



Time:		Max.Marks: 100					
S.NO	Answer All Questions	Choice	Options	Marks	CO	CO BTL	COI BTL
1.	Explain about the significance of Wiener Hopf equations in adaptive filter theory	choice Q-2		10Marks	CO1	2	1
2.	Explain the principle of Wiener filter and discuss clearly the estimation procedure in Wiener filters			10Marks	CO1	2	1
3.	Write A and B Questions	choice Q-4		15Marks	CO1	2	2
3.A.	Calculate Minimum Mean Square Error with suitable example			8Marks	CO1	2	2
3.B.	Explain the development of adaptive filter theory			7Marks	CO1	2	2
4.	Write A and B Questions			15Marks	CO1	2	2
4.A.	With the help of block diagram explain the principle of adaptation in detail. And give the application of the system for real time analysis			8Marks	CO1	2	2
4.B.	Explain IIR Wiener filters with example			7Marks	CO1	2	2
5.	Write about statement of Kalman filtering problem and explain it	choice Q-6		10Marks	CO2	2	1
6.	Explain how Kalman gain vector is computed in LMS algorithm			10Marks	CO2	2	1
7.	Write A and B Questions	choice Q-8		15Marks	CO2	2	2
7.A.	Draw the signal-flow graph representation of the Kalman and extended Kalman filters. Show that for a linear model of a dynamic system these two representations are same			8Marks	CO2	2	2
7.B.	What is an extended Kalman filter? Explain how the block diagram of a Kalman filter is to be modified to derive extended Kalman filter			7Marks	CO2	2	2
8.	Write A and B Questions			15Marks	CO2	2	2
8.A.	With the help of block diagram explain Kalman filter. Discuss the role of each block with necessary equations.			8Marks	CO2	2	2
8.B.	Briefly discuss about extended Kalman filtering			7Marks	CO2	2	2
9.	What are the necessary conditions for the convergence of LMS algorithm	choice Q-10		10Marks	CO3	2	1
10.	What are the advantages of RLS algorithm over LMS algorithm			10Marks	CO3	2	1
11.	Write A and B Questions	choice Q-12		15Marks	CO3	2	2
11.A.	Explain the principle and operation of LMS algorithm			8Marks	CO3	2	2
11.B.	Explain noise cancelling application of LMS algorithm			7Marks	CO3	2	2
12.	Write A and B Questions			15Marks	CO3	2	2
12.A.	Explain importance of transversal filters in RLS algorithm			8Marks	CO3	2	2
12.B.	Write about convergence analysis of RLS algorithm			7Marks	CO3	2	2
13.	Explain Variable Step Size algorithms with example	choice Q-14		10Marks	CO4	3	2
14.	Write the properties of Eigen values and Eigen vectors			10Marks	CO4	3	2
15.	Write A and B Questions	choice Q-16		15Marks	CO4	3	2
15.A.	Block based adaptive algorithms			8Marks	CO4	3	2
15.B.	Write a short note on gradient and minimum mean-square error			7Marks	CO4	3	2
16.	Write A and B Questions			15Marks	CO4	3	2
16.A.	With the help of block diagram explain the principle of adaptation in detail. And give the application of the system for real time analysis			8Marks	CO4	3	2
16.B.	Explain about importance of Eigen filters			7Marks	CO4	3	2

[object HTMLDivElement]