Code: R7102303

R7

B.Tech I Year (R07) Supplementary Examinations, December 2012
BASIC ELECTRICAL AND 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 Kirchhoff's laws.
    (b)   A capacitor of 100 μF is connected across 200 V, 50 Hz single phase supply. Calculate the reactance of the capacitor, rms value of current and the maximum value of current.

2   (a)   Explain the principles of operation of DC motor.
    (b)   Explain the principle of operation of synchronous motor.

3   (a)   Explain the principle of operation of repulsion type moving iron instruments with neat diagram.
    (b)   Explain the principle and operation of induction type energy meters with neat diagram.

4   Explain the operation of P.N junction diode. Also explain its V-T characteristics.

5   Explain the concept of feedback and negative feedback of transistors.

6   Explain in detail class C power amplifiers.

7   Explain in detail:
    (a)   RC phase shift oscillator.
    (b)   Multivibrators.

8   Explain in detail the registers and counters.

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