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

Roll No .....

CS-221

B.E., III Semester

Examination, December 2016

Choice Based Credit System (CBCS)

Electronic Devices and Circuits

Time : Three Hours

Maximum Marks : 60

Note: i) Attempt any five questions.
ii) All questions carry equal marks.

1. a) Explain the V-I characteristics of Zener diode and explain its working as a voltage regulator.
   b) Explain the early effect in BJT with the aid of necessary plots.

2. a) Write the difference between an enhancement and depletion type MOSFET.
   b) Give classification of power amplifiers. What is $P_{d\,max}$ rating? Explain.

3. a) Discuss the effect of negative feedback on gain, input impedance and output impedance, distortion, stability.
   b) Draw the circuit diagram of a Wien's bridge oscillator and explain its operation.

4. a) Explain the working of a clamper circuit with input and output waveforms.
   b) What do you mean by reverse recovery time of a transistor? How the transistor is used as a switch?

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5. a) Draw and explain the working of a bistable multivibrator.
   b) What is a voltage comparator? How to generate a sawtooth using Op-Amps?

6. a) Define the following:
      i) CMRR
      ii) Slew rate
      iii) Offset voltage
   b) Draw the circuit and explain how:
      i) Op-Amp can be used as an integrator
      ii) Op-Amp can be used as a differentiator.

   Also draw input and output waveforms.

7. a) Explain the processing steps used in Monolithic IC fabrication.
   b) Write note on classification of IC's. What are the advantages and limitations of IC.

8. Write short notes on (any two):
   a) IC packing
   b) Photo diode
   c) Schmitt Trigger
   d) Crystal Oscillator

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