Reg. No. : | | | | | | | | | | | | |

Question Paper Code : 80330

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2016.

Second Semester

Electronics and Communication Engineering

EC 6201 — ELECTRONIC DEVICES

(Regulations 2013)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What is barrier potential?

2. Define Mass - action law.

3. What is tunneling phenomenon?

4. Compare between schottky diode and conventional diode.

5. Give the symbol, structure and equivalent circuit of DIAC.

6. Compare SCR with TRIAC.

7. What is recovery time? Give its types.

8. What is a metal semiconductor contact?

9. Draw the common base configuration.

10. What is JFET and give its different modes of operation?

PART B — (5 × 16 = 80 marks)

11. (a) Derive the current equation of PN Junction Diode. (16)

Or

(b) Describe construction of PN junction diode. Explain the forward and reverse characteristic of PN junction diode and obtain its VI characteristic curve. (16)

12. (a) (i) With neat diagram explain about input and output characteristics of common emitter configuration. (8)

(ii) Derive the h parameters for the CE. (8)

Or

(b) (i) Derive the expression of Gummel Poon model with a neat circuit diagram. (8)

(ii) Explain input and output characteristics of CB configuration. (8)

13. (a) Describe the working and characteristics of MOSFET, D MOSFET and E MOSFET.

Or

(b) (i) Write short notes on FINFET. (8)

(ii) Explain drain and transfer characteristic of JFET. (8)

14. (a) (i) Explain the construction and volt ampere characteristics of tunnel diode. (8)

(ii) Explain the working and characteristics of laser diode. (8)

Or

(b) (i) Explain V-I characteristics of Zener diode. (8)

(ii) Describe the VI characteristics of LDR. (8)

15. (a) (i) Explain the operation and volt ampere characteristics of SCR. (8)

(ii) Describe the working of photo transistor. (8)

Or

(b) (i) Explain the construction and operation of LCD. (10)

(ii) Explain the working and characteristics of DMOS. (6)
