

Code No.: EC402PC

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CMR ENGINEERING COLLEGE: : HYDERABAD
UGC AUTONOMOUS
II-B.TECH-II-Semester End Examinations (Regular) - June- 2022
ANALOG AND DIGITAL COMMUNICATIONS
(ECE)

[Time: 3 Hours]

[Max. Marks: 70]

- Note:** 1. Answer any *FIVE* questions. Each question carries 14 marks.
2. All questions carry equal marks.
3. Illustrate your answers with *NEAT* sketches wherever necessary.

5X14=70

1. a) Derive an expression for amplitude modulation with a neat circuit diagram. [7M]
b) Explain the generation of VSB signal and derive the expression for the VSB signal in time domain and frequency domain. [7M]
2. a) Distinguish between AM and FM [7M]
b) Explain the generation of NBFM signal using armstrong method and what is the effect of frequency multiplication on a NBFM signal. [7M]
3. a) Draw the neat sketch of FM transmitter circuit and explain its working. [7M]
b) List out the problems in TRF receivers. [7M]
4. a) Analyze the difference between PPM and PWM Demodulators. [7M]
b) Explain the frequency division multiplexing with a neat circuit diagram. [7M]
5. a) Examine the detection of BFSK signal using PLL. [7M]
b) Describe the use of amplitude limiter and explain its operation. [7M]
6. a) Explain the generation of SSB wave using frequency discrimination method. [7M]
b) List out the advantages of VSB modulation and explain about the envelop detection of VSB wave. [7M]
7. a) Analyze the use of pre-emphasis and de emphasis networks in FM. [7M]
b) Explain about the phase locked loop and deduct the expression for phase angle. [7M]
8. a) Explain about the Mixer circuit with a neat circuit diagram. [7M]
b) Compare AM receivers with FM receivers. [7M]
