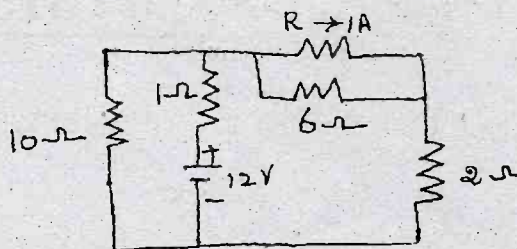


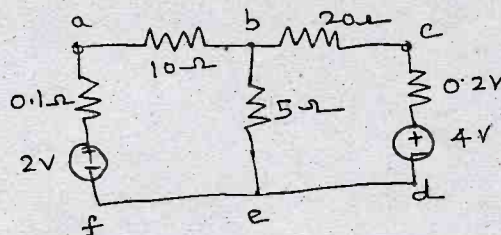
PART B — (5 × 16 = 80 marks)

11. (a) Find the value R so that 1A current would flow in it, for the network in the figure shown below. (16)



Or

- (b) State Norton's theorem and find the current through branch b-e using Norton's theorem. (16)



12. (a) Obtain expression for the instantaneous current through the RLC series circuit with sinusoidal input. (16)

Or

- (b) What is Q factor? Find value of Q factor for an inductor and capacitor, connected in series. (16)

13. (a) Draw and explain zener diode and its characteristics. (16)

Or

- (b) What is transition capacitance and obtain expression for transition capacitance in PN junction diode. (16)

14. (a) Explain with neat diagram the operation of NPN transistor. (16)

Or

- (b) Describe construction and operation of n-channel depletion type MOSFET. (16)

15. (a) (i) With a neat sketch explain construction and VI characteristics of tunnel diode. (10)
- (ii) Explain construction and operation of photoconductive cell. (6)

Or

- (b) (i) Draw and describe the principle of operation and characteristics of SCR. (8)
- (ii) Draw and explain the working and characteristics of UJT. (8)
-

Reg. No. :

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Question Paper Code : 51222

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2013.

Sixth Semester

Electronics and Communication Engineering

EC 1351 A — DIGITAL COMMUNICATION TECHNIQUES

(Regulation 2008)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What is meant by slope-over load distortion in a DM system? How can it be avoided?
2. What is companding? Write equation for A-law companding.
3. What is a matched filter?
4. State Nyquist pulse shape criterion for distortionless baseband binary transmission.
5. Draw the signal-space diagram and show the signal constellation for coherent binary FSK system.
6. What is MSK? What are its advantages over an ordinary binary FSK?
7. What is cyclic code?
8. What is meant by constraint length in convolutional code?
9. What are the advantages of spread spectrum communication?
10. Define the term 'processing gain' of a direct sequence spread spectrum system.

PART B — (5 × 16 = 80 marks)

11. (a) With the help of block schematic diagrams of the transmitter and the receiver, explain the working of binary PCM system.

Or

- (b) Explain the working of an adaptive delta modulation system with the help of block diagrams of the transmitter and the receiver.