Seventh Semester B.Tech. Degree Examination, December 2016
(2013 Scheme)
13.704 : COMMUNICATION SYSTEMS (E)

Time: 3 Hours
Max. Marks: 100

PART – A

Answer all questions.

1. Write the expression for total power in an AM signal.

2. Mention two advantages of super heterodyne radio receiver compared to TRF receiver.

3. Write the expression for modulation index of FM signal. Explain different terms in the expression.

4. What are the advantages of pulse modulation over AM or FM?

5. What is meant by aliasing?

6. Mention different TV standards and the frequency bands used for TV signal transmission.

7. What is the need for sync pulses in TV signal?

8. What are the applications of RADAR?

9. What is meant by frequency reuse in mobile communication?

10. Explain hand-off in cellular communication.

(10×2=20 Marks)

PART – B

Answer one full question from each Module.

Module – I

11. a) Explain the factors to be considered for the selection of IF.

   10

   b) Explain the working of a super heterodyne receiver with block diagram.

   10

   OR

P.T.O.
12. a) With block diagram explain the generation of double side band full carrier AM.  
   b) Explain various propagation methods.  
      Module – II  
13. With block diagram explain the working of Armstrong FM transmitter.  
    OR  
14. a) Explain the working of Foster-Seeley discriminator. Mention its advantage 
      over balanced slope detector.  
   b) Explain the basic principle of pulse code modulation.  
      Module – III  
15. a) Draw the composite video signal and explain.  
   b) Draw the block diagram of pulsed radar and explain its working.  
    OR  
16. a) With the schematic of a black and white picture tube explain its working.  
   b) Explain the principle of RADAR and its applications.  
      Module – IV  
17. a) Explain the concept of cell splitting and cell sectoring.  
   b) Write notes on code division multiple access.  
    OR  
18. a) Draw the block diagram of analog cellular transceiver and explain its working.  
   b) Explain various interferences associated with cellular communication.