Lecture Plan -1

Doc. No.: DCE/0/15
Revision :00
Semester:-6th Course Code:-EE-344-F

Subject: - TL&N Section: A

S. No.	Topic :-TRANSMISSION LINE	Time Allotted:-
1.	**Introduction** Brief discussion about transmission line	5 min
2	**Division of the Topic** -fundamental quantities -primary constants of transmission of line Loop inductance	35 min
3.	**Conclusion** Derived loop inductance of the transmission line	5 min
4	—————— **Questions / Answers** 1. 1 define the following terms and their physical significance A) attenuation function b) characteristic impedance impedance c)phase function d)phase velocity	5min

Assignment to be given:- NIL
Reference Readings:-

1. Transmission line and network – Umesh shinha

Doc. No.: DCE/0/15
Revision :00

Lecture Plan -2

Semester:-6th Course Code:-EE-344-F

Subject:-TL&N Section: A

S. No.	Topic :- shunt capacitance and loop resistance	Time Allotted:-
1.	**Introduction** Shunt capacitance of transmission line Loop resistance of transmission line.	5 min
2	**Division of the Topic** derivation of shunt capacitance Derivation of the loop resistance	35 min
3	**Conclusion** derive shunt capacitance and loop resistance	5 min
4 5	**Questions / Answers** **Q1**..how the capacitance effect and loop inductance effect in the Transmission line?	5min

Assignment to be given:-
Assignment-I enclosed
Reference Readings:-

1. Transmission line and network – Umesh shinha

Doc. No.: DCE/0/15
Revision :00

Lecture Plan -3

Semester:-6th Course Code:-EE-344-F

Subject:- TL&N Section: A

S. No.	TOPIC: skin effect and transmission line equation	Time Allotted:-
1.	**Introduction** Skin effect and transmission line equation	5 min
2	**Division of the Topic** Determination of the of the constants A and B Infinite line Infinite line is equivalent to finite line terminated in its impedance Characteristics of impedance	35 min
3.		5 min
4	**Conclusion** Brief discussion of the skin effect and its effect in transmission line . **Questions / Answers** 1. what is the skin effect? 2. Explain how the skin effect on losses in transmission of the line?	5min

Assignment to be given:- NIL

Reference Readings:-

1. Transmission line and network – Umesh shinha

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Lecture Plan -4

Semester:-6th Course Code:-EE-344-F

Subject:- TL&N Section: A

S. No.	TOPIC: OPEN, SHORT AND TERMINATED LINES	Time Allotted:-
1.	**Introduction** Open and short circuit line Terminated line	5 min
2	**Division of the Topic** Reflected and incident waves; standing waves in open and short-circuited lines;	35 min
3.	**Conclusion** Derivation for standing waves.	5 min
4	**Questions / Answers** Define the standing wave and reflected waves	5min

Assignment to be given:- NIL

Reference Readings:-

1. Transmission line and network – Umesh shinha

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Lecture Plan -5

Semester:-6th Course Code:-EE-344-F

Subject:-TL&N Section: A

S. No.	**TOPIC:** Input Impedance of open and short-circuited lines	**Time Allotted:-**
1.	**Introduction** Characteristics of impedance Impedance of open and short circuited lines	5 min
2	**Division of the Topic** Input impedance And characteristics of impedance Open and short circuit impedance	35 min
3.	**Conclusion** Derived equation for characteristics of impedance	5 min
4	**Questions / Answers** 1 explain the reactive termination concept in transmission line	5min

Assignment to be given:- NIL

Reference Readings:-

1. Transmission line and network – Umesh shinha

Doc. No.: DCE/0/15
Revision :00

Lecture Plan -6

Semester:-6th Course Code:-EE-344-F

Subject:-TL&N Section: A

S. No.	**TOPIC:** Transmission lines as circuit Elements	**Time Allotted:-**
1.	**Introduction** Transmission lines as circuit elements And output coefficients	5 min
2	**Division of the Topic** Equation for the out put	35 min
3.	**Conclusion** **Calculate circuit elements R L C Y**	5 min
4	**Questions / Answers** 1 define the input impedance of the transmission line? 2 explain the phenomenon of the reflection on transmission ?	5min

Assignment to be given:- Assignment II given as enclosed

Reference:-

1. 1. Transmission line and network – Umesh shinha

Doc. No.: DCE/0/15
Revision :00

Lecture Plan -7

Semester:-6th Course Code:-EE-344-F

Subject:-TL&N Section: A

S. No.	TOPIC: Input Impedance of terminated lines	Time Allotted:-
1.	**Introduction** Calculation of the energy based on the loading and no loadeof the Electrical machine. .impact the load on the calculation of the out put of the machine.	5 min
2	**Division of the Topic** Magnetic loading Reflection Co-efficient Output of the machine.	35 min
3.	**Conclusion** Based on the output calculated efficiency.	5 min
4	**Questions / Answers** 1 consider the random values of short transmission line Calculate the efficiency of the line?	5min

Assignment to be given:- NIL

Reference Readings:-

1. Transmission Lines and Networks by UMESH SINHA, Satya Prakashan

Doc. No.: DCE/0/15
Revision :00

Lecture Plan -8

Semester:-6th Course Code:-EE-344-F

Subject:-TL&N Section: B

S. No.	TOPIC: Standing wave Ratio	Time Allotted:-
1.	**Introduction** Standing wave ration	5 min
2	**Division of the Topic** - Reflection loss due to mismatching; Efficiency.	35 min
3.	**Conclusion** Derived standing wave	5 min
4	**Questions / Answers** Define the standing wave?	5min

Assignment to be given:- NIL

Reference Readings:-

1. Transmission Lines and Networks by UMESH SINHA, Satya Prakashan

Doc. No.: DCE/0/15
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Lecture Plan -9

Semester:-6th Course Code:-EE-344-F

Subject:-TL&N Section: B

S. No.	TOPIC: Power Lines	Time Allotted:-
1.	**Introduction** Transmission of Electrical Energy; Losses in line	5 min
2	**Division of the Topic** Transmission of Electrical Energy; Overhead transmission lines	35 min
3.	**Conclusion** Observed electrical energy transmission concept	5 min
4	**Questions / Answers** 1. Explain the low frequency and high frequency lines	5min

Assignment to be given:-Nil

Reference Readings:- 1. Transmission of Electrical Energy; Overhead transmission lines.

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Lecture Plan -10

Semester:-6th Course Code:-EE-344-F

Subject:-TL&N Section: B

S. No.	TOPIC: Overhead transmission lines	Time Allotted:-
1.	**Introduction** Characteristics of low frequency transmission lines,	5 min
2	**Division of the Topic** Low frequency line High frequency line	35 min
3.	**Conclusion** Derived losses in line due to low and high frequency	5 min
4	**Questions / Answers** How the distributed parameter varies with high frequency?	5min

Assignment to be given:-Nil

Reference Readings:- 1. Transmission Lines and Networks by UMESH SINHA, Satya Prakashan

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Lecture Plan -11

Semester:-6th Course Code:-EE-344-F

Subject:-TL&N Section: B

S. No.	TOPIC: Cha racteristics of low frequency transmission lines	Time Allotted:-
1.	**Introduction** Effect of length; calculation of Inductance	5 min
2	**Division of the Topic** -concept of inductive reactance	35 min
3.	**Conclusion** Calculated inductance of the transmission line	5 min
4	**Questions / Answers** **1 how the inductive reactance effect on the transmission lne?**	5min

Assignment to be given:- NIL

Reference Readings:- 1 Transmission Lines and Networks by UMESH SINHA, Satya Prakashan

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Lecture Plan -12

Semester:-6th Course Code:-EE-344-F

Subject:-TL&N Section: B

S. No.	Effect of length; calculation of Inductance	Time Allotted:-
1.	**Introduction** Short length line Medium line Long line	5 min
2	**Division of the Topic** -short line Medium line Long line	35 min
3.	**Conclusion** Calculation of reactance and leakage reactance Ohmic losses in winding	5 min
4	**Questions / Answers** **Calculate how the reactance varies base on length of the line?**	5min

Assignment to be given:- NIL
Reference Readings:-
Transmission Lines and Networks by UMESH SINHA, Satya Prakashan

Doc. No.: DCE/0/15
Revision :00

Lecture Plan -13

Semester:-6th Course Code:-EE-344-F

Subject:-TL&N Section: B

S. No.	TOPIC: Capacitance	Time Allotted:-
1.	**Introduction** Capacitance of the line Capacitance of the multiple line .	5 min
2	**Division of the Topic** -capacitance of single line and multiple line	35 min
3.	**Conclusion** Calculated the capacitance effect	5 min
4	**Questions / Answers** Calaculate the capacitance of the single and multiple of the line?	5min

Assignment to be given:- NIL
Reference Readings:- Transmission Lines and Networks by UMESH SINHA, Satya Prakashan

Doc. No.: DCE/0/15
Revision :00

Lecture Plan -14

Semester:-6th Course Code:-EE-344-F

Subject:-TL&N Section: B

S. No.	TOPIC: circle diagram	Time Allotted:-
1.	**Introduction** Performance of the line Efficiency calculation	5 min
2	**Division of the Topic** -parameters line, efficiency	35 min
3.	**Conclusion** Constructe the transmission line circle diagram	5 min
4	**Questions / Answers** **Q1** What is the significance of circle Diagram?	5min

Assignment to be given:- NIL
Reference Readings:-

Doc. No.: DCE/0/15
Revision :00

Lecture Plan -15

Semester:-6th Course Code:-EE-344-F

Subject:-TL&N Section: B

S. No.	**TOPIC:** Receiving-end power diagrams	**Time Allotted:-**
1.	**Introduction** Input parameters like KW, Voltage, PF, Frequency, and any parameter guaranteed	5 min
2	**Division of the Topic** -output power Voltage Power factor Frequency	35 min
3.	**Conclusion** Calaculate line frequency	5 min
4	**Questions / Answers** Consider different values and calculate the power of the line and pf?	5min

Assignment to be given:- NIL
Reference Readings:-

Doc. No.: DCE/0/15
Revision :00

Lecture Plan -16

Semester:-6th Course Code:-EE-344-F

Subject:-TL&N Section: B

S. No.	TOPIC: sending-end power diagram	Time Allotted:-
1.	**Introduction** Sending end power diagram .	5 min
2	**Division of the Topic** -variation of the transmission line parameter due to line lengths	35 min
3.	**Conclusion** Calculated different line parameter	5 min
4	**Questions / Answers** **Q1** .calaculate the line parameter L C R Y?	5min

Assignment to be given:- NIL
Reference Readings:- Transmission Lines and Networks by UMESH SINHA, Satya Prakashan

Doc. No.: DCE/0/15
Revision :00

Lecture Plan -17

Semester:-6th Course Code:-EE-344-F

Subject:-TL&N Section: B

S. No.	TOPIC: Efficiency of transmission line	Time Allotted:-
1.	**Introduction** Efficiency of transmission of the line	5 min
2	**Division of the Topic** Efficiency of the transmission line	35 min
3.	**Conclusion** Calculated the efficiency of the transmission of the line	5 min
4	**Questions / Answers** **1.** Explain the standing wave ratio relating to a transmission line **2.** Derive the expression for standing wave ratio in terms of reflection coeffient in losses line	5min

Assignment to be given:- NIL

Reference Readings:- Transmission Lines and Networks by UMESH SINHA, Satya Prakashan

Doc. No.: DCE/0/15
Revision :00

Lecture Plan -18

Semester:-6th Course Code:-EE-344-F

Subject:-TL&N Section: C

S. No.	Topic :- TRANSMISSION LINES MEASUREMENTS	Time Allotted:-
1.	**Introduction** The measurement of standing wave ratio The measurement of wave length The measurement of impedance.	5 min
2	**Division of the Topic** Measurement of standing wave ratio The measurement power The measurement of impedance	35 min
3.	**Conclusion** Measured the power and impedance of the line	5 min
4	**Questions / Answers** **Q1** define and explain the term insertion loss	5min

Assignment to be given:-

Reference Readings:-

1. Transmission Lines and Networks by UMESH SINHA, Satya Prakashan

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Revision :00

Lecture Plan -19

Semester:-6th Course Code:-EE-344-F

Subject:-TL&N Section: C

S. No.	Topic :- The Measurement of standing wave Ratio	Time Allotted:-
1.	**Introduction** Standing wave measurement Measurement of primary and secondary constants .	5 min
2	**Division of the Topic** Measurement of reflection coefficient Special impedance measuring methods	35 min
3.	**Conclusion** Special impedance measuring methods	5 min
4	**Questions / Answers** .1 explain the methods of measurement of wave length by leeher-wire system. What precaution are taken to have good accuaracy.	5min

Assignment to be given:-

Reference Readings:- Transmission Lines and Networks by UMESH SINHA, Satya Prakashan

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Lecture Plan -20

Semester:-6th Course Code:-EE-344-F

Subject:-TL&N Section: C

S. No.	Topic : Wavelength, Impedance	Time Allotted:-
1.	**Introduction** Measurement of wave length Bolometer	5 min
2	**Division of the Topic** Measurement of wave length Uses of bolometer	35 min
3.	**Conclusion** Measured the wave length by using bolometer	5 min
4	**Questions / Answers** . 1 how will you measure the power by bolo meter ? What are the two types of bolo meter generally used?	5min

Assignment to be given:-

Reference Readings:- Transmission Lines and Networks by UMESH SINHA, Satya Prakashan

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Revision :00

Lecture Plan -21

Semester:-6th Course Code:-EE-344-F

Subject:- TL&N Section: C

S. No.	Topic :- Power and Reflection Coefficient	Time Allotted:-
1.	**Introduction** Power reflection coefficient	5 min
2	**Division of the Topic** Power reflection coefficient Measurement of insertion loss	35 min
3.	**Conclusion** Measured the reflection coefficients and insertion loss	5 min
4	**Questions / Answers** Q describe method of measuring reflection coefficient after determining the standing wave ratio	5min

Assignment to be given:-Nil

Reference Readings:-

1. Transmission Lines and Networks by UMESH SINHA, Satya Prakashan

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Lecture Plan -22

Semester:-6th Course Code:-EE-344-F

Subject:-TL&N Section:C

S. No.	Topic: Special Impedance Measuring methods	Time Allotted:-
1.	**Introduction** Measurement of standing waves in wave guides; Measurement of Insertion loss.	5 min
2	**Division of the Topic** Measurement of standing waves in wave guides; Measurement of Insertion loss.	35 min
3.	**Conclusion** Measurement of standing waves in wave guides; Measurement of Insertion	5 min
4	**Questions / Answers** Define the insertion loss	5min

Assignment to be given:-Nil
Reference Readings:- Transmission Lines and Networks by UMESH SINHA, Satya Prakashan

Doc. No.: DCE/0/15
Revision :00

Lecture Plan -23

Semester:-6th Course Code:-EE-344-F

Subject:-TL&N Section:D

S. No.	Topic:- EQUALIZERS AND FILTERS	Time Allotted:-
1.	**Introduction** Classification of Equalizers; Inverse Impedance and inverse Network;	5 min
2	**Division of the Topic** Classification of Equalizers; Inverse Impedance and inverse Network;	35 min
3.	**Conclusion** Classifiend the eqaulizers	5 min
4	**Questions / Answers** Classify the list of equalizer	5min

Assignment to be given:-Nil

Reference Readings:-

1.Transmission Lines and Networks by UMESH SINHA, Satya Prakashan

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Lecture Plan-24

Semester:-6th Course Code:-EE-344-F

Subject:-TL&N Section:D

S. No.	Topic :- full series Equalizer, full shunt Equalizer and Bridge – T Equalizer	Time Allotted:-
1.	**Introduction:-** Lattice Equalizer; Characteristics of Equalizers.	10 min
2	**Division of the Topic** Sequential Steps for Design of Each Part and Programming Simultaneously. Design of Rotor Computer Output Results for Complete Design	30 min
3.	**Conclusion:** designed rotor by using matlab **Question / Answer**	5 min
4		5 min

Assignment to be given:-Nil

Reference Readings:- Transmission Lines and Networks by UMESH SINHA, Satya Prakashan

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Doc. No.: DCE/0/15
Revision :00

Lecture Plan -25

Semester:-6th Course Code:-EE-344-F

Subject:-TL&N Section:D

S. No.	Topic:- Equalizer for Transmission for Digital Data	Time Allotted:-
	Introduction: Equalizer for transmission for digital data	10 min
2	**Division of the Topic** importance of equalizer in transmission line Different types of equalizer	30 min
	Conclusion: Introduced the equalizer	5 min
4.	**Question / Answer** . 1.applications of equalizer in transmission line	5 min

Assignment to be given:-

Reference Readings:- Transmission Lines and Networks by UMESH SINHA, Satya Prakashan

Doc. No.: DCE/0/15
Revision :00

Lecture Plan -26

Semester:-6th Course Code:-EE-344-F

Subject:- TL&N Section:D

S. No.	Topic:- Active Filters	Time Allotted:-
1.	**Introduction:** filters	5 min
2	**Division of the Topic** filters different types of filters active filter	35 min
3.	**Conclusion**: Studied active filter and passive filter	5 min
4	**Question / Answer** 1. Difference between active filter and passive filter 2. Solve the problems on filters	5min

Assignment to be given:-NIL

Reference Readings

Transmission Lines and Networks by UMESH SINHA, Satya Prakashan

Doc. No.: DCE/0/15
Revision :00

Lecture Plan -27

Semester:-6th Course Code:-EE-344-F

Subject:-TL&N Section:D

S. No.	Topic:- First order and second order Butterworth filter	Time Allotted:-
1.	**Introduction**:- universal active filters	5 min
2	**Division of the Topic** Filter basic circuit High pass filter Low pass filter	35 min
3	**Conclusion:** Introduced filter basic circuit and its applications	5 min
4	**Question / Answer** Write the application of the high pass filter and low pass filter?	5min

Assignment to be given:-NIL

Reference Readings

Transmission Lines and Networks by UMESH SINHA, Satya Prakashan

Doc. No.: DCE/0/15
Revision :00

Lecture Plan -28

Semester:-6th Course Code:-EE-344-F

Subject:-TL&N Section:D

S. No.	Topic:- ATTENUATORS:	Time Allotted:-
1.	**Introduction**: Attenuators	
2	**Division of the Topic** Symmetrical Attenuators, Symmetrical T-Attenuator, -Attenuator	35 min
3.	**Conclusion**: Studied about different attenuator and their functions	5 min
4	**Question / Answer** What is attenuator ? and write the types of attenuator and their functions?	5min

Assignment to be given:-Nil

Reference Readings:-

Transmission Lines and Networks by UMESH SINHA, Satya Prakashan

Doc. No.: DCE/0/15
Revision :00

Lecture Plan -29

Semester:-6th Course Code:-EE-344-F

Subject:-TL&N Section:D

S. No.	Topic:- Bridged T-Attenuator, Lattice Attenuators;	Time Allotted:-
1.	**Introduction** Bridge T- Attenuator	5 min
2	**Division of the Topic** Bridged T- Attenuator, Lattice Attenuator	35 min
3.	**Conclusion** Discussed different attenuator and their applications	5 min
4	**Question / Answer** 1 write the few application of the bridge attenuator? 2.write the application of the lattice attenuator ?	5min

Assignment to be given:-Nil

Reference Readings:-

Transmission Lines and Networks by UMESH SINHA, Satya Prakashan

Doc. No.: DCE/0/15
Revision :00

Lecture Plan -30

Semester:-6th Course Code:-EE-344-F

Subject:-TL&N Section:D

S. No.	Topic:- A Symmetrical T-Attenuator, L-Attenuator, -Attenuator	Time Allotted:-
1.	**Introduction** Attenuator	
2	**Division of the Topic** L-Attenuator Symmetrical T-Attenuator Attenuator for variable load; Balanced and unbalanced Attenuators; Ladder Attenuators.	35 min
3	**Conclusion** Observed the wave form of L- attenuator and compared with bridge attenuator	5min
.4	**Questions?:** **1.** Compare the L- attenuator and Bridge attenuator wave form?	

Assignment to be given:-Nil

Reference Readings:-

Transmission Lines and Networks by UMESH SINHA, Satya Prakashan