

Code No.: EC402PC

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CMR ENGINEERING COLLEGE: : HYDERABAD
UGC AUTONOMOUS
II-B.TECH-II-Semester End Examinations (Supply) - February- 2024
ANALOG AND DIGITAL COMMUNICATIONS
(ECE)

[Time: 3 Hours]

[Max. Marks: 70]

Note: This question paper contains two parts A and B.

Part A is compulsory which carries 20 marks. Answer all questions in Part A.

Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART-A

(20 Marks)

1. a) What is the need for modulation in communication systems? [2M]
- b) List the Generation methods of AM and DSB-SC. [2M]
- c) What is Pre-emphasis? [2M]
- d) What is Angle modulation? [2M]
- e) Define Image frequency. [2M]
- f) Classify the types of Transmitters and Receivers. [2M]
- g) Explain slope overload distortion in Delta Modulation (DM) system. [2M]
- h) What is Quantization? [2M]
- i) Define Probability of error. [2M]
- j) What is the Principle of Quadrature Amplitude Modulation (QAM)? [2M]

PART-B

(50 Marks)

2. Explain Time domain and Frequency domain representation of AM with necessary waveforms. [10M]
- OR**
3. Describe Single tone Amplitude modulation and its power relations in AM waves. [10M]
4. Determine the expressions for Phase Locked Loop in FM demodulation. [10M]
- OR**
- 5.a) Explain pre-emphasis and de-emphasis circuits. [5M]
- b) Compare NBFM and WBFM. [5M]
6. Explain the block diagram of a Super Heterodyne receiver. [10M]
- OR**
- 7.a) Compare AM and FM Receivers. [5M]
- b) Explain about Automatic gain control and amplitude limiting. [5M]
8. Explain the PCM transmitter and receiver with a neat block diagram. [10M]
- OR**
- 9.a) Compare FDM and TDM. [5M]
- b) Explain the block diagram of DPCM with a neat sketch. [5M]
- 10.a) Write Short notes on ISI. [5M]
- b) Discuss about Eye diagrams with a neat sketch. [5M]
- OR**
11. Explain in brief about Coherent ASK detector and Non-Coherent FSK detector. [10M]
