltage **07**
(3) C.M.R.R. (4) Intrinsic Stand off ratio(η)
- Q.3** (a) Discuss the principal and working of L.V.D.T. with necessary figures. What are the advantages and disadvantages of L.V.D.T.? **07**
(b) Briefly explain Optocoupler with its application. Compare Photovoltaic Sensors with Photoconductive sensors. **07**
- OR**
- Q.3** (a) Explain the principal and working of Thermocouple. Compare it with RTD. **07**
(b) Explain Liquid Crystal Display with necessary figures. **07**
- Q.4** (a) Draw and explain Characteristic, Construction and working of SCR. **07**
(b) Draw and Explain block diagram and working of C.R.O. **07**
- OR**
- Q.4** (a) Explain characteristic of UJT. Discuss UJT as a Relaxation Oscillator with circuit and waveforms. **07**
(b) Write a short note on Digital Multimeter **07**
- Q.5** (a) Explain architecture of 8051 with block diagram. **07**
(b) Write a short note on RFID **07**
- OR**
- Q.5** (a) Explain NAND gate as a universal gate. Compare Microprocessor with Microcontroller. **07**
(b) Explain R-2R ladder type D/A converter with circuit Diagram and full scale voltage calculation. Why it is better than Binary Weighted Resistor type D/A converter? **07**
