PVP 12

Code: **CS2T3, IT2T4**

I B.Tech-II Semester-Regular Examinations - July 2013

ELECTRONIC DEVICES & CIRCUITS

(For Computer Science & Engineering, Information Technology)

Duration: 3 hours Marks: 5x14=70

Answer any FIVE questions. All questions carry equal marks

1. a) Draw the forward and reverse bias characteristics of a p-n junction diode and explain them qualitatively. 7 M

   b) Determine the dc resistance of a diode at a particular operating point on the V-I characteristics. 7 M

2. a) Describe the principle of working of LED. And also write the applications of LEDs? 7 M

   b) Obtain the expression for ripple factor in the case of Full Wave Rectifier with Capacitor Filter. 7 M

3. a) Discuss about the transistor common emitter configuration. 8 M

   b) Write a shot note on
      i) The need for biasing a transistor.
      ii) Emitter bias 6 M

4. a) Explain the operation of emitter biased amplifier with a neat circuit diagram. 7 M

b) List out the biasing techniques and conclude which one is preferred and why? 7 M

5. a) Draw and explain the two stage amplifier with Darlington connection. Give the advantages of this configuration. 7 M

b) Why CC amplifier is known as emitter follower? 7 M

6. a) Draw the drain and transfer characteristics of JFET and write the equations of JFET parameters corresponding to the characteristics. 8 M

b) Explain how JFET can be used as amplifier. 6 M

7. a) Explain the working of n-channel enhancement type MOSFET. Sketch its typical characteristics. 7 M

b) Draw the equivalent circuit of SCR and explain its working from the equivalent circuit. 7 M

8. a) List out reasons for decrease in gain at high frequencies in the frequency response of an amplifier. 7 M

b) Discuss the decibel power gain and write the advantages of power gain. 7 M