Code: R5102303

R05

B. Tech I Year (R05) Supplementary Examinations, May 2012
BASIC ELECTRICAL & ELECTRONICS ENGINEERING
(Biotechnology)

Time: 3 hours   Max Marks: 80

Answer any FIVE questions
All questions carry equal marks
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1   (a)   State and explain Kirchoff's laws.
    (b)   A reactor having negligible resistance and an inductance of 0.1 H is connected in series
          with a resistor of 15Ω. The circuit is connected across 230 V, 50 Hz, single phase AC
          supply find:
          (i) Current flowing in the circuit.
          (ii) Power factor of the circuit.
          (iii) Voltage across the reactor and resistor.

2   (a)   Explain the principle of operation of single phase transformer.
    (b)   Explain the principle of operation of single phase induction motors.

3   (a)   Explain the principle and operation of moving coil instruments with neat diagram.
    (b)   Explain the operating principle of dynamometer type wattmeters with neat diagram.

4   Explain the operation of zener diode. Also explain its characteristics.

5   Explain the operation of bipolar junction transistor. Also explain its characteristics.

6   Explain class A power amplifier in detail.

7   Write short notes on:
    (a) Adder.
    (b) Multiplier.
    (c) Integrator.
    (d) Differentiator.

8   Explain in detail the various types of Flip Flops.

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