Total No. of Questions :5] *[Total No. of Printed Pages :1*

Roll No .....

CS/IT - 304

B.E. III Semester Examination, December 2014

Electronics Devices and Circuit

Time : Three Hours

Maximum Marks : 70

Note: i) Answer five questions. In each question part A, B, C is compulsory and D part has internal choice.
ii) All parts of each questions are to be attempted at one place.
iii) All questions carry equal marks, out of which part A and B (Max.50 words) carry 2 marks, part C (Max.100 words) carry 3 marks, part D (Max.400 words) carry 7 marks.
iv) Except numericals, Derivation, Design and Drawing etc.

Unit - I

1. a) Name two types of capacitances found in P-N diode.
   b) What is the value of Knee voltage for Si and Ge diodes?
   c) Draw V-I Characteristics of P-N diode.
   d) Differentiate BJT and FET.

   OR

   Explain how a transistor works as an amplifier?

Unit - II

2. a) Differentiate Amplifier and Oscillator.
   b) Differentiate Positive and Negative feedback.
   c) Write efficiencies of class A, B and C power amplifiers.
   d) Draw Wien bridge oscillator and explain its working.

   OR

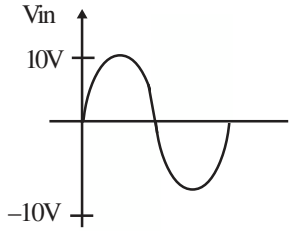
   Explain Barkhausen criterion and Draw and explain RC phase shift oscillator.

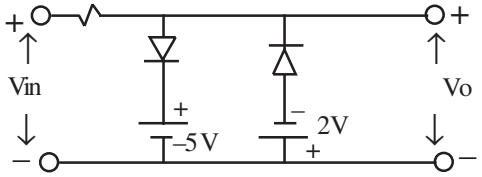
Unit - III

3. a) Explain the function of transistor as a switch.
   b) Define CMRR of an Operational Amplifier.
   c) Explain Boot strapping technique.
   d) Draw and explain free running multivibrator.

   OR

   Define clipper and clamper circuits. Draw output waveform for circuit given below.





Unit - IV

4. a) Write characteristics of ideal Operational Amplifier.
   b) Define Slew rate.
   c) Draw non-inverting amplifier and write equation for gain.
   d) Draw differentiator circuit and generate equation for gain.

   OR

   Draw and explain log and Anti-log amplifier.

Unit - V

5. a) What is SMPS?
   b) Explain the working of UPS in short?
   c) Define IC Voltage regulator.
   d) Differentiate Series and Shunt regulators. Explain each with circuit.

   OR

   What is current limiting circuit? Explain the working of this circuit with diagram.

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