

BTEINE606A: Communication Systems

UNIT 1

1. What is AM? Draw its waveform.
2. Define FM with its waveform
3. State need of modulation.
4. What is modulation? Explain its types.
5. What is super heterodyne AM receiver?
6. Explain frequency spectrum of FM wave.
7. Differentiate AM and FM
8. What is AM transmitter? Explain with block diagram.
9. Explain FM transmitter with block diagram.
10. What is NBFM and WBFM?
11. Explain AM receiver.
12. Explain FM receiver.

UNIT 2

1. What is Pulse modulation. Explain with its types.
2. Explain PAM in detail.
3. What is sampling theorem?
4. Differentiate PAM,PWM,PPM
5. What is PWM? Explain with its waveform.
6. What is PPM? Explain with its waveform.
7. Explain modulation and demodulation of PAM.
8. What is mean by digital modulation system.
9. Explain PCM with waveform.
10. Define ASK,FSK,PSK
11. Explain QPSK in detail
12. State application of data communication.

UNIT 3

1. What is Entropy in communication?
2. State properties of Entropy.
3. What is Source coding?
4. Explain BEC And BSC
5. What is Huffman Coding? Build Huffman tree with steps
6. Define error control codes.
7. States application of error control codes.
8. What is SNR tradeoff?

9. What is NRZ and RZ coding?
10. Explain Shannon's noiseless coding theorem
11. What is need of coding?
12. What is AMI? State its application.

UNIT 4

1. What is microwave communication system? Explain with block diagram.
2. Explain satellite communication system.
3. What is need of satellite communication?
4. Explain GPS service in detail.
5. State advantages of microwave communication system.
6. What is terminal station and repeater station.
7. State uses of microwave radio waves.
8. Write short note on satellite orbit and launch vehicle.
9. Explain satellite link model
10. State application of satellite communication.
11. Explain satellite parameters.
12. Application of GPS services

UNIT 5

1. What is optical fiber?
2. What is need of fiber optics
3. What are the main components of optical fiber? Explain with diagram.
4. What is critical angle and total internal reflection.
5. How light transmit through optical fiber cable? Explain
6. Explain classification of optical fibre.
7. Explain with block diagram fibre optic system.
8. What is recent application of fiber optics?
9. What is power budget analysis for a optical link?
10. What are the losses in optical fibre?
11. Write notes on 1) Light sources 2) Photodetector
12. State Characteristics of optical fibre.

UNIT 6

1. What is cellular concept?
2. Explain basic cellular concept and its operation.
3. What are the elements of cellular radio system?
4. Explain handoff mechanism
5. What is GSM?
6. State Advantages and Disadvantages of GSM
7. What are various cellular standards? Explain any of two.
8. Write note on 1) GPRS and 2) WCDMA
9. Explain concept of frequency reuse channel.
10. Explain co-channel interference reduction factor.
11. What are network performance metrics
12. State advantages and disadvantages of cellular network.