RAMAKRISHNA MISSION VIDYAMANDIRA

(Residential Autonomous College affiliated to University of Calcutta)

FIRST YEAR [2015-18]
B.A./B.Sc. FIRST SEMESTER (July – December) 2015
Mid-Semester Examination, September 2015

Date : 15/09/2015

ELECTRONICS (General)

Time : 12 noon – 1 pm

Paper : I

Full Marks : 25

1. a) The intrinsic carrier density at room temp in Ge is $2 \cdot 37 \times 10^{19} /m^3$. If the electron and hole mobilities are $0 \cdot 38$ and $0 \cdot 18$ m^2/V-s respectively, calculate the resistivity. [5]

    b) Define Fermi Level. What is the significance of Fermi Level in Semiconductor Device. [5]

2. Draw and explain the working principle of Bridge Rectifier. Also derive the working formula of the rectifier. [10]

3. Write short notes (**any one**) : [1×5]
    a) Mass Action Law
    b) V–I Characteristics of Diode
    c) Extrinsic Semiconductor

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