Aditya Institute of Technology and Management (Autonomous), Tekkali

M.Tech (DECS), 2014-15 SEM-I

Subject: Detection and estimation of signals

Name of the faculty: Sri. D.Yugandhar

Periods	Date (Tentative)	Topic	Unit No	Teaching Methodology	Remarks	Corrective Action Upon Review
1	01-12-14	Introduction to Continuous signals, Sampling theorem, Discrete time signals & Notation	Unit I	BB		
2	02-12-14	Fourier series representation of Continuous and Discrete time signals.		BB		
3	03-12-14	Fourier transform, Magnitude and phase spectrum representation.		BB		
4	05-12-14	Interpolation function , Frequency content and sampling rates.		BB		
5	10-12-14	Transfer function and its frequency response.		BB		
6	11-12-14	Need of filtering & Finding response of average filter		BB		
7	12-12-14	Problems on Fourier Series and Fourier Transform		BB		
8	15-12-14	Random variable concept & Moments with respect to origin and its mean value	Unit II	BB		
9	15-12-14	How to test a data processing system. Pseudo noise generation		BB		
10	16-12-14	Density shaping of Pseudo noise		BB		
11	18-12-14	Probability distribution & density function and properties		BB		
12	22-12-14	Introduction to auto correlation & Power spectral density		BB		
13	25-12-14	Average filter concept in terms of variance and standard deviation		BB		
14	29-12-14	Sampling of band limited signal		BB		

15	31-12-14	Sample auto correlation function and periodogram	Unit III	BB		
16	02-01-15	Detection of signal sin noise, Optimum detection algorithm, Maximum probability error		BB		
17	19-01-15	Neyman Pearson criteria- Introduction		BB		
18	20-01-15	Neyman Pearson criteria- with RADAR application		BB		
19	26-01-15	Detection of constant amplitude signals in noise		BB		
20	27-01-15	Detection of variable amplitude signals in noise		BB		
21	28-01-15	Matched filter concept in detail		BB		
22	02-02-15	Adhoc formulation of the noise problem	Unit IV	BB		
23	03-02-15	Optimum formulation of the noise problem		BB		
24	04-02-15	Detection of random signals in the presence of noise		BB		
25	09-02-15	Problems & Solutions		BB		
26	10-02-15	Problems & Solutions		BB		
27	11-02-15	Estimation of signals in noise- Least Mean Square Estimation	Unit V	BB		
28	16-02-15	Estimation using Bayes Estimator		BB		
29	16-02-15	Examples of Bayes estimate		BB		
30	17-02-15	Maximum likelihood estimation of parameters of linear system		BB		
31	18-02-15	Introduction- Estimation of a signal parameter		BB		
32	18-02-15	Estimation of time varying signals- Kalman filtering		BB		
33	19-02-15	Kalman filtering in detail		BB		
34	20-12-15	One step signal prediction		BB		

35	23-02-15	Signal filtering – Kalman Filters		BB		
36	24-02-15	Applications of Kalman filtering to traffic systems		BB		
37	24-02-15	Applications of Kalman filtering to RADAR Problems		BB		
38	24-02-15	Problems & Solutions		BB		
39	25-02-15	Problems & Solutions		BB		
40	25-02-15	Problems & Solutions		BB		

Signature of the faculty

Signature of HOD/ECE