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B.E / B. Tech (Full Time) DEGREE END SEMESTER EXAMINATIONS, NOV/DEC 2012

MECHANICAL ENGINEERING
(COMMON TO MATERIALS SCIENCE ENGINEERING, PRINTING TECHNOLOGY,
INDUSTRIAL ENGINEERING AND MANUFACTURING ENGINEERING)

SECOND SEMESTER

EC 9169 ELECTRONICS ENGINEERING

(REGULATIONS 2008)

Time: 3 Hours

Maximum Marks: 100

Answer ALL Questions

Part – A (10 x 2 = 20 Marks)

1. What is meant by Semiconductor? What are its types?
2. Define: Zener Effect.
3. What are the two types of Bipolar Junction Transistors? Draw its symbols.
4. Differentiate Positive Feedback and Negative Feedback.
5. How UJT differs from BJT?
6. Write the characteristics of SCR.
7. Draw the adder circuit using operational amplifier.
8. What are the applications of Oscillators?
9. What is the function of Multiplexer?
10. State and prove distributive laws of Boolean algebra.

Part – B (5 x 16 = 80 Marks)

11. (a). Explain the process of Doping to produce the P-type and N-Type extrinsic semiconductors.
12. (a). Explain the input and output characteristics of Common-Emitter Configuration of PNP Transistors.

or

12. (b). Explain the operation of Voltage series feedback amplifiers.
13. (a). Explain the construction and operation of P-Channel Field Effect Transistors?

or

13. (b). What is "Diac"? Explain any one simple applications of "Diac".
14. (a). Draw the circuit diagram of Wein Bridge Oscillator and explain its operation.

or

14. (b). Explain how Operational Amplifier functions as Integrator and Differentiator.
15. (a). Explain the operations of four types of flip-flops with its state diagram.

or

15. (b). Explain the design of "2 to 1" and "4 to 1" line Multiplexer.
