Roll No .....

EC - 404

B.E. IV Semester

Examination, June 2013

Electronics Circuits

Time : Three Hours

Maximum Marks : 70/100

Note: Attempt one question from each unit. All questions carry equal marks.

Unit - I

1. a) Determine the DC Bias voltage V_{CE} and the current I_C for the voltage divider configuration of fig - 1

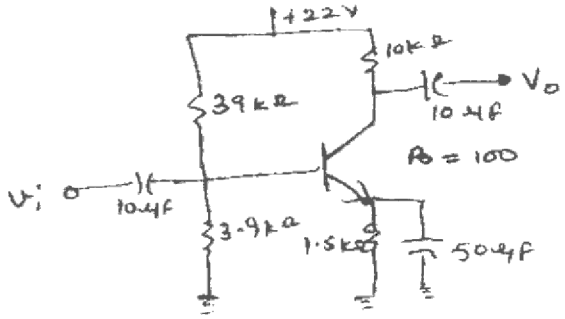

Fig - 1

b) Determine V_C and V_B for the network of Fig - 2

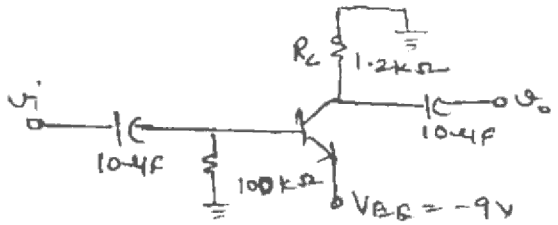

Fig - 2

OR

2. a) Explain the h-parameter model for a common base configuration.

b) What is miller capacitance also discuss its effects on voltage gain?

Unit - II

3. a) Discuss the effect of negative feedback on gain, Bandwidth and stability.

b) Discuss the working of RC phase shift oscillator.

OR

4. a) Calculate the amplifier gain for the voltage series feedback circuit shown in fig-3.

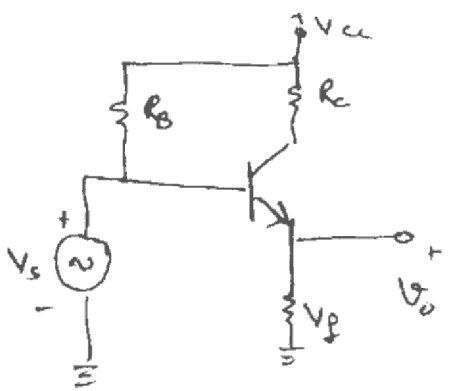

Fig - 3

b) Discuss the working of crystal oscillator.

Unit - III

5. a) Calculate the maximum efficiency of Class-B amplifier.

   b) Discuss what is cross over distortion and how it can be overcomed.

OR

6. a) Explain the working of Quasi-Complementary push-pull amplifier.

   b) Discuss about the selectivity and bandwidth of tuned amplifier.

Unit - IV

7. a) Calculate the gain, input impedance and output impedance of cascade amplifier.

   b) Calculate the gain and impedance of Darlington pair.

OR

8. a) Explain the Boot Strapping Technique. Also discuss its utility.

   b) Discuss the principle working of constant current source circuit.

Unit - V

9. a) Discuss what is slew rate and its effect on full power band width.

b) Explain the working of log amplifier designed using op-amp.

OR

10. Explain the following applications of op-amp.

a) Voltage to current converter

b) Precision rectifier

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