

ANNA UNIVERSITY OF TECHNOLOGY, COIMBATORE
B.E. / B.TECH. DEGREE EXAMINATIONS : NOV / DEC 2011

REGULATIONS : 2008

THIRD SEMESTER : EEE

080280018 - ELECTRONIC DEVICES AND CIRCUITS

Time : 3 Hours

Max. Marks : 100

PART - A

(10 x 2 = 20 Marks)

ANSWER ALL QUESTIONS

1. Name some donor and acceptor impurities
2. Name the materials are used to construct an LED
3. When a transistor is used as a switch, in which regions of output characteristics it is operated?
4. In a bipolar transistor, which region is wider and which is thinner?
5. Mention the applications MOSFET
6. Sketch the ohmic region in a drain characteristics of JFET
7. List the advantages of negative feedback
8. Name the various types of oscillator
9. What are clipper and clamper?
10. Give any two applications of multivibrators

PART - B

(5 x 16 = 80 Marks)

ANSWER ALL QUESTIONS

11. (a) With neat circuit diagram explain the operation of a full-wave rectifier with necessary waveforms? Also mention its applications.

(OR)

11. (b) What is voltage regulator? Explain the working principle of any series regulator type with circuit diagram.
12. (a) With necessary circuit and waveform, explain the switching characteristics of a transistor in detail.

(OR)

- (b) Draw and explain the input and output characteristics of CE configuration, Justify why CE configuration is preferred over other transistor configuration.

13. (a) Explain the performance of FET as a voltage variable resistor. Also mention its advantages and applications.

(OR)

- (b) Explain the construction, working principle and characteristics of p-channel enhancement MOSFET.

14. (a) Discuss the differential voltage/current—series/shunt feedback connections with expression for gain, input resistance and output resistance of differential amplifier.

(OR)

- (b) With a neat diagram explain the working principle of a wein bridge oscillator and derive the expression for its frequency of oscillation.

15. (a) Explain the operation of Schmitt trigger. Also define the following in a Schmitt trigger operation. i) upper trigger point ii) lower trigger point iii) hysteresis and regeneration.

(OR)

- (b) Draw the circuit diagram of an astable multivibrator. Explain its working with relevant waveforms.

*****THE END*****