

ETC - Sem IV - Principles of Communication Engg CCEA  
[Time: 3 Hours] [Marks:80]

NB:

1. Q. 1 is compulsory
2. Attempt any three questions out of remaining five.
3. Figure to the right indicate full marks.
4. Assume suitable data if required and mention the same in solution.

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Q.1 Solve the following

20

- a) Distinguish between narrowband and wideband FM.
- b) What is companding?
- c) Why AGC is required in radio receivers?
- d) Explain aliasing error and aperture effect.
- e) Explain various types of noise affecting communication system.

Q.2a) What are the drawbacks of delta modulation? Explain adaptive delta modulation in detail. 10

b) What is signal multiplexing? Explain TDM and FDM in detail. 10

Q.3 a) State and prove sampling theorem for low pass bandlimited signals. 10

b) Explain practical diode detector with suitable diagram. 10

Q.4 a) What are different methods of FM generation? Explain reactance modulator in detail. 10

b) Explain how PPM is generated from PWM 10

Q.5 a) Explain superheterodyne receiver 10

b) Explain VSB transmission 10

Q.6 Write note on (any four) 20

1. Quadrature amplitude modulation
2. Amplitude limiting and thresholding
3. Double spotting
4. Low level and high level modulation
5. PCM and DPCM