



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)

<p>नीचे दृशायेव निशानीवाणी विगतो उत्तरवही पर अवश्य लपवी. Fillup strictly the details of signs on your answer book.</p> <p>Name of the Examination : First Year B. Sc. (Sem. II)</p> <p>Name of the Subject : Electronics - I (Semiconductor Devices) (New Course)</p> <p>Subject Code No. : 2 9 6 4 Section No. (1, 2,.....): Nil</p>	<p>Seat No. : <input type="text"/><input type="text"/><input type="text"/><input type="text"/><input type="text"/><input type="text"/></p> <div style="border: 1px solid black; border-radius: 15px; padding: 10px; text-align: center; width: 100%;">Student's Signature</div>
---	---

- (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: 08
- (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 10
- (b) Explain avalanche breakdown 04
- OR
- Q-2 (a) What is semiconductor? Distinguish between intrinsic and extrinsic semiconductor. 10
- (b) Explain in brief Minority carriers. 04

- 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.
-