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B.E. / B.Tech (Full Time) DEGREE END SEMESTER EXAMINATIONS, APRIL/MAY 2012
DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING
SECOND SEMESTER – (REGULATIONS 2008)
EE 9166 – BASIC ELECTRICAL ENGINEERING AND MEASUREMENTS
Common To Mechanical (Tamil & English Medium), Material Science, Mining,
Manufacturing And Printing

Time: 3 hours

Max. Marks: 100

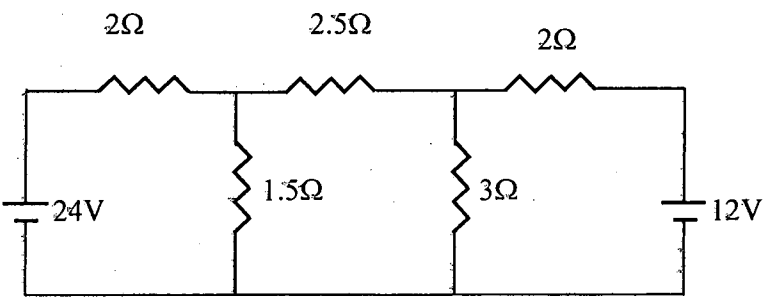
Answer All Questions

Part - A (10 × 2 = 20 Marks)

1. Define RMS value, peak value and Average value.
2. An Inductive circuit of resistance 15 ohms and inductance of 0.15 henry draws a current of 20 amperes. Determine the supply voltage if the frequency of the supply is 50Hz.
3. Define back emf.
4. Classify the different types of transformers.
5. What is the purpose of an energy meter?
6. How unknown resistance is found using wheat stone bridge?
7. What is the working principle of a piezo electric transducer?
8. What is viscometer?
9. Mention the advantages and disadvantages of LED.
10. What is the function of a multiplexer?

Part - B (5 × 16 = 80 Marks)

11. Determine the current through the resistor of 2.5 Ω in the circuit shown below using Maxwell's loop current method.



12(a). Derive the torque equation of a dc motor and draw the characteristics of a dc shunt and dc series motor.

(Or)

12(b). Explain the construction and working principle of three-phase induction motor.

13(a). Explain the working principle and construction of a moving coil instruments.

(Or)

13(b). Explain the working principle and construction of a dynamometer type wattmeter with a neat diagram.

14(a). Explain the working of strain gauge and Thermocouple transducers.

(Or)

14(b). Describe the functions of hygrometer and PH sensors.

15(a). Explain the Digital -to- Analog converters.

(Or)

15(b). Write a brief note on Liquid crystal display and Cathode ray tube.