AC-2964
First Year B. Sc. (Sem. II) Examination
April / May - 2015
Electronics : Paper - I
(Semiconductor Devices)
(New Course)

Time : 2 Hours] [Total Marks : 50

Instructions :
(1) Fill up strictly the details of signs on your answer book.
Name of the Examination : First Year B. Sc. (Sem. II)
Name of the Subject : Electronics - I (Semiconductor Devices) (New Course)
Subject Code No. : 2964

(2) Figure on the right indicates full marks.
(3) All symbols and abbreviations have their usual meaning.
(4) Non-programmable calculators are allowed.
(5) Assume data if necessary.

Q-1 Answer in short:

(a) What is covalent bond?
(b) What is the meaning of a Q-point?
(c) What is barrier potential?
(d) What is the effect of adding group V impurities in a pure semiconductor?

Q-2 (a) What is P type and N type semiconductor? Discuss the formation of PN junction and charge depletion region

(b) Explain avalanche breakdown

OR

Q-2 (a) What is semiconductor? Distinguish between intrinsic and extrinsic semiconductor.

(b) Explain in brief Minority carriers.

AC-2964] 1 [Contd...
Q.3  (a) Give full form of MOSFET. Discuss the construction and working of MOSFET.  10
     (b) Advantages of a FET over a BJT  04

OR

Q.3  (a) Draw and explain common emitter characteristics of transistor.  10
     (b) Discuss the concept of load line  04

Q.4  Write short note on (Any TWO)  14
     (a) Intrinsic semiconductor
     (b) Photo- transistor
     (c) Zener breakdown
     (d) Construction and working of an LED.