



Reg. No. :

Name :

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

Time : 3 Hours

Max. Marks : 100

Instruction : Answer **all** questions from Part – **A** and **one full** question from **each** Module in Part – **B**.

PART – A



1. Compare amplitude and frequency modulation transmission.
2. A sinusoidal wave at 4 kHz modulating a carrier signal to 40% depth generates an antenna current of 12 A to be used with an AM broadcast transmitter. If another modulating signal at 4 kHz modulates the carrier signal to a modulation depth of 64%, determine the increase in transmitting antenna current.
3. Define the following receiver parameters :
 - a) Sensitivity
 - b) Selectivity
 - c) Fidelity.
4. Describe the necessity of AFC loop with reference to direct FM transmitter.
5. Explain interlaced scanning procedure in TV transmission. Mention its advantage.
6. Briefly explain what is meant by quantizing.
7. Write notes on HDTV.
8. Draw the block diagram of analog cellular transceiver (BD only).
9. Describe co-channel and adjacent channel interference.
10. What is PCSS ? Mention its advantages and disadvantages. **(10×4=40 Marks)**



PART – B

Module – I

11. a) Draw and explain the block diagrams of low-level and high level AM transmitters. 10
- b) Explain the working of Foster-Seely discriminator with the help of a neat circuit diagram and relevant vector diagrams. 10
12. a) With a neat block diagram explain superheterodyne receiver. Mention the functions of each block. 10
- b) Describe the working of peak detector circuit with relevant figures. 6
- c) How is heterodyning method different from multiplication method of frequency up-conversion ? 4

Module – II

13. a) Explain the block diagram of monochrome TV receiver. 10
- b) Explain PCM used in digital communication. 10
14. a) Describe the working of PAL colour TV transmitter with a block diagram. 10
- b) Sketch and explain composite video signal and mention the necessity of synchronising and blanking pulses. 10

Module – III

15. a) Explain the need for cell-splitting and frequency reuse in cellular communication. 10
- b) With block diagram explain in detail GSM architecture. 10
16. a) Describe the stages involved in handoff procedure. Also differentiate between soft and hard handoff. 10
- b) Explain :
- a) Sectoring b) Dualisation. 5
- c) Explain CDMA. 5