

RAMAKRISHNA MISSION VIDYAMANDIRA

(Residential Autonomous College under University of Calcutta)

FIRST YEAR

B.A./B.SC. SECOND SEMESTER (January – June), 2012

Mid-Semester Examination, March 2012

Date : 20/03/2012

ELECTRONICS (General)

Time : 11 am – 12 noon

Paper : II

Full Marks : 25

Answer any two questions :

1. a) Define Extrinsic Semiconductor. [2]
b) What do you mean by effective mass of a carrier? [2]
c) Describe the variation of Fermi energy level with doping profile. [4]
d) What is carrier mobility? Establish the relation between carrier mobility and conductivity within a conductor. [1½+3]
2. a) How does the barrier region form at P-N junction? [3]
b) Describe the input and output characteristics of a BJT in CE mode. [5]
c) Draw and explain the functionality of a bridge rectifier. [4½]
3. a) State the difference between full wave and bridge rectifier. [4]
b) Derive the h-parameters of a two-port device and draw the equivalent circuit. [2½+2]
c) What is direct and indirect band gap semiconductor? [4]



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