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

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| 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. |