

EC-404 (Old)

B.E. IV Semester

Examination, December 2016

Electronics Circuits

Time : Three Hours

Maximum Marks : 70

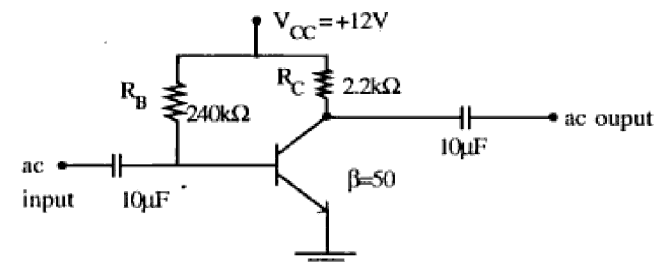
- Note:** i) Answer five questions. In each question part A, B, C is compulsory and D part has internal choice.
ii) All parts of each question are to be attempted at one place.
iii) All questions carry equal marks, out of which part A and B (Max. 50 words) carry 2 marks, part C (Max. 100 words) carry 3 marks, part D (Max. 400 words) carry 7 marks.
iv) Except numericals, Derivation, Design and Drawing etc.

1. a) Compare CC, CB configuration at low frequencies.
b) What do you mean by load line analysis?
c) What is the need of biasing in transistor circuit?
d) What is miller capacitance? Explain briefly and also explain its effect on voltage gain.

OR

Determine the following for the fixed bias configuration as shown in figure.

- i) V_{CEQ} ii) V_{BC}
iii) I_{BQ} iv) I_{CQ}



2. a) What is the condition of sustained oscillations?
- b) Draw the circuit diagram of Hartley oscillator.
- c) Discuss the effects of positive feedback on the amplifier performance.
- d) Explain series and shunt types of feedback in amplifiers.

OR

Explain the tunneling effect and the working of tunnel diode.

3. a) What is Q point?
- b) In what manner, power amplifier are different from normal amplifier.
- c) Define selectivity and BW in case of tuned amplifiers.
- d) Explain the classification of power amplifier and also discuss about class AB type amplifier.

OR

What do you understand by synchronous and stagger tuning.

4. a) List the advantages of Darlington configuration.
- b) What is the effect of Cascading on BW?
- c) What do you mean by Current Mirror?
- d) Compare RC and direct coupled amplifiers with circuit diagram for each configuration.

OR

Explain the working principle of differential amplifier. Also mention its advantages.

5. a) Define the slew rate.
- b) What do you mean by compensation in Op-Amps?
- c) What is Schmitt trigger circuit, where it is used?
- d) Explain the working of an instrumentation amplifier with suitable and neat diagram. In what sense it is better?

OR

Define with respect to a operational amplifier :

- i) Input offset voltage
- ii) Virtual ground
- iii) CMRR
- iv) Input bias current
