Roll No. | | | | | | | | | | | | | Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(EIE) (2011 & Onwrads) (Sem.–3)

ELECTRONICS DEVICES AND ANALOG ICs

Subject Code : EI-201

Paper ID : [A0352]

Time : 3 Hrs. Max. Marks : 60

INSTRUCTION TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**

SECTION-A

1. Write briefly :

a. Draw circuit diagram for CC & CE configuration of transistor. Which is having higher gain and why?

b. Sketch small signal model of an FET at low frequencies.

c. Write h-parameter of Common Emitter configuration.

d. Compare class A and B amplifier.

e. What is the intrinsic ratio of Uni Junction Transistor?

f. The BJT has $I_B = 10\ \mu A$, $\beta = 99$ and $I_{C0} = 1\ \mu A$. what is collector current I_C?

g. What do you understand with Lissajous patterns?

h. Give advantages of LCD display over LED.

i. Differentiate Darlington and cascade connections.

j. What are the benefits of tuned amplifiers?

SECTION-B

2. Explain the working of transistor as a switch with suitable diagram.

3. Discuss different biasing scheme for JFET.

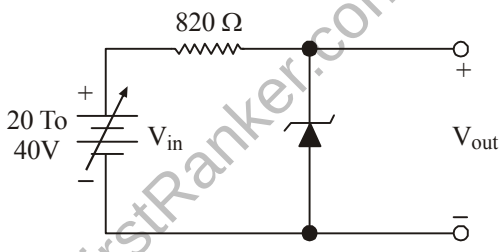
4. Explain the full wave rectifier and derive expression for V_{dc}, I_{dc}, I_{rms} and also calculate PIV for each diode.

5. Explain the construction and working of LED.

6. Calculate the efficiency of a transformer-coupled class A amplifier for a supply of 12V and outputs of (a) V(p)=12 V (b) V(p) =6 V.

SECTION-C

7. With definition compare Zener and Avalanche breakdown. Considering the circuit below, if the Zener diode have a breakdown voltage of 10 V. What will be the minimum and maximum zener current?



8. With the help of suitable diagram explain the working of CRO.

9. Write short notes on :

   a. Biasing of Transistor.

   b. Tunnel diode.

   c. Smoothing filter.