Question Paper Code: 53116

B.E./B.Tech. Degree Examinations, November/December 2010

Third Semester

Electronics and Communication Engineering

EC 2205 – ELECTRONIC CIRCUITS – I

(Regulations 2008)

Time: Three Hours

Maximum: 100 Marks

Questions

(Answer all questions. 10 × 2 = 20 Marks)

1. How can collector current be stabilized with respect to I_{co} variations?
2. Derive for the stability factor S for a Fixed Bias circuit.
3. Define CMRR.
4. Draw a Darlington amplifier with Bootstrapp arrangement.
5. Why common base amplifier is preferred for high frequency signal when compared to common emitter amplifier?
6. Calculate the cut-off frequency due to C_1 and C_2 in the circuit shown in figure 1.

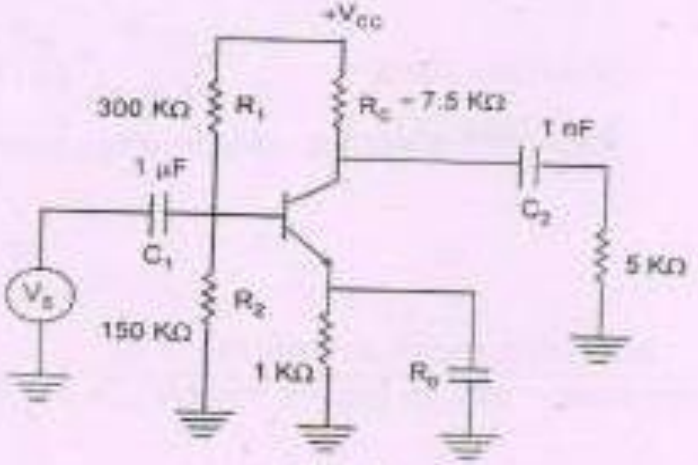

Fig. 1

7. What is meant by cross over distortion in class B power amplifier and how it is corrected?

8. A BJT has a maximum power dissipation of 2W at ambient temperature of 25°C and maximum junction temperature of 150°C, find its thermal resistance.

9. Briefly explain the working of Zener regulator.

10. Derive the ripple factor of induction filter connected to FWR.

PART B—(5 × 16 = 80 Marks)

11. (a) Draw a Self (voltage divider) Bias and derive all the stability factors S, S' and S''. **(16)**

(or)

11. (b) (i) Locate the operating point of the circuit shown. (Figure 1). **(8)**

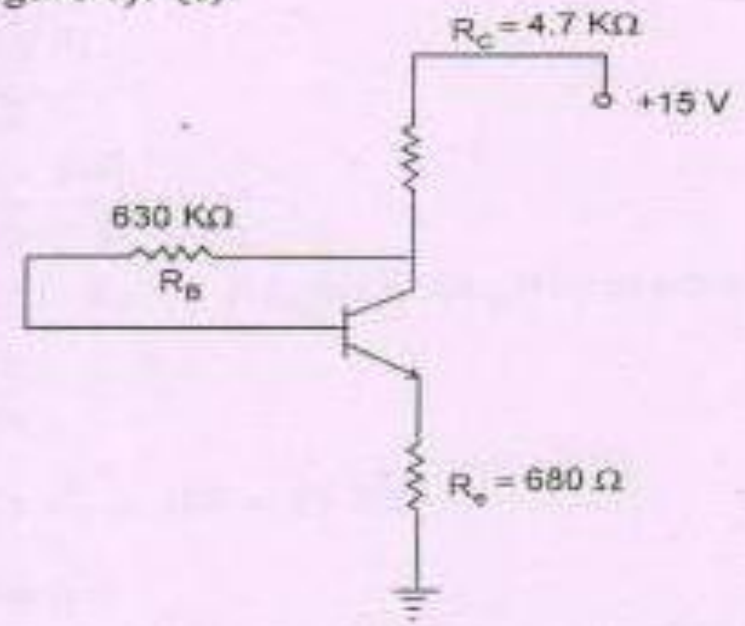

Fig. 1

$V_{ce} = 15V$

$h_{fe} = 200.$