

C 57531

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Name.....

Reg. No.....

**COMBINED FIRST AND SECOND SEMESTER B.TECH (ENGINEERING)
DEGREE EXAMINATION, JUNE 2009**

ME/AM 04 109—BASIC ELECTRICAL ENGINEERING

(2004 admissions)

Time : Three Hours

Maximum : 100 Marks

- I. (a) Draw the 2 transistor model of SCR and explain in detail.
(b) Explain the construction and working principle of LED.
(c) Explain the application of BJT as an electronic switch.
(d) Draw a neat crystal Oscillator and explain its principle of operation.
(e) Draw T and D flip-flops and explain their principle in detail.
(f) Explain the applications of micro-processors.
(g) Define and explain gauge factor. Explain its significance.
(h) Explain the principle of resistance Welding.

(8 × 5 = 40 marks)

- II. (a) Explain the principle of operation of Crystal Oscillator and any *one* RC Oscillator with neat diagrams.

Or

- (b) Explain the construction and principle of operation of SCR with neat sketches.

- III. (a) Explain the principle of operation of diode centre tapped full wave rectifier and diode Bridge rectifier with neat diagrams.

Or

- (b) Explain the principle of operations of LED and LCD.

- IV. (a) Draw 3 bit adder and 3 bit subtracter using basic logic gates. Explain their principle in detail.

Or

- (b) Differentiate Microprocessor from microcontroller.

Turn over

V. (a) Explain the following in detail : —

- (i) LVDT.
- (ii) Temperature transducers.

(7 + 8 = 15 marks)

Or

(b) Write technical notes on :

- (i) Resistance temperature detector.
- (ii) Thermocouples.

(7 marks)

(8 marks)

[4 × 15 = 60 marks]