TE – Sem V
CBCGS

[Time: 3 Hours]   [Marks: 80]

Please check whether you have got the right question paper.   Biomedical

N.B: 1. Question No 1 is compulsory.
2. Attempt any three questions from remaining five questions.
3. Figures to right indicate **full** marks.
4. Assume suitable data.

Q.1 a) Compare AM and FM   05
b) Explain PCM transmitter with waveform.   05
c) Discuss various types of noise in communication system   05
d) Derive expression for AM. Also plot the frequency spectrum.   05

Q.2 a) Explain working of diode ring modulator for DSBSC generation with proper waveforms. Also   10
states advantages of DSBSC over DSBFC.
b) A modulating signal 05sin (2π*1KHz) is used to modulate a carrier signal 12sin (2 π*100KHz).   10
Find the modulation index, sideband components, bandwidth, transmission efficiency and
sideband powers for R=50 ohms.

Q.3 a) Describe working of Foster Seeley Discriminator with neat diagram. States its drawback. How it
is overcome?   10
b) Explain selectivity and sensitivity characteristics of AM receiver.   05
c) When modulating frequency in FM system is 200 Hz, modulating voltage is 2.0 V and modulation   05
index is 80. Calculate maximum deviation. What is modulation index when modulating frequency
is reduced to 150 Hz and modulating voltage is increase to 3.0 V?

Q.4 a) Explain generation and detection of PPM with waveforms.   10
b) Draw and explain block diagram of Super-heterodyne receiver.   10

Q.5 a) Describe working of ADM with a neat block diagram and waveforms.   10
b) What is FDM? Describe FDM transmitter and receiver in detail. Also state its advantages and   10
disadvantages.

Q.6   Write short note on (**Any Four**)   20
a) Compare ASK, FSK and PSK
b) Quantization
c) AFC
d) AM tracking
e) VSB

56059

18F802BF4CB7FB2A6268C20CF5C3087F