Code No: E315 **OR**

**II B.Tech.(CCC) Supplimentary Examinations, June 2008**
**INDUSTRIAL ELECTRONICS**
**(Mechanical Engineering)**

**Time: 3 hours** **Max Marks: 100**

**Answer any FIVE Questions**
**All Questions carry equal marks**

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1. (a) Explain the phenomenon of "Hall Effect"
What are the applications of Hall Effect.
(b) Draw the circuit of Half wave rectifier with resistance load and explain the working of it giving input and output wave forms. [10+10]

2. (a) List different types of voltage Regulators. Draw the circuit of series voltage Regulator and explain the working of it.
(b) What are the different methods of Triggering S C R. Explain one of these methods. [10+10]

3. (a) Describe the Gate control method in Controlled rectifiers with SCR.
(b) Draw FET R-C coupled amplifier and explain the working of it.
(c) Write a brief note on "Frequency stability in oscillators. [8+8+4]

4. (a) Describe the construction and working of a photo-diode
(b) Draw and discuss its Volt - ampere characteristics
(c) List different methods of digital system displays. [10+5+5]

5. (a) Compare and contrast the following timers
   i. Thermal Timers
   ii. Electromechanical Timers
   iii. Mechanical Timers
   iv. Electrochemical Timers
   (b) Explain
   i. Bimetal strip Timers
   ii. Thermal expansion Timers. [10+10]

6. (a) Explain the principle of Dielectric heating
(b) Explain the application of Induction heating for Brazing
(c) Explain one method of generation of ultrasonic waves. [6+6+8]

7. (a) Explain what is meant by a thermocouple.
(b) Give a typical method, in detail, for the measurement of temperature using a thermocouple. [5+15]

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8. Draw a block diagram of an electronic analog computer and explain each block for the differential equation $\frac{d^2v}{dt^2} + k_1\frac{dv}{dt} + k_2\nu - v_1 = 0$. [20]

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