

Reg. No. _____

Karunya University

(Karunya Institute of Technology and Sciences)

(Declared as Deemed to be University under Sec.3 of the UGC Act, 1956)

End Semester Examination – April/May 2011

Subject Title : ELECTRON DEVICES

Time : 3 hours

Subject Code: EC201

Maximum Marks: 100

Answer ALL questions

PART – A (10 x 1 = 10 MARKS)

1. What is PN junction diode?
2. What are the classifications of semiconductor?
3. Define emitter injection efficiency.
4. Write Ebers Moll equation.
5. What are the types of two port devices? Give its parameters.
6. Write down the applications of CC amplifier.
7. Give the symbol of SCR.
8. What is UJT?
9. What is the other name of tunnel diode?
10. Give the symbol of varactor diode.

PART – B (5 x 3 = 15 MARKS)

11. Define the drift current in semiconductor.
12. Give the expression for large signal current gain.
13. Compare the performance of a transistor in different configurations.
14. Compare MOSFET with JFET.
15. Draw the basic structure and symbol of DIAC and explain.

PART – C (5 x 15 = 75 MARKS)

16. a. Explain the formation of depletion region in a PN junction. (8)
b. Discuss the forward and reverse characteristics of a PN junction diode. (7)
(OR)
17. a. Explain briefly the difference between intrinsic and extrinsic semiconductor. (5)
b. Define Hall Effect. Derive the continuity equation. (10)
18. Write notes on thermal runaway and stability factor (s). (OR)
19. Describe the static characteristics of a PNP junction transistor in CB configuration.
20. Draw the circuit diagram of a CE amplifier and explain its working. (OR)
21. Explain briefly the analysis of a transistor amplifier circuit using h- parameters.
22. Discuss briefly the operation and characteristics of N-channel junction FET. (OR)
23. Explain the construction and characteristics of SCR.
24. With a neat diagram explain the working of: a. TRIAC b. Photodiode (OR)
25. Draw the V-I characteristics of zener diode and explain its operation.