

# LESSON PLAN

| Period | Date (Tentative) | Topic  | Unit No. | Teaching Methodology | Remarks | Corrective Action Upon Review |
|--------|------------------|--|----------|----------------------|---------|-------------------------------|
| 1      | 10/9             | Introduction to Discrete time signals              | I        | BB                   |         |                               |
| 2      | 11/9             | Fourier series representation                      | "        | "                    |         |                               |
| 3      | 12/9             | Fourier Transform of discrete time signals.        | "        | "                    |         |                               |
| 4      | 13/9             | Examples: Amplitude and phase spectrum.            | "        | "                    |         |                               |
| 5      | 13/9             | Frequency content and sampling rates.              | "        | "                    |         |                               |
| 6      | 18/9             | Transfer function.                                 | "        | "                    |         |                               |
| 7      | 19/9             | Frequency response.                                | "        | "                    |         |                               |
| 8      | 20/9             | practice problems.                                 | "        | "                    |         |                               |
| 9      | 20/9             | Random discrete time signals.                      | II       | BB                   |         |                               |
| 10     | 25/9             | Review of probability Random data.                 | "        | "                    |         |                               |
| 11     | 26/9             | Ran. moments and histograms.                       | "        | "                    |         |                               |
| 12     | 27/9             | Generation and shaping of pseudo random noise.     | "        | "                    |         |                               |
| 13     | 27/9             | Filtered random signals.                           | "        | "                    |         |                               |
| 14     | 3/10             | Autocorrelation and power spectral density.        | "        | "                    |         |                               |
| 15     | 4/10             | Sampling band limited random signals.              | "        | "                    |         |                               |
| 16     | 4/10             | practice problems.                                 | "        | "                    |         |                               |
| 17     | 9/10             | optimum algorithms for detecting signals in noise. | III      | BB                   |         |                               |
| 18     | 10/10            | Minimum probability of error.                      | "        | "                    |         |                               |
| 19     | 11/10            | extension: Neyman Pearson criterion for radar.     | "        | "                    |         |                               |
| 20     | 11/10            | Applications to Air traffic control radar.         | "        | "                    |         |                               |

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|--------|------------------|--|----------|----------------------|---------|-------------------------------|
| 21     | 17/10            | Detection of constant and                | "        | "                    |         |                               |
| 22     | 18/10            | variable - amplitude signals.            | "        | "                    |         |                               |
| 23     | 18/10            | Revision of 3 <sup>rd</sup> unit         | "        | "                    |         |                               |
| 24     | 23/10            | practice problems                        | "        | "                    |         |                               |
| 25     | 24/10            | optimum algorithms for detection of      | IV       | BB                   |         |                               |
| 26     | 25/10            | signals in noise - 2.                    | "        | "                    |         |                               |
| 27     | 25/10            | matched filters.                         | "        | "                    |         |                               |
| 28     | 30/10            | optimum formulation                      | "        | "                    |         |                               |
| 29     | 31/10            | detection of Random signals.             | "        | "                    |         |                               |
| 30     | 13/11            | Simple problems there on with            | "        | "                    |         |                               |
| 31     | 15/11            | multisampling cases.                     | "        | "                    |         |                               |
| 32     | 20/11            | Revision of 4 <sup>th</sup> unit         | "        | "                    |         |                               |
| 33     | 21/11            | Estimation of signals in noise -         | V        | BB                   |         |                               |
| 34     | 22/11            | Linear mean squared estimation.          | "        | "                    |         |                               |
| 35     | 22/11            | Bayes estimator.                         | "        | "                    |         |                               |
| 36     | 27/11            | its Examples.                            | "        | "                    |         |                               |
| 37     | 28/11            | maximum likelihood                       | "        | "                    |         |                               |
| 38     | 4/12             | Estimate of parameters of Linear system. | "        | "                    |         |                               |
| 39     | 5/12             | Revision of 5 <sup>th</sup> unit.        | "        | "                    |         |                               |
| 40     | 11/12            | practice problems                        | "        | "                    |         |                               |

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[illegible]