Reg. No. : | | | | | | | | | | |

Question Paper Code: 91Q01

M.E. DEGREE EXAMINATION, NOV 2019

First Semester

Communication Systems

19PCM101 - ADAPTIVE SIGNAL PROCESSING

(Regulation 2019)

Duration: Three hours Maximum: 100 Marks

Answer ALL Questions

PART - A (5 x 20 = 100 Marks)

1.	(a)	Explain in detail about discrete Kalman filter and its applications.	CO1- U	(20)
		Or		
	(b)	Explain about the special types of random process AR, MA, ARMA processes.	CO1- U	(20)
2.	(a)	Explain the method of subband coding of speech signals.	CO2- U	(20)
		Or		
	(b)	With neat diagram explain the implementation of transmultiplexers.	CO2- U	(20)
3.	(a)	Give complete discussion on how LMS algorithm is converging with necessary derivation of equations and diagrams.	CO3- U	(20)
		Or		
	(b)	How will you design a Weiner filter for filtering and prediction?	CO3- U	(20)
4.	(a)	Describe the MA model and ARMA model for power spectrum estimation. Justify its uses.	CO4- U	(20)
		Or		
	(b)	Explain and derive sampling rate conversion by a rational factor I/D in multirate signal processing.	CO4- U	(20)

5.	(a)	Give some applications of DSP in design of phase shifters.	CO5- U	(20)
		Or		
	(b)	Discuss in detail about the wavelet transform in signal processing.	CO5- U	(20)