Code No: 07A40405 **R07** **Set No. 2**

II B.Tech II Semester Examinations,APRIL 2011
BASIC ELECTRONICS
Metallurgy And Material Technology

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. Explain different types of focussing methods used in CRT. [16]

2. Draw the circuit for voltage series feedback and explain its operation with block schematic, simplified circuit and equivalent circuit. [16]

3. (a) Classify the oscillators based on nature of output waveform.
   (b) In Hartley oscillator circuit L_1 = 38 uH, L_2 = 12 uH and capacitor C = 500 pF. Find the frequency of oscillations and the feedback factor β. [6+10]

4. (a) Draw the circuit as shown in Figure 1 for NPN type BJT in C.E. configuration and sketch the input and output characteristics.
   (b) A BJT having $\alpha = 0.97$ is connected in C.B. configuration shown in fig with a load resistance of 6KΩ. If the emitter to base junction resistance is 90Ω, find the value of amplifier current, voltage and power gain. [8+8]

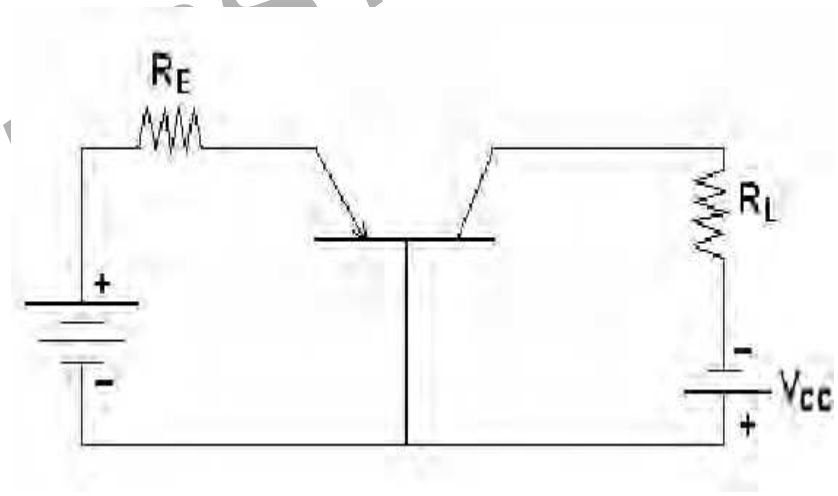

Figure 1:

5. (a) Explain different types of electro mechanical timer circuits.
   (b) Discuss the classification of timers. [8+8]

6. Draw the RC triggering circuit for turning on SCR and explain about the working of the circuit, with the help of suitable wave forms. What are the advantages and disadvantages of this circuit? [16]

Code No: 07A40405 **R07** **Set No. 2**

7. (a) Draw the circuits for p-n junction diode forward bias and reverse bias conditions and explain the working of the diode under these conditions.
   (b) Give the p-n junction diode current equation and explain the same. [10+6]

8. (a) What is the need for interfacing?
   (b) List the applications of ADC's and DAC's. [8+8]

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Code No: 07A40405 **R07** **Set No. 4**

II B.Tech II Semester Examinations,APRIL 2011
BASIC ELECTRONICS
Metallurgy And Material Technology

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. Draw the circuit for voltage series feedback and explain its operation with block schematic, simplified circuit and equivalent circuit. [16]

2. (a) Classify the oscillators based on nature of output waveform.
   (b) In Hartley oscillator circuit L_1 = 38 uH, L_2 = 12 uH and capacitor C = 500 pF. Find the frequency of oscillations and the feedback factor β. [6+10]

3. (a) What is the need for interfacing?
   (b) List the applications of ADC's and DAC's. [8+8]

4. Draw the RC triggering circuit for turning on SCR and explain about the working of the circuit, with the help of suitable wave forms. What are the advantages and disadvantages of this circuit? [16]

5. (a) Explain different types of electro mechanical timer circuits.
   (b) Discuss the classification of timers. [8+8]

6. (a) Draw the circuit as shown in Figure 2 for NPN type BJT in C.E. configuration and sketch the input and output characteristics.
   (b) A BJT having $\alpha = 0.97$ is connected in C.B. configuration shown in fig with a load resistance of 6KΩ. If the emitter to base junction resistance is 90Ω, find the value of amplifier current, voltage and power gain. [8+8]

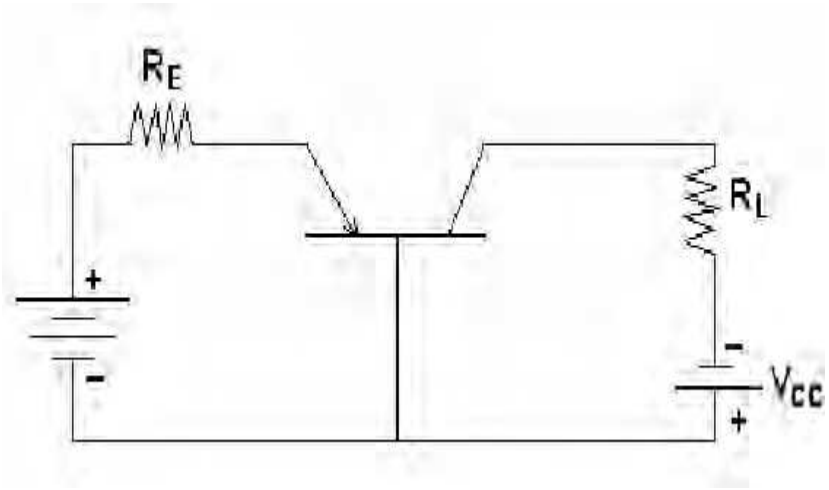

Figure 2:

7. Explain different types of focussing methods used in CRT. [16]

8. (a) Draw the circuits for p-n junction diode forward bias and reverse bias conditions and explain the working of the diode under these conditions.

   (b) Give the p-n junction diode current equation and explain the same. [10+6]

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Code No: 07A40405 **R07** **Set No. 1**

II B.Tech II Semester Examinations,APRIL 2011
BASIC ELECTRONICS
Metallurgy And Material Technology

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. (a) Explain different types of electro mechanical timer circuits.
   (b) Discuss the classification of timers. [8+8]
2. Draw the RC triggering circuit for turning on SCR and explain about the working of the circuit, with the help of suitable wave forms. What are the advantages and disadvantages of this circuit? [16]
3. (a) Draw the circuits for p-n junction diode forward bias and reverse bias conditions and explain the working of the diode under these conditions.
   (b) Give the p-n junction diode current equation and explain the same. [10+6]
4. (a) Draw the circuit as shown in Figure 3 for NPN type BJT in C.E. configuration and sketch the input and output characteristics.
   (b) A BJT having $\alpha = 0.97$ is connected in C.B. configuration shown in fig with a load resistance of 6KΩ. If the emitter to base junction resistance is 90Ω, find the value of amplifier current, voltage and power gain. [8+8]

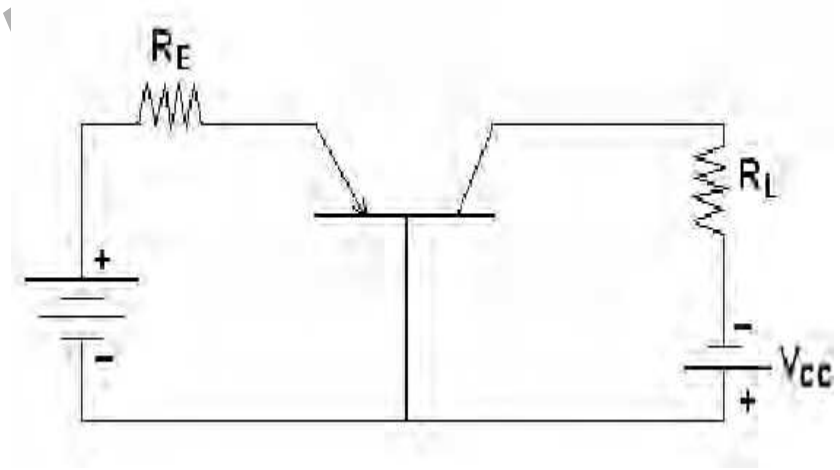

Figure 3:

5. (a) Classify the oscillators based on nature of output waveform.
   (b) In Hartley oscillator circuit L_1 = 38 uH, L_2 = 12 uH and capacitor C = 500 pF. Find the frequency of oscillations and the feedback factor β. [6+10]
6. Explain different types of focussing methods used in CRT. [16]

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7. Draw the circuit for voltage series feedback and explain its operation with block schematic, simplified circuit and equivalent circuit. [16]

8. (a) What is the need for interfacing?
   (b) List the applications of ADC's and DAC's. [8+8]

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Code No: 07A40405 **R07** **Set No. 3**

II B.Tech II Semester Examinations,APRIL 2011
BASIC ELECTRONICS
Metallurgy And Material Technology

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. (a) Draw the circuit as shown in Figure 4 for NPN type BJT in C.E. configuration and sketch the input and output characteristics.
   (b) A BJT having $\alpha = 0.97$ is connected in C.B. configuration shown in fig with a load resistance of 6KΩ. If the emitter to base junction resistance is 90Ω, find the value of amplifier current, voltage and power gain. [8+8]

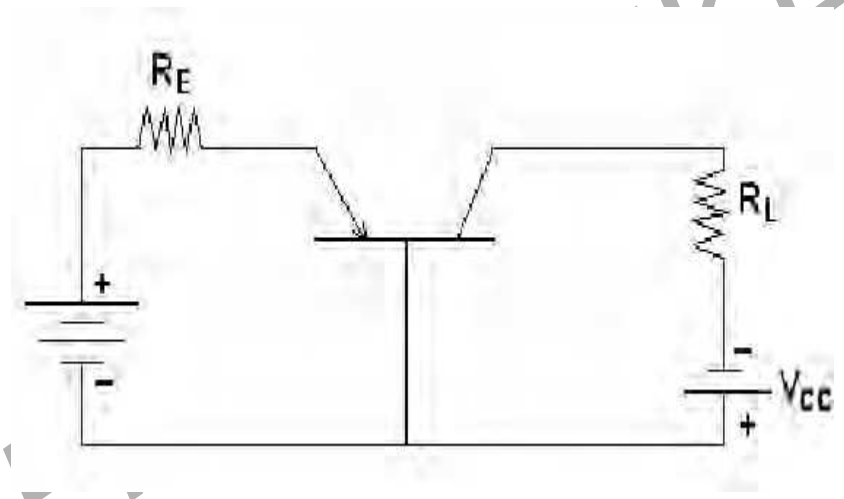

Figure 4:

2. Explain different types of focussing methods used in CRT. [16]
3. (a) What is the need for interfacing?
   (b) List the applications of ADC's and DAC's. [8+8]
4. Draw the circuit for voltage series feedback and explain its operation with block schematic, simplified circuit and equivalent circuit. [16]
5. (a) Draw the circuits for p-n junction diode forward bias and reverse bias conditions and explain the working of the diode under these conditions.
   (b) Give the p-n junction diode current equation and explain the same. [10+6]
6. (a) Classify the oscillators based on nature of output waveform.
   (b) In Hartley oscillator circuit L_1 = 38 uH, L_2 = 12 uH and capacitor C = 500 pF. Find the frequency of oscillations and the feedback factor β. [6+10]

Code No: 07A40405 **R07** **Set No. 3**

7. Draw the RC triggering circuit for turning on SCR and explain about the working of the circuit, with the help of suitable wave forms. What are the advantages and disadvantages of this circuit? [16]

8. (a) Explain different types of electro mechanical timer circuits.
   (b) Discuss the classification of timers. [8+8]

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