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Reg. No. : .....

Name : .....

Seventh Semester B.Tech. Degree Examination, May 2015
(2008 Scheme)
08.704 : Elective – III (a) : ELECTRONIC COMMUNICATION (E)

Time : 3 Hours Max. Marks : 100

PART – A

Answer **all** questions.

1. Compare single side-band transmission with conventional AM.
2. An AM broadcast radio transmitter radiates 10 kw power. If percentage modulation is 75%, calculate how much of this is carrier power. What will be the carrier power if modulation percentage is increased to 90% ?
3. Draw the block diagram of low-level and high level AM transmitters.
4. Explain briefly the principle of power-line carrier communication.
5. Mention the advantages and disadvantages of digital transmission.
6. Describe interlaced scanning method. Why is it preferred in television ?
7. Explain the need for blanking and synchronising pulses in TV transmission.
8. Explain the principle of operation of a two-way communication system.
9. Describe the two most prevalent types of interference in cellular telephone systems.
10. List the advantages and disadvantages of PCSS. **(4×10= 40 Marks)**

P.T.O.

PART – B

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

Module – I

11. a) With a neat block diagram explain the working of a superheterodyne receiver and describe how constant If is achieved in it. 12

    b) Derive the output voltage expression for an FM wave. 8

12. a) Describe with block diagrams the three methods of SSB generation. 10

    b) Explain the operation of balanced-slope detector with circuit diagram and response characteristics. 10

Module – II

13. a) What is pulse code modulation. Draw the block diagram of a PCM transmission system and explain. 10

    b) With a neat sketch explain in detail a composite video signal. 6

    c) Define :

    a) Luminance and chrominance

    b) Aspect-ratio. 4

14. a) Draw the block-diagram of a monochrome TV receiver and mention the function of each block. 12

    b) Write notes on :

    a) Quantization

    b) Companding. 8

Module – III

15. a) Discuss in detail the GSM architecture with the help of a block-diagram. 10

    b) Explain CDMA. What are its advantages over FDMA and TDMA ? 10

16. a) Explain the basic concept of cell splitting and frequency sense used in cellular system. 12

    b) Explain the hand-off control procedure when a mobile unit moves from cell to cell. 8
