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Roll No.

EC-304

B. E. (Third Semester) EXAMINATION, June, 2009

(New Scheme)

(Electronics & Communication Engg. Branch)

ELECTRONIC DEVICES

(EC - 304)

Time : Three Hours

Maximum Marks : 100

Minimum Pass Marks : 35

Note : Attempt *one* question from each Unit. All questions carry equal marks.

Unit - I

1. (a) Discuss different type of semiconductor materials with the help of energy band diagram.
(b) Explain Hall effect and its applications.

Or

2. (a) Discuss the working of p-n junction diode with the help of V-I characteristics.
(b) Explain the application of diode in a full wave bridge rectifier.

Unit - II

3. Explain the characteristics and application of the following :
 - (i) Zener diode
 - (ii) Schottky diode

P. T. O.

Or

4. Explain the characteristics and application of the following :
- (i) Tunnel diode
 - (ii) Photo transistor

Unit – III

5. (a) Explain the construction and basic operation of CC-configuration of transistor.
- (b) What is Early effect in transistor ?

Or

6. (a) Explain Ebers-Moll model.
- (b) Explain the working of unijunction transistor.

Unit – IV

7. (a) Discuss the construction of n channel FET.
- (b) Discuss the working principle of Enhancement MOSFET.

Or

8. (a) Explain the working of FET with the help of equivalent model.
- (b) Discuss the working of depletion type MOSFET.

Unit – V

9. (a) With the help of characteristics explain the working of SCR.
- (b) How is SCR used in protection circuit ?

Or

10. Write short notes on the following :

- (a) Triac
- (b) IGBT