R16

Reg. No: ☐☐☐☐☐☐☐☐☐☐

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
B.Tech III Year II Semester Supplementary Examinations February-2022
DIGITAL COMMUNICATIONS
(Electronics and Communication Engineering)

Time: 3 hours   Max. Marks: 60

(Answer all Five Units **5 x 12 = 60** Marks)

UNIT-I

1	a	With a neat block diagram explain PCM transmitter and receiver.	7M
	b	b) Explain the following line codes for 110101101	5M
		i) Unipolar RZ & NRZ ii) polar RZ & NRZ.	

OR

2	a	Draw and explain the block diagram of regenerative repeaters?	7M
	b	What are the advantages & disadvantages of DPCM?	5M

UNIT-II

3	a	Derive the properties of matched filter.	6M
	b	What is ideal Nyquist solution for Zero ISI?	6M

OR

4	a	Derive the mathematical expression for raised cosine spectrum?	6M
	b	Write a brief note on Eye pattern and construct the diagram.	6M

UNIT-III

5	Describe the concept of continuous AWGN channel into a vector channel?	12M

OR

6	a	What is the concept of orthogonal basis function.	6M
	b	Give the condition for Orthogonality for basis function.	6M

UNIT-IV

7	a	Explain the generation and detection of BPSK.	7M
	b	Discuss in brief about Non-coherent detection of binary FSK.	5M

OR

8	Draw the block diagram of QPSK transmitter & receiver and explain each block detail.	12M

UNIT-V

9	a	What are the types of parity check codes explain with neat diagrams?	6M
	b	What is forward error correction system and explain in detail?	6M

OR

10	a	Draw and explain the block diagram of ARQ system in detail	7M
	b	Define the terms Hamming Distance and code vectors.	5M

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