Lesson Plan

Name of faculty : Mr. Surender Chahal

Discipline : Electrical Engineering

Semester : 3rd

Subject : Network Analysis and Synthesis (EE-203L)

Lesson plan duration : 15 weeks

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Week | Theory | | | Covered Date | | | |
|  | Lecture  Day | Topic (Including assignment / Test) | |  |  | | |
| **Unit-I** | | | | | | | |
| 1st | 1 | Introduction to Topology | |  |  | | |
| 2 | Principles of network topology | |
| 3 | graph matrices | |
| 4 | network analysis using graph theory | |
| 2nd | 5 | Numerical problems | |  |  | | |
| 6 | Numerical problems | |
| 7 | Transient Response of RC CKT | |
| 8 | Transient Response of RL CKT | |
| 3rd | 9 | Transient Response of RLC CKT | |  |  | | |
| 10 | various excitation signals Such as | |
| 11 | Step, ramp response | |
| 12 | impulse and sinusoidal using laplace transform | |
| **Unit-II** | | | | | | | |
| 4th | 13 | NETWORK FUNCTIONS | |  |  | | |
| 14 | Terminal pairs or Ports | |
| 15 | Network functions for one-port | |
| 16 | and two-port networks | |
| 5th | 17 | poles and zeros of Network functions, | |  |  | | |
| 18 | Restrictions on pole and zero Locations | |
| 19 | for driving point functions | |
| 20 | transfer functions, | |
| 6th | 21 | Time domain behavior | |  |  | | |
| 22 | thepole-zero plot time response analysis | |
| 23 | Numerical Problems | |
| 24 | Numerical Problems | |
| **7th** | **1st Minor Test** | | |
| **Unit-III** | | | |
| 8th | 25 | CHARACTERISTICS OF TWO PORT NETWORKS | |  |  | | | |
| 26 | PARAMETERS OF TWO PORT NETWORKS | |
| 27 | Relationship of two-port variables | |
| 28 | short-circuit Admittance parameters | |
| 9th | 29 | open circuit impedance parameters | |  |  | | | |
| 30 | Transmission parameters | |
| 31 | hybrid parameters | |
| 32 | relationships between parameter sets | |
| 10th | 33 | Inter-connection of two port networks | |  |  | | | |
| 34 | Numerical Problems | |
| 35 | Numerical Problems | |
| 36 | Numerical Problems | |
| **Unit-IV** | | |
| 11th | 37 | TYPES OF FILTERS | |  | | |  | |
| 38 | Characterstics of filter | |
| 39 | Filter fundamentals | |
| 40 | high-pass | |
| 12th | 41 | low-pass | |  | | |  | |
| 42 | band-pass | |
| 43 | band-reject Filters | |
| 44 | NETWORK SYNTHESIS | |
| 13th | 45 | Positive real functions | |  | | |  | |
| 46 | synthesis of one port n/w | |
| 47 | synthesis of two port n/w | |
| 48 | elementary ideas of Active networks. | |
| **14th** | **2nd Minor test** | |
| 15th | 49 | Numerical Problems | |  | |  | | |
|  | 50 | Numerical Problems | |
|  | 51 | Special test | |
|  | 52 | Test discussion. | |