Roll No .....

EX - 304

B.E. III Semester

Examination, December 2012

Electronic Devices and Circuits - I

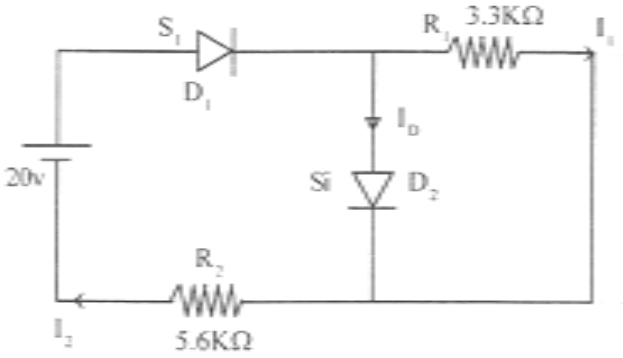
Time : Three Hours

Maximum Marks : 70/100

Note: Attempt any Five questions. All questions carry equal marks.

1. a) Explain the difference between Zener diode and diode.

   b) Determine the currents I_1, I_2 and I_D for the network shown below.



2. a) Explain in brief:

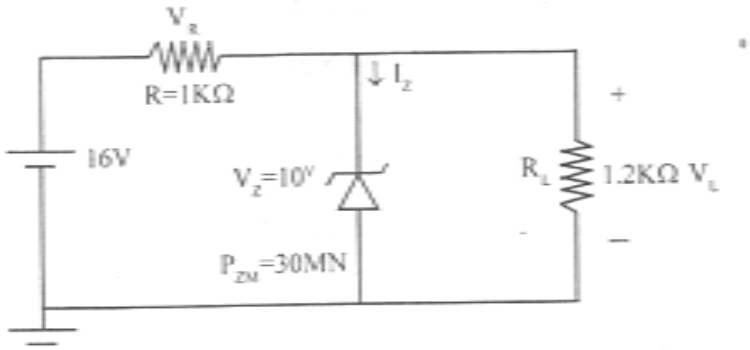
   i) Varactor diode

   ii) Tunnel diode

   iii) PIN diode

   iv) LED

   b) For the zener diode network shown below determine V_L, V_R, I_Z and P_Z.

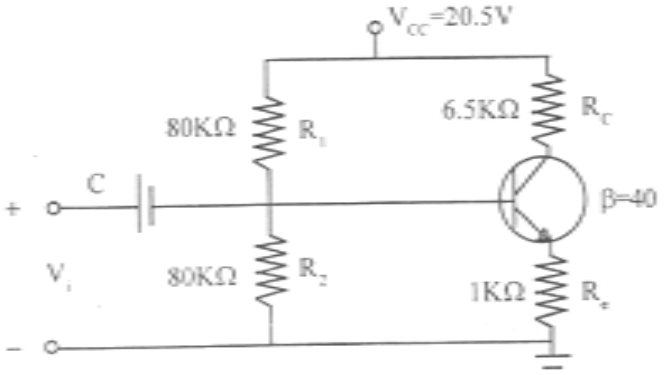


3. a) Write the difference between an enhancement and depletion type MOSFET.

   b) Explain the working of a JFET and give its characteristics curves.

4. a) What is the need of biasing circuit in BJT. Explain biasing techniques for BJT in brief.

   b) Find the value of I_C, I_B and V_{CE} from the circuit given below.



5. a) Discuss the effect of Negative feedback on gain, input impedance, output impedance, distortion, stability.

   b) Draw and explain the circuit of a Wien bridge oscillator.

6. a) What do you mean by class A, class B and class C amplifiers?

   b) Show that the maximum conversion efficiency of a Class B amplifier system is 78.5%.

7. a) Draw Bootstrapped Darlington circuit and explain how this increases the input resistance.

   b) Draw and explain the circuit diagram of Darlington amplifier.

8. Short notes on (any two)

   a) Effect of temperature on semi conductor diode.

   b) RC coupled amplifier

   c) V.I characteristics of VJT

   d) Zener regulator

   e) Clippers and clamping circuits.

******