Roll No. ..... Total Pages : 2

BT-3/D-18 **33087**

ELECTRONIC DEVICES

Paper : ECE-203-N

Opt. (2)

Time : Three Hours] [Maximum Marks : 75

Note : Attempt any *five* questions by selecting at least *one* question from each unit.

UNIT–I

1. (a) What is Fermi energy level and its position. Explain how Fermi level changes with doping.

(b) Write short note on Generation and Recombination of carriers. (15)

2. Write short note on :

(a) Space charge width.

(b) Depletion and Diffusion Capacitance.

(c) Small signal model of PN Junction diode. (15)

UNIT–II

3. Explain basic principle of operation of BJT as amplifier. Also explain all the operative modes of BJT. (15)

4. Draw and explain H parameters and Hybrid – PI model of CE Transistor. (15)

UNIT–III

5. Explain the operation of junction FET with the help of neat sketches and characteristics. (15)

6. Write short note on :

   (a) Two terminal MOS structure.

   (b) Basic MOSFET operation and its small signal model. (15)

UNIT–IV

7. What do you understand by voltage regulation? with neat sketch Explain the working of Zener diode shunt voltage regulator. (15)

8. Write short note on complete power supply and SMPS. (15)

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