**NFTL**

Name of faculty: Seema

Discipline: ECE/Lecturer

Semester:3rd

Lesson plan duration : 15 Weeks(from September 2022 to January 2023)

Work load (lecture/practical) per week (in hours) : 03 hrs/ 02 hrs(per Group)

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| Week | Theory | Practical |
|  | Lecture day |  Topic  | Practical day | Topic |
| 1st | 1st | **Networks:** Two port network, symmetrical network, asymmetrical network, Balanced network, Unbalanced network,  | 1st | To measure the Characteristic Impedance of symmetrical T and PI network. |
| 2nd | T Network, PI network, Ladder network, Lattice network, L network, Bridge T- network,. | 2nd | To measure the Characteristic Impedance of symmetrical T and PI network.. |
| 3rd | Symmetrical network, Characteristics Impedance Propagation Constant, attenuation Constant. | 3rd | To measure the Characteristic Impedance of symmetrical T and PI network.. |
| 2nd | 4th | Phase Shift Constant, Insertion loss of symmetrical network  | 1st | To measure the image Impedance of given assymetrical T and PI network. |
| 5th | Concept and significance of iterative Impedance, Image Impedance. | 2nd | To measure the image Impedance of given assymetrical T and PI network. |
| 6th | Image transfer Constant, Insertion loss. Half section, L section | 3rd | To measure the image Impedance of given assymetrical T and PI network. |
| 3rd | 7th | Symmetrical T section, symmetrical pie section. | 1st | Determine the Characteristic Impedance of low pass Filter. |
|  | 8th | Symmetrical T half section, Symmetrical pie half section concept, Applications of Networks. | 2nd | Determine the Characteristic Impedance of low pass Filter. |
| 9th | Attenuator, Types of attenuation, Units of attenuation, Decibel &Nepers. General Characteristics of Attenuation | 3rd | Determine the Characteristic Impedance of low pass Filter. |
| 4th | 10th | Analysis of design of attenuators, Symmetrical T type Attenuator, | 1st | To measure the attenuation of symmetrical T and PI Attenuator. |
|  | 11th | Analysis of design of attenuators, Symmetrical PI type Attenuator, | 2nd | To measure the attenuation of symmetrical T and PI Attenuator. |
|  | 12th | Analysis of design of Symmetrical L type Attenuator. | 3rd | To measure the attenuation of symmetrical T and PI Attenuator. |
| 5th | 13th | Filters, Uses of filters in different communication system. | 1st | To measure the Characteristic Impedance of high pass Filter. |
|  | 14th | Concept of Low pass Filter, it’s design and applications. Concept of High pass Filter, Cut off frequency, Design & application. | 2nd | To measure the Characteristic Impedance of high pass Filter. |
|  | 15th | Concept of band pass Filter, design & application. Concept of Band stop filter , it’s design & application. | 3rd | To measure the Characteristic Impedance of high pass Filter. |
| 6th | 16th | Prototype filter section, Impedance Characteristics, Frequency Characteristics of low and high pass Filter. | 1st | To measure Impedance Characteristic and attenuation Characteristic of band pass Filter. |
|  | 17th | Attenuation vs Frequency, Phase shift vs Frequency. Characterstics Impedance vs Frequency, its significance | 2nd | To measure Impedance Characteristic and attenuation Characteristic of band pass Filter. |
|  | 18th | Simple design of prototype low pass Filter and it’s application. | 3rd | To measure Impedance Characteristic and attenuation Characteristic of band pass Filter. |
| 7th | 19th | Ist Sessionals | 1st | . |
|  | 20th |  Ist Sessionals | 2nd |  |
|  | 21th | Ist Sessionals | 3rd | . |
| 8th | 22th | M derived Filter, limitations of prototype filter , need of m derived Filter. | 1st | To measure Impedance Characteristic and attenuation Characteristic of m derived low pass Filter . |
|  | 23th | Crystal Filter, crystal and it’s equivalent ckt, property of piezo electric Filter and it’s uses | 2nd | To measure Impedance Characteristic and attenuation Characteristic of m derived low pass Filter . |
|  | 24th | Active Filters, basic concept of active filter, comparison of passive Filter. | 3rd | To measure Impedance Characteristic and attenuation Characteristic of m derived low pass Filter . |
| 9th | 25th | Transmission Line ,Types of transmission Line, it’s applications. | 1st | To measure Impedance Characteristic and attenuation Characteristic of m derived low pass Filter |
|  | 26th | Transmission Lines applications,Distributed constants of transmission Line | 2nd | To measure Impedance Characteristic and attenuation Characteristic of m derived low pass Filter |
|  | 27th | T and PI representation of transmission Line , primary and secondary constant of transmission line | 3rd | To measure Impedance Characteristic and attenuation Characteristic of m derived low pass Filter |
| 10th | 28th | Characteristic Impedance of transmission Line | 1st | viva |
|  | 29th | Concept of infinite line | 2nd | viva  |
|  | 30th | REVISION/DOUBTS SESSION | 3rd | viva |
| 11th | 31th | IInd Sessionals | 1st |  |
|  | 32th | IInd Sessionals | 2nd |  |
|  | 33th | IInd Sessionals | 3rd |  |
| 12th | 34th | Condition for minimum distortion, minimum attenuation of signal on the line. | 1st | Draw attenuation Characteristic of Crystal Filter |
|  | 35th | Introduction to loading methods, Concept of Reflection. | 2nd | Draw attenuation Characteristic of Crystal Filter |
|  | 36th | Concept of standing wave, Reflection coefficient. | 3rd | Draw attenuation Characteristic of Crystal Filter |
| 13th | 37th | Concept of SWR, Concept of VSWR, Relation between SWR and VSWR | 1st | Revision/uncoveredpractical |
|  | 38th | Concept of transmission Line at high frequency | 2nd | Revision/uncoveredpractical |
|  | 39th | Introduction to stubs and it’s types(single, open and short stubs) | 3rd | Revision/uncoveredpractical |
| 14th | 40th |  HVDC | 1st | viva |
|  | 41th | Advantages and Disadvantages and Area of Application HVDC | 2nd | viva |
|  | 42th | REVISION/DOUBTS SESSION | 3rd | viva |
| 15th | 43th | IIIrd Sessionals | 1st |  |
|  | 44th | IIIrd Sessionals | 2nd |  |
|  | 45th | IIIrd Sessionals | 3rd |  |