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Name.....

Reg. No.....

COMBINED FIRST AND SECOND SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION, DECEMBER 2008

ME/AM 04-109—BASIC ELECTRONICS ENGINEERING

(2004 admissions)

Time : Three Hours

Maximum : 100 Marks

Answer **all** *the questions.*

I. (a) What are the types of LEDs ? Explain them with sketches.

(b) Explain the construction of PN junction.

(c) State and derive Barkhausen criteria.

(d) What is the deed for filter ? Write the types of filter ?

(e) What is the need for memory ? Explain the applications of memory.

(f) Differentiate microcontrollers from microprocessors.

(g) Differentiate active transducer from passive transducer.

(h) Explain the principle of operation of thermocouple with a neat sketch.

(8 × 5 = 40 marks)

II. (a) Explain the construction, principle of operation and V-I characteristics of silicon controlled rectifier in detail.

Or

(b) Compare the characteristics and parameters of CE, CB and CC contigurations BJT.

III. (a) Draw a neat circuit diagram of BJT RC coupled amplifier and explain its principle of operation.

Or

(b) Draw a neat circuit diagram of diode bridge rectifier and explain its principle of operation.

IV. (a) (i) Convert the following :—

1 $(1001\ 1001\ 1100\ 1010)_2$: (————)$_{16}$.

2 $(463)_8$: (————)$_2$. (8 marks)

(ii) Draw a diagram of 4 : 1 Mux and explain. (7 marks)

Or

(b) Explain the internal architecture of 8085 µp with its neat diagram.

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

1 Displacement transducer. (7 marks)

2 Temperature measurement using RTDs. (8 marks)

Or

(b) Explain the principle and applications of induction and dielectric heating with neat diagrams.

[4 × 15 = 60 marks]