

PRAGATI ENGINEERING COLLEGE: SURAMPALEM
(AUTONOMOUS)
III B.Tech I Semester Supplementary Examinations, May - 2024
ANALOG AND DIGITAL COMMUNICATIONS
(Electronics and Communication Engineering)

Time: 3 hours

Max. Marks: 70 M

Answer ONE Question from each Unit
All Questions Carry Equal Marks

Q. No.	Questions		BTL	CO	Marks
UNIT – I					
1.	a)	Illustrate the process of communication from transmitter to receiver using a block diagram.	K2	CO1	7 M
	b)	Explain the operation of envelope detector.	K2	CO1	7 M
OR					
2.	a)	Explain principle of DSB-SC wave with necessary expressions, wave-forms and spectrums.	K2	CO1	7 M
	b)	Explain the operation of phase discrimination method of generating SSB-SC wave.	K2	CO1	7 M
UNIT – II					
3.	a)	Explain vestigial sideband transmission with its special characteristics.	K2	CO2	7 M
	b)	Compare the advantages and disadvantages of angle modulation with amplitude modulation.	K4	CO2	7 M
OR					
4.	a)	Derive the expression for single tone narrow band FM?	K3	CO2	7 M
	b)	Draw the block diagram of indirect method of generating a wideband FM signal and explain its working principle.	K2	CO2	7 M
UNIT – III					
5.	a)	With a neat diagram explain the process of generating Pulse Amplitude modulation.	K2	CO3	7 M
	b)	With a neat diagram explain the process of demodulating Pulse Width modulation.	K2	CO3	7 M
OR					
6.	a)	Describe the elements of Digital communications.	K2	CO3	7 M
	b)	Explain the operation of Delta Modulation system.	K2	CO3	7 M

UNIT – IV					
7.	a)	Define and draw the FSK, waveform for the data 1 1 0 1 0 1 1 1 using unipolar and bipolar signaling formats.	K3	CO4	7 M
	b)	Explain the generation and detection of PSK.	K2	CO4	7 M
OR					
8.	a)	Draw and explain DEPSK receiver block diagram.	K2	CO4	7 M
	b)	Draw and explain QPSK transmitter.	K2	CO4	7 M
UNIT – V					
9.	a)	Derive the probability of error for of FSK.	K3	CO5	7 M
	b)	Derive the probability of error for matched filter.	K3	CO5	7 M
OR					
10.	a)	Derive the probability of bit error of the optimum filter.	K3	CO5	7 M
	b)	Calculate the Impulse response for the Matched Filter?	K3	CO5	7 M