BE (Third Semester)

Information Technology

Basic Electronics & Network Theory - 333353(33)

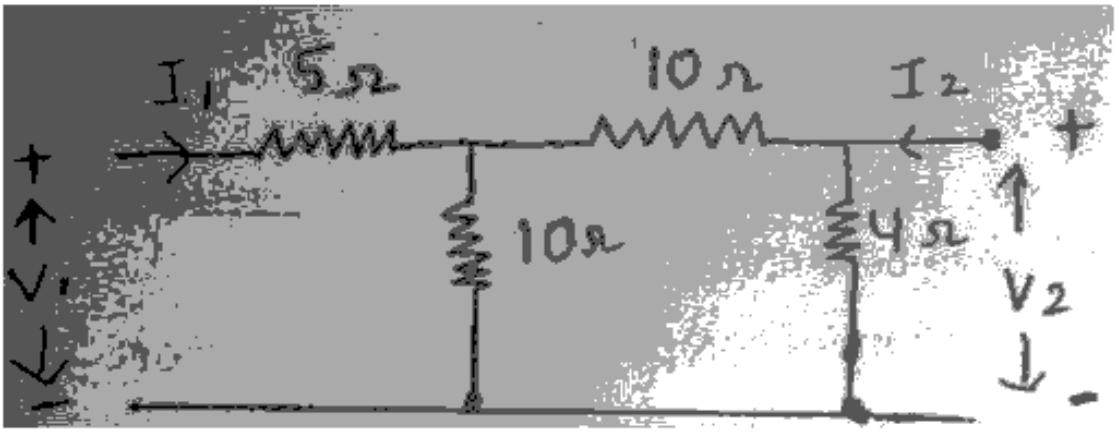
2015 - Summer Session , New Scheme

CSVTUonline.com

Chapter 1

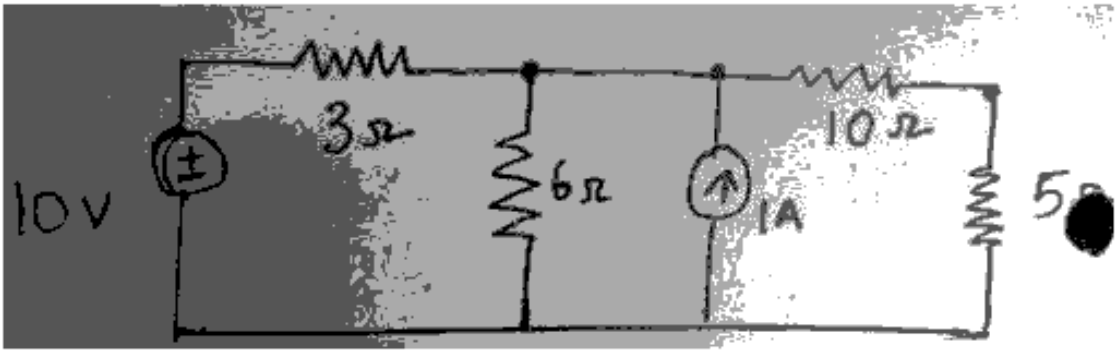
1 Define Thevenin's theorem. **2**

2 Find the z-parameter of the network shown. **7**



3 State and prove maximum power transfer theorem. **7**

4 Find the current in 5 Ω Resistor using Norton's theorem. **7**



Chapter 2

1 What is an Ideal Diode. **2**

2 Define transition capacitance of a P-N junction diode and obtain the expression for transition capacitance. **7**

3 Explain the working of full wave rectifier and find the expression for its transformer utilization factor (TUF). **7**

4 Draw the circuit diagram of capacitor filter and explain its working. **7**

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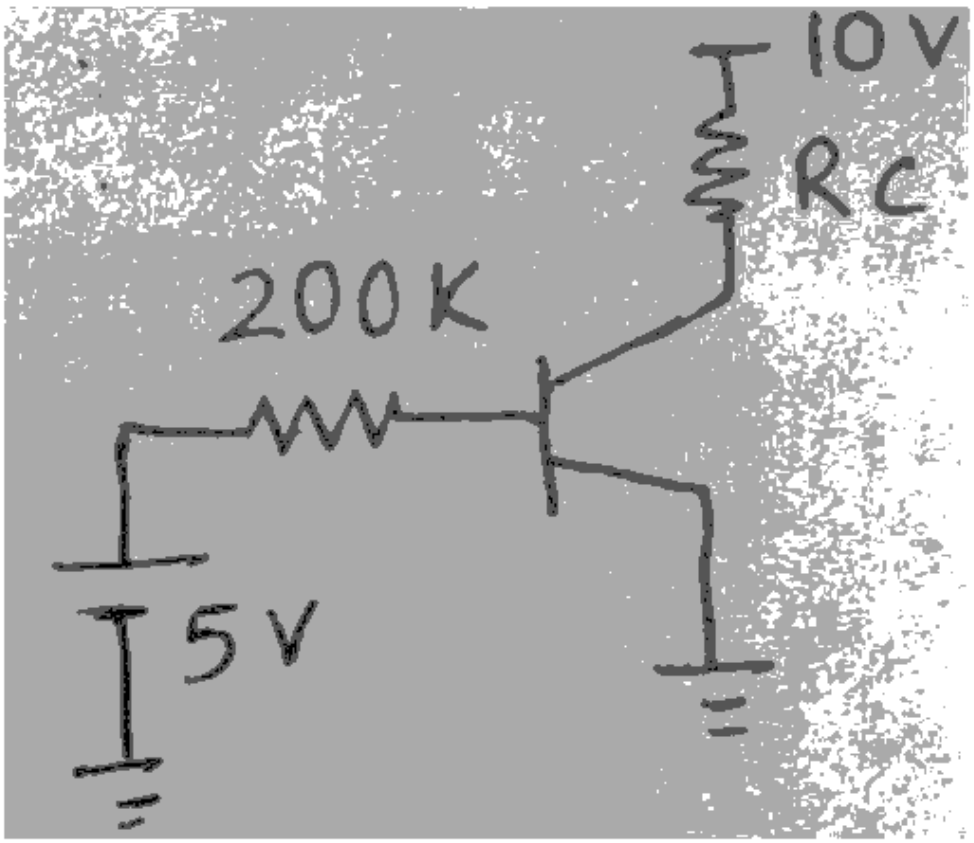
Chapter 3

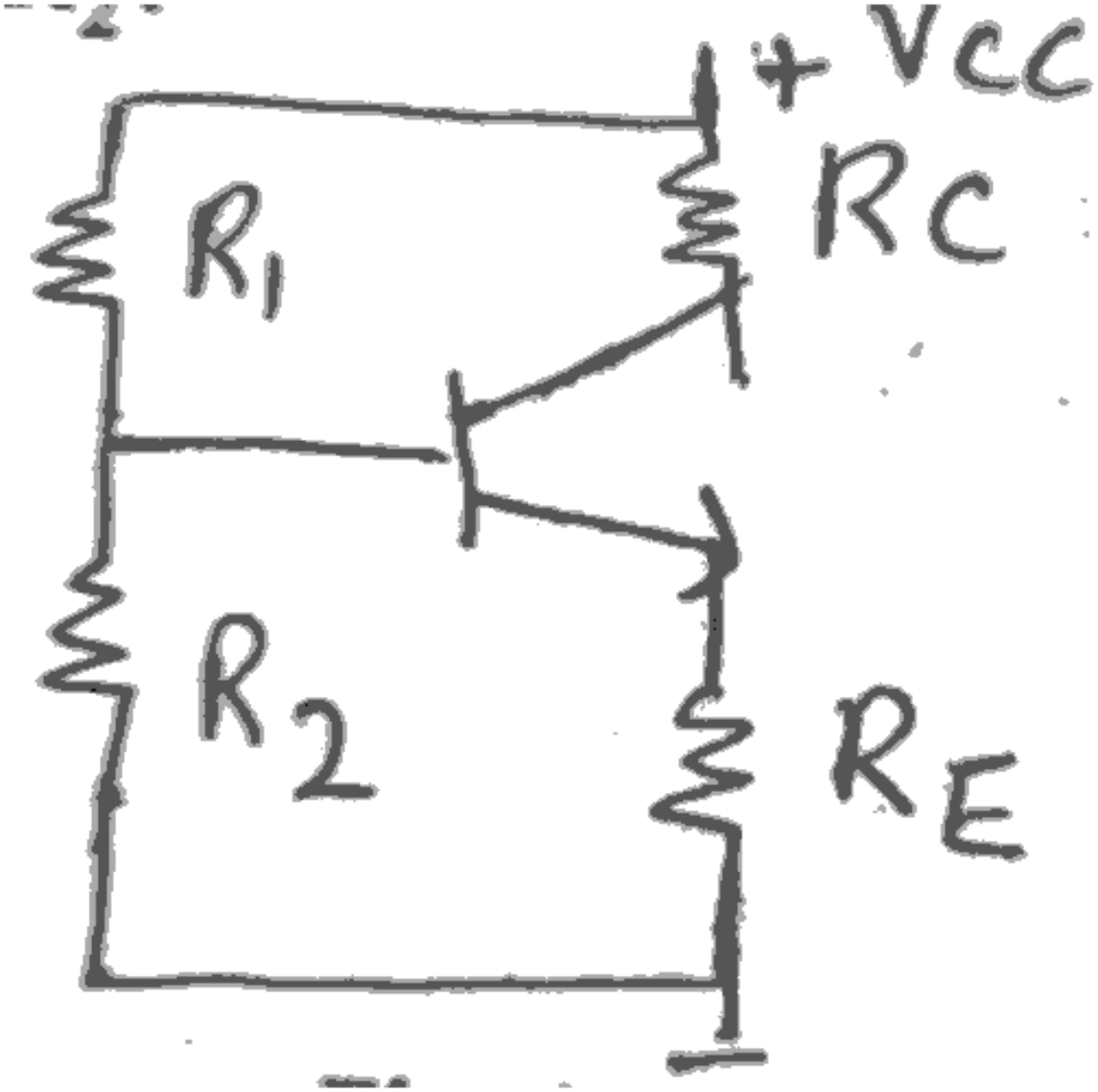
1	Why base is lightly doped ?	**2**
2	Draw and explain output characteristics of common base configuration.	**7**
3	Explain current component in PNP transistor.	**7**
4	A silicon transistor with V_{BESat} = 0.8 V, ß = 100, Vce_{sat} = 0.2 is used in the circuit shown. Find the minimum value of R_C for which transistor remains in saturation.	**7**



Chapter 4

1	List the three sources of instability of collector current.	**2**
2	Draw the circuit diagram of CE amplifier with diode compensation for I_{CO} .	**7**

3	Draw and explain the working of collector to base bias and find the expression for stability factor S.	**7**
4	For a silicon transistor with ß = 50, V_{BE} = 0.7, V_{CC} = 22.5 V and R_C = 5.6 K is used in the fig shown it is desired to establish Q point at V_{CE} = 12 V, I_C = 1.5 mA and S ≤ 3, find R_e , R_1 , R_2 .	**7**



Chapter 5

1	Give the comparison of BJT with FET.	**2**
2	Draw and explain drain characteristics and transfer characteristic of JFET.	**7**
3	Explain the working of enhancement MOSFET.	**7**
4	Show that : $g_m = g_{mo} (1 - V_{gs}/V_p)$ and draw small signal FET model.	**7**