

Roll No.

EX-304(N)

B. E. (Third Semester) EXAMINATION, Dec., 2010

(New Scheme)

(Electrical & Electronics Engg. Branch)

ELECTRONIC DEVICES AND CIRCUITS – I

[EX – 304(N)]

Time : Three Hours

Maximum Marks : 100

Minimum Pass Marks : 35

Note : Attempt *one* question from each Unit. All question carry equal marks.

Unit – I

1. (a) Determine the v_o for the networks of fig. 1 (a, b).

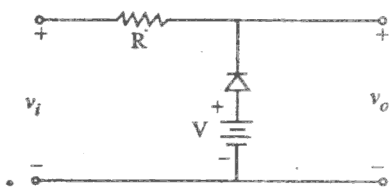
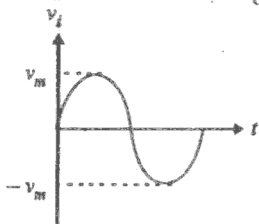


Fig. 1 (a)

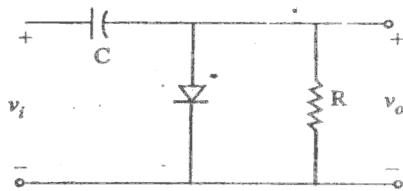
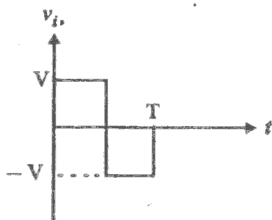


Fig. 1 (b)

- (b) With the help of VI characteristic explain the working of tunnel diode.

Or

- (a) For the Zener diode network of fig. 2, determine V_L , V_R , I_Z and P_Z .

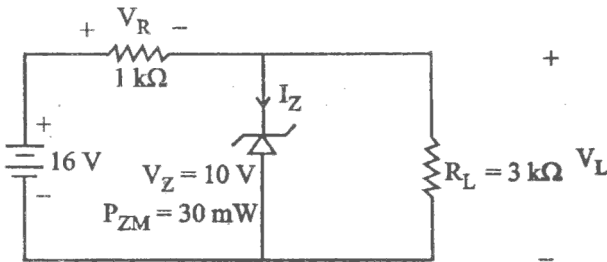


Fig. 2

- (b) Discuss about the transition and diffusion capacitance of PN junction diode.

Unit – II

- (a) With the help of VI characteristic explain the working of FFT.
- (b) Compare the unipolar and bipolar transistor on the basis of working and applications.

Or

- (a) Discuss the principle working of MOSFET.
- (b) Discuss the specifications and limitations of UJT.

Unit – III

5. (a) What is the effect of Casading on gain and Bandwidth of the amplifier ?
- (b) Explain the working of Darlington amplifier.

[3]

Or

6. For the network of fig. 3, determine r_e , z_i , z_o and A_v .

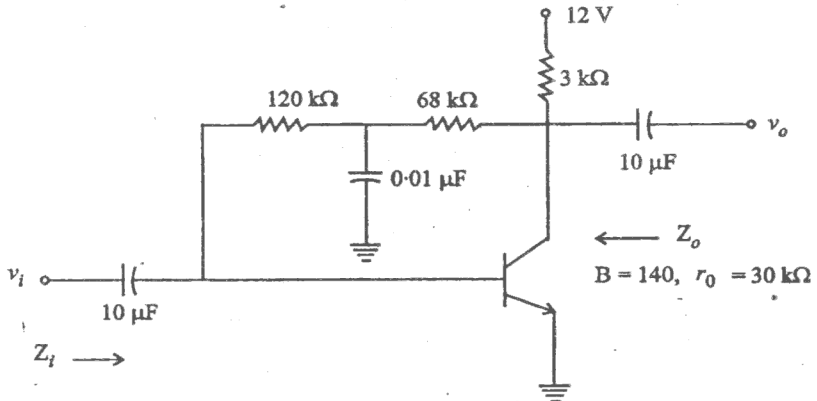


Fig. 3

Unit – IV

7. (a) Discuss the general characteristics of negative feedback amplifier.
- (b) Explain the working principle of RC phase shift oscillator.

Or

8. (a) Discuss the different feedback configurations of amplifiers.
- (b) Explain the working principle of Wien's bridge oscillator.

Unit – V

9. (a) Determine the maximum efficiency of class A amplifier.
- (b) What is cross over distortion and how it could be overcome ?

Or

10. (a) Determine the maximum efficiency of class B amplifier.
- (b) Discuss the use of complementary push pull amplifier.