

Day and Date: Friday, 20.01.2023

Time: 2.00 pm to 4.00 pm

Seat No:

Max. Marks- 50

Instructions:

- All Questions No. 1 to 4 are compulsory.
- Figure to the right indicate full marks.

B T	CO's	Q. No.	Questions	Marks
		Q.1	All Questions are compulsory	20
2	CO1	a	What is DSBSC modulation technique? Explain in detail DSBSC with its mathematical and frequency spectrum analysis.	6
2	CO1	b	Explain Phase Modulation with mathematical analysis and waveforms	7
4	CO3	c	What is quantization noise? How it affects on PCM?	7
		Q.2	All Questions are compulsory	10
2	CO2	a	What is Shannon's theorem of information? Explain it with suitable example. OR What is sampling? Explain sampling theorem with suitable examples	4
2	CO1	b	What are the different pulse modulation techniques? Explain pulse amplitude modulation (PAM) in detail.	6
		Q.3	All Questions are compulsory	10
5	CO4	a	What are line codes? Explain Unipolar and Bipolar line codes with examples	3
5	CO4	b	Write short notes on any two 1. M- array signaling 2. Eye diagram 3. Line codes--NRZ	7
		Q.4	Attempt any two out of three questions	10
5	CO4	a	What is an ASK modulation? Explain its generation with block diagram and waveforms	5
5	CO4	b	Draw and explain FSK coherent demodulation technique.	5
5	CO4	C	Draw and explain FSK noncoherent demodulation technique.	5
