Total No. of Questions : 8] *[Total No. of Printed Pages : 2*

Roll No .....

EC-223

B.E., III Semester

Examination, December 2016

Choice Based Credit System (CBCS)

Electronic Devices and Circuits

Time : Three Hours

Maximum Marks : 60

Note: i) Total number of questions are eight.
ii) Attempt any five questions.
iii) All questions carry equal marks.

1. a) Explain the principle of Zener diode and its operation as a voltage regulator.
   b) Deduce diode current equation. Explain V-I characteristics of P-N junction diode.

2. a) What is Early effect? Explain the working of BJT as an amplifier.
   b) Why biasing is required? Draw and explain collector to base bias circuit in BJT.

3. a) What is thermal run away condition? Explain operation of transistor as a switch.
   b) Discuss the behaviour of tunnel diode and draw its V-I characteristics.

4. a) Explain the analysis of common emitter amplifier using h-parameter model.
   b) What is current mirror circuit? Explain its working and applications.

5. a) Give the classification of power amplifiers. Explain the working of class A amplifier.
   b) Discuss Darlington amplifier. Explain boot-strapping technique in Darlington amplifier.

6. a) Explain the working of depletion type MOSFET. Draw its transfer characteristics.
   b) What is UJT? Explain its principle of operation and characteristics.

7. a) Draw and explain the V-I characteristics of silicon controller rectifier SCR.
   b) Derive an expression for maximum efficiency for transformer coupled class C amplifier.

8. Write short notes on : (any three)
   a) Photo diodes
   b) Ebers-Moll model
   c) FET
   d) Triac

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