Seat No.:	Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY

ME - SEMESTER-II • EXAMINATION – SUMMER - 2017

Subject Code: 2722709			Date:29/05/2017	
Tiı	•	Attempt all questions.Make suitable assumptions wherever necessary.	70	
Q.1	(a) (b)	Explain optimal detection for a general vector channel. Present the mathematical representation of QAM signal with constellation diagram.	07 07	
Q.2	(a) (b)	List and explain general properties of linear block codes. Write short note on signaling scheme with memory. OR	07 07	
	(b)	Explain convolution coding and decoding.	07	
Q.3	(a) (b)	Explain various communication channels with their characteristics. Describe performance analysis of wire line and radio communication systems. OR	07 07	
Q.3	(a) (b)	Explain various mathematical models for communication channels. Derive error probability for ASK signaling.	07 07	
Q.4	(a) (b)	Write short note on punctured convolutional codes. Write short note on Turbo coding. OR	07 07	
Q.4	(a) (b)	Explain decision feedback equalization. Write short note on LDPC.	07 07	
Q.5	(a) (b)	Explain design of band-limited signals for no ISI. Explain carrier recovery and symbol synchronization in signal demodulation. OR	07 07	
Q.5	(a) (b)	Explain design of band-limited signals with controlled ISI Explain maximum-likelihood carrier phase estimation.	07 07	
