(Pages : 2) **5569**

Reg. No. : .....

Name : .....

Seventh Semester B.Tech. Degree Examination, October 2014
(2008 Scheme)
08-704 Elective – III (a)ELECTRONIC COMMUNICATION (E)

Time : 3 Hours Max. Marks : 100

PART – A

Answer **all** questions : **(10×4 = 40 Marks)**

1. Draw the block diagram of low - level and high - level AM transmitters. (block diagram only)
2. Discuss the principle of AGC circuit. What is forward AGC ?
3. Define : (1) Sensitivity (2) Selectivity and (3)Image frequency with reference to a receiver.
4. Explain the block diagram of an Amstrong FM transmitter.
5. Sketch and explain a composite video signal.
6. What is vestigial side-band transmission and why is it used for transmission of TV picture signals ?
7. Draw and explain the block diagram of a simple digital communication system.
8. Explain the frequency re-use concept of cellular communication. What is the significance of frequency reuse factor ?
9. What is CDMA ? What are its advantages over TDMA and FDMA ?
10. Discuss the two major kinds of interferences produced within a cellular telephone system. How can it be avoided ?

PART – B

Answer **one full** question from **each** Module.

Module – I

11. a) Discuss the principle of a balanced modulator. Prove that the output consists of side-bands only with carrier removed. **10**

    b) Explain the basic concept of an electronic telephone exchange. **10**

P.T.O.

12. a) Briefly describe with block diagrams, the three methods of SSB generation. 15

    b) An AM broadcast radio transmitter radiates 10KW power if percentage modulation is 75%. Calculate how much of this is carrier power. 5

Module – II

13. a) Explain the concept of quantization and companding in digital communication systems. 10

    b) Briefly describe the basic principle of the two types of pulse modulation-PAM and PCM. 10

14. a) Draw the block diagram of a colour TV transmitter and briefly explain the function of each block. 10

    b) With neat sketch describe the working of a TV picture tube. 10

Module – III

15. a) Explain the cellular approach used in cellular communication. Also describe the necessity of cell splitting. 10

    b) Briefly describe the procedures for wireline to mobile calls, mobile to wireline calls and mobile to mobile calls. 10

16. a) Explain the following terms :

    1) Sectoring 2) Segmentation

    3) Dualisation 4) Hand off. 10

    b) With a block diagram explain the operation of analog cellular transceiver. 10