Department of Eltx.& Comm. Engg.
LESSON PLAN

Program Name	Diploma in Eltx. & Comm. Engg.
Course Name	Principles of Electronic Communication
Course Code	ECPC201
Course Co-ordinator Name	Aradhana

Evaluation Scheme

Sr. no.	CourseName	Study scheme (Hrs./Week)	Marks in Evaluation Scheme			
			Internal Assessment		External Assessment	
			Theory	Practical	Theory	Practical
1.	Principles of Electronic Communication	3 (Th.) 1(DCS) 2(Pr.) 1 (DCS Pr)	40	40	60	60

Reference Books	(i)	Electronic Communication By George Kennedy
	(ii)	Principles of Communication Engineering By D R Arora , Ishan Publications
	(iii)	Electronic Communication By K S Jamwal, Dhanpat Rai and Co

Course Outcomes (COs)

CO 1	Ability to define various modulation and demodulation techniques.
CO 2	Identify and solve basic communication problems.
CO 3	Generalization of AM, FM & Spread spectrum techniques
CO 4	Compare & contrast design issues, advantages & disadvantages of analog communication systems
CO 5	Analysis of analog and pulse modulation.

Teaching Plan

Sr. No	Name of Topic	Proposed Date	Actual Date	Remarks
1	ANALOG MODULATION: Concept of frequency translation,	01-08-2024		
2	Amplitude Modulation: Description of full AM	05-08-2024		
3	Amplitude Modulation: Description of full AM	06-08-2024		
4	Methods of generation & demodulation DSBSC in time & frequency domain	07-08-2024		
5	Methods of generation & demodulation DSBSC in time & frequency domain	08-08-2024		
6	Methods of generation & demodulation SSB in time & frequency domain	12-08-2024		
7	Methods of generation & demodulation SSB in time & frequency domain	13-08-2024		
8	Methods of generation & demodulation VSB in time & frequency domain	14-08-2024		
9	Methods of generation & demodulation VSB in time & frequency domain	20-08-2024		
10	Descriptions of FM signal in time and frequency domains.	21-08-2024		
11	Descriptions of FM signal in time and frequency domains.	22-08-2024		
12	Revision of unit -1	27-08-2024		
13	2. PULSE ANALOG MODULATION – Definition & its types	28-08-2024		
14	Ideal sampling,	29-08-2024		
15	Sampling theorem,	02-09-2024		
16	Aliasing,	03-09-2024		
17	Aliasing,	04-09-2024		

20	Class Test -1	10-09-2024			
21	Natural and flat top sampling in time & frequency domain.	11-09-2024			
22	Natural and flat top sampling in time & frequency domain.	12-09-2024			
23	Revision of unit -2	16-09-2024			
24	Quantization and its types	17-09-2024			
25	Uniform quantization.	18-09-2024			
26	Non-uniform quantization.	19-09-2024			
27	PCM and delta modulation	23-09-2024			
28	PCM and delta modulation	24-09-2024			
29	Signal to quantization noise ratio in PCM modulation	25-09-2024			
30	Signal to quantization noise ratio in PCM modulation	26-09-2024			
31	Signal to quantization noise ratio in delta modulation	30-09-2024			
32	Signal to quantization noise ratio in delta modulation	1-10-2024			
33	Revision of unit-3	3-10-2024			
34	4. DIGITAL MODULATION - Introduction	7-10-2024			
35	Baseband transmission	8-10-2024			
36	Baseband transmission	9-10-2024			
37	Class Test-II	10-10-2024			
38	Line coding (RZ, NRZ)	14-10-2024			
39	Line coding (RZ, NRZ)	15-10-2024			
40	Inter symbol interference (ISI)	16-10-2024			
41	Pulse shaping,	21-10-2024			
42	Pulse shaping,	22-10-2024			
43	Nyquist criterion for distortion free base band transmission	23-10-2024			
44	Nyquist criterion for distortion free base band transmission	24-10-2024			
45	Raised cosine spectrum.	28-10-2024			
46	Raised cosine spectrum.	29-10-2024			
47	Pass band transmission: Geometric interpretation of signals.	30-10-2024			
48	Pass band transmission: Geometric interpretation of signals.	4-11-2024			
49	Orthogonalization	5-11-2024			
50	Orthogonalization	6-11-2024			
51	Revision of unit-5	7-11-2024			
52	SPREAD-SPECTRUM MODULATION: Introduction	11-11-2024			
53	Pseudo-Noise sequences,	12-11-2024			
54	Pseudo-Noise sequences,	13-11-2024			
55	Direct sequence spread spectrum with coherent BPSK	14-11-2024			
56	Direct sequence spread spectrum with coherent BPSK	18-11-2024			
57	Processing gain, probability of error	19-11-2024			
58	Processing gain, probability of error	20-11-2024			
59	Frequency-hop spread spectrum (FHSS).	21-11-2024			
60	Application of spread spectrum: CDMA.	25-11-2024			
61	Application of spread spectrum: CDMA.	26-11-2024			
62	Revision	27-11-2024			
63	Revision	28-11-2024			
64	Revision	2-12-2024			

Assignments

Assignment Serial	Contents of Syllabus Covered	Proposed Date	Actual Date	Remarks
A-1	Unit I, II	11-9-2024		
A-2	Unit III , IV	30-10-2024		

House Test/Class Test

Name of test	Contents of Syllabus Covered	Proposed Date	Actual Date	Remarks
Class Test-I	30% of syllabus	2ND week of Sept.		
Class Test-II	Next 30% of syllabus	3RD week of Oct.		
House Test	80% of syllabus	2ND week of Nov.		

Lab Plan

Sr. no	Name of Practical	Proposed Date G-I	Proposed Date G-II	Actual Date G-I	Actual Date G-II	Remarks
1.	Doubt Clearing Session	----	01-08-2024			
2.	Harmonic analysis of a square wave of modulated waveform: measures modulation index.	02-08-2024,	03-08-2024			
3.	Doubt Clearing Session	07-08-2024	08-08-2024			
4.	Harmonic analysis of a square wave of modulated waveform: measures modulation index.	09-08-2024	17-08-2024			
5.	Doubt Clearing Session	14-08-2024	22-08-2024			
6.	To modulate a high frequency carrier with sinusoidal signal to obtain FM signal.	16-08-2024	24-08-2024			
7.	Doubt Clearing Session	21-08-2024	29-08-2024			
8.	To modulate a high frequency carrier with sinusoidal signal to obtain FM signal.	23-08-2024	31-08-2024			
9.	Doubt Clearing Session	28-08-2024	5-09-2024			
10.	To study and observe the operation of a super heterodyne receiver	30-08-2024	7-09-2024			
11.	Doubt Clearing Session	04-09-2024	12-9-2024			
12.	To study and observe the operation of a super heterodyne receiver	06-09-2024	21-09-2024			
13.	Doubt Clearing Session	11-09-2024	19-09-2024			

No.	Experiment	Date	Date				
14.	To modulate a pulse carrier with sinusoidal signal to obtain PWM signal and demodulate it.	13-09-2024	28-09-2024				
15.	Doubt Clearing Session	18-09-2024	26-09-2024				
16.	To modulate a pulse carrier with sinusoidal signal to obtain PPM signal and demodulate it.	20-09-2024	5-10-2024				
17	Doubt Clearing Session	25-09-2024	3-10-2024				
18	To modulate a pulse carrier with sinusoidal signal to obtain PPM signal and demodulate it.	27-09-2024	19-10-2024				
19	To observe pulse amplitude modulated waveform and its demodulation.	4-10-2024	26-10-2024				
20	Doubt Clearing Session	09-10-2024	10-10-2024				
21	Doubt Clearing Session	16-10-2024	24-10-2024				
22	To observe pulse amplitude modulated waveform and its demodulation.	18-10-2024	2-11-2024				
23	Doubt Clearing Session	23-10-2024	7-11-2024				
24	To observe the operation of a PCM encoder and decoder. To consider reason for using digital signal x-missions of analog signals.	25-10-2024	16-11-2024				
25	Doubt Clearing Session	30-10-2024	14-11-2024				
26	To observe the operation of a PCM encoder and decoder. To consider reason for using digital signal x-missions of analog signals.	01-11-2024	23-11-2024				
27	Doubt Clearing Session	06-11-2024	21-11-2024				
28	To study & observe the amplitude response of automatic gain controller (AGC).	08-11-2024	30-11-2024				
29	Doubt Clearing Session	13-11-2024	28-11-2024				
30	Doubt Clearing Session	20-11-2024	---				
31	To study & observe the amplitude response of automatic gain controller (AGC).	22-11-2024	--				
32	Doubt Clearing Session	27-11-2024	----				
33	Viva	29-11-2024	--				

Aradhana

(Signature of Teacher)

(ARADHANA)

(Signature of HOD)

LESSON PLAN

Program Name	ELTX & COMM ENGG.
Course/Subject Name	ELECTRONIC MEASUREMENT & INSTRUMENTATION
Course/Subject Code	ECPC213
Course/Subject Coordinator Name	ANIL KUMAR

Evaluation scheme

S.No.	Subject Name	Study scheme (Hrs/Week)	Marks in evaluation scheme			
			Internal Assessment		External Assessment	
			Theory	Practical	Theory	Practical
1.	EM&I	TH [3+1(DCS)	40	60	60	60
	Reference books		1. Electrical & Electronic Measurement AK Sawhney Dhanpat Rai & Sons, India 2. Electronics instrument & Measurement Technique W. D. Cooper Prentice Hall International India 3. Electronic Measurement & Instrumentation J. G. Joshi Khanna Publishing House . Delhi 4. Electronic Instrumentation H.S. Kalsi The Mcgraw- Hill			

Program Specific Outcomes (COs):

CO1	Understand fundamental of various electrical measurements.
CO2	Describe the measurement bridges, potentiometer and transducer.
CO3	Formulation of bridges and transducers.
CO4	Learning of measurement using various instruments under different setups.
CO5	Understanding of Oscilloscope and transducer.

Teaching Plan: (16×4=64)

Lecture No.	Topic Covered	Proposed date	Actual Date	Rema
1	**Basics of Measurements and Bridges:** Accuracy& precision ,Resolution (DCS)	01/08/2024	01/08/2024	
2	Types of Errors	03/08/2024	03/08/2024	
3	Types of Errors	05/08/2024	05/08/2024	
4	DC Bridges – Wheatstone and Kelvin Double Bridge	07/08/2024	07/08/2024	
5	DCS	08/08/2024		
6	AC Bridges - Maxwell's Bridge, Hay's Bridge	12/08/2024		
7	AC Bridges - Maxwell's Bridge. Hay's Bridge	14/08/2024		
8	Anderson Bridge	17/08/2024		
9	De-Sauty's Bridge	19/08/2024		
10	De-Sauty's Bridge	21/08/2024		
11	DCS	22/08/2024		
12	**Potentiometer:** Basic DC slide wire Potentiometer	24/08/2024		
13	Crompton's DC Potentiometer	28/08/2024		
14	DCS	29/08/2024		
15	Applications of DC Potentiometer	31/08/2024		
16	AC Potentiometers	02/09/2024		
17	AC Potentiometers	04/09/2024		
18	DCS	05/09/2024		
19	Applications of AC Potentiometers.	07/09/2024		
20	DCS	09/09/2024		
21	**Measuring Instruments:** Permanent Magnet Moving Coil Instruments (PMMC).	11/09/2024		
22	DCS	12/09/2024		
23	Moving Iron type Instruments (MI).	16/09/2024		
24	Moving Iron type Instruments (MI).	18/09/2024		
25	DCS	19/09/2024		
26	Electro Dynamo Type Instruments.	21/09/2024		
27	Single Phase Energy Meter	23/09/2024		
28	Single Phase Energy Meter	25/09/2024		
29	DCS	26/09/2024		
30	**Electronic Instruments:** Electronic Voltmeter	28/09/2024		
31	**Electronic Instruments:** Electronic Voltmeter	30/09/2024		
32	Digital Voltmeter	02/10/2024		
33	DCS	03/10/2024		
34	Electronic Multimeters	05/10/2024		
35	Q – Meter	07/10/2024		
36	Vector Impedance Meter	09/10/2024		
37	DCS	10/10/2024		
38	**Oscilloscopes:** Cathode ray tube	14/10/2024		
39	Cathode ray tube :construction, operation, screens, graticules.	16/10/2024		
40	Cathode ray tube :construction, operation, screens, graticules	19/10/2024		
41	Vertical deflection system, Horizontal deflection system	21/10/2024		
42	Vertical deflection system, Horizontal deflection system	23/10/2024		
43	DCS	24/10/2024		

44	Delay line	26/10/2024			
45	Measurement of frequency, time delay, phase angle and modulation index (trapezoidal method)	02/11/2024			
46	Measurement of frequency, time delay, phase angle and modulation index (trapezoidal method)	04/11/2024			
47	Oscilloscope probe	06/11/2024			
48	DCS	07/11/2024			
49	Structure of 1:1 and 10:1 probe	11/11/2024			
50	Multiple Trace CRO.	13/11/2024			
51	DCS	14/11/2024			
52	**Transducers:** Classification	16/11/2024			
53	**Transducers:** Classification	18/11/2024			
54	**Transducers:** Selection Criteria, Characteristics	20/11/2024			
55	DCS	21/11/2024			
56	Construction, Working Principles and Application of RTD	23/11/2024			
57	Construction, Working Principles and Application of Thermocouple	25/11/2024			
58	Construction, Working Principles and Application of Thermistor,	27/11/2024			
59	Construction, Working Principles and Application of LVDT	28/11/2024			
60	DCS	28/11/2024			
61	Construction, Working Principles and Application of Strain Gauge	30/11/2024			
62	Construction, Working Principles and Application of Load Cell	30/11/2024			
63	Piezoelectric Transducers.	02/12/2024			
64	Piezoelectric Transducers.	02/12/2024			

Assignments:

Assignment serial	Contents of syllabus covered	Proposed date	Actual date	Remarks
A-1	**Basics of Measurements and Bridges**	29-08-2024		
A-2	**Measuring Instruments Electronic Instruments**	30-09-2024		

House Test/Class Test:

House/Class Test	Contents of syllabus covered	Proposed date	Actual date	Remarks
CT-I	30% of the syllabus	As per Academic Calender		
CT-II	Next 30% of the syllabus	As per Academic Calender		
House Test	80% of the syllabus	As per Academic Calender		

Lab Plan : (16*2 =32+16=48)

Lab Plan : (16*2 =32+16=48)

Practical Outcomes (PrOs).
The practical in this section are PrOs (i.e. sub-components of the COs) to be developed and assessed in the student for the attainment of the competency.

Experiment No.	Name of Experiment	Proposed date	Actual Date	Remarks
1	Measure Unknown Inductance Using Following Bridges (a) Anderson Bridge (b) Maxwell Bridge	G1 03/08/2024 G2 02/08/2024	G1 G2	
2	Measure Low Inductance by kelvin's Double Bridge	G1 17/08/2024 G2 09/08/2024	G1 G2	
3	Calibrate an Ammeter Using DC Slide wire Potentiometer	G1 24/08/2024 G2 16/08/2024	G1 G2	
4	Calibrate a Voltmeter Using Crompton Potentiometer	G1 31/08/2024 G2 23/08/2024	G1 G2	
5	Measure low resistance by Crompton Potentiometer	G1 07/09/2024 G2 30/08/2024	G1 G2	
6	Calibrate a Single Phase Energy Meter By Panthom Loading	G1 21/09/2024 G2 06/09/2024	G1 G2	
7	Study the Working of Q-meter & Measure Q of Coil	G1 28/09/2024 G2 13/09/2024	G1 G2	
8	Study the Working & Application of (1) C.R.O. (2) Digital Storage C.R.O. (3) C.R. O. Probes	G1 08/10/2024 G2 20/09/2024	G1 G2	
9	Measurement of Displacement With The Help op LVDT	G1 19/10/2024 G2 27/09/2024	G1 G2	
10	Draw the characteristics of the following temperature transducers (a) RTD (Pt-100) (b) Thermistor	G1 26/10/2024 G2 04/10/2024	G1 G2	
11	Measurement of strain/force with the help of strain gauge load cell	G1 02/11/2024 G2 11/10/2024	G1 G2	

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(Signature of HOD)

LESSON PLAN

Program Name	ELTX & COMM ENGG.
Course/Subject Name	Electronics Devices and Circuits
Course/Subject Code	ECPC205
Course/Subject Coordinator Name	AMAN KUMAR SOOD

Evaluation scheme

S.No.	Subject Name	Study scheme (Hrs/Week)	Marks in evaluation scheme			
			Internal Assessment		External Assessment	
			Theory	Practical	Theory	Practical
1.	E.D&C	TH |3+1(DCS)	40	60	60	60
	Reference books		Analog Circuits A.K. Maini Khanna Publishing House Ed. 2018 (ISBN: 978-93-86173- 584). 2. Electronic Devices and Circuits S. Salivahanan and N. Suresh Kumar McGraw Hill Education: Fourth edition (1 July 2017) ISBN: 978-9339219505. 3. Electronics Devices and circuit theory Boyestad&Nashelsky Pearson Education India; 11 edition (2015) ISBN: 978-9332542600. 4. Electronic Principles Albert Malvino& David Bates Tata McGraw Hill Publication 2010 . ISBN: 9780070634244.			

Program Specific Outcomes (COs):

CO 1	To understand various diodes and transistors used in analog electronics.
CO 2	Recognition of amplifier configuration and cascading of amplifiers.
CO 3	Analyze small signal model of FET and MOSFET
CO 4	Demonstration of rectifier. Feedback and oscillators

Teaching Plan: (16×4=64)

Lecture No.	Topic Covered	Proposed date	Actual Date	R
1	**Semiconductor and Diodes:** Definition	02/08/2024		
2	DCS	03/08/2024		
3	**Semiconductor:** Extrinsic/Intrinsic	06/08/2024		
4	**Semiconductor:** N-type & P-type	07/08/2024		
5	PN Junction Diode	09/08/2024		
6	Forward and Reverse Bias Characteristics	13/08/2024		
7	Zener Diode – Principle, characteristics	14/08/2024		
8	Zener Diode – construction, and working	16/08/2024		
9	DCS	17/08/2024		
10	Diode Rectifiers – Half Wave and Full Wave	20/08/2024		
11	Diode Rectifiers – Half Wave and Full Wave	21/08/2024		
12	Filters – C, LC, and PI Filters.	23/08/2024		
13	DCS	24/08/2024		
14	**Bipolar Junction Transistor (BJT):** NPN and PNP Transistor	27/08/2024		
15	**Bipolar Junction Transistor (BJT):** Operation and characteristics	28/08/2024		
16	Common Base Configuration – characteristics and working.	30/08/2024		
17	DCS	31/08/2024		
18	Common Emitter Configuration – characteristics and working	03/09/2024		
19	Common Emitter Configuration – characteristics and working	04/09/2024		
20	Common Collector Configuration – characteristics and working.	06/09/2024		
21	DCS	07/09/2024		
22	Common Collector Configuration – characteristics and working.	10/09/2024		
23	High frequency model of BJT	11/09/2024		
24	Classification of amplifiers	13/09/2024		
25	Classification of amplifiers	17/09/2024		
26	Negative feedback.	18/09/2024		
27	**Field Effect Transistors:** FET – Working Principle	20/09/2024		
28	DCS	21/09/2024		
29	**Field Effect Transistors:** FET – Working Principle	24/09/2024		
30	**Field Effect Transistors:** Classification	25/09/2024		
31	MOSFET Small Signal model	27/09/2024		
32	DCS	28/09/2024		
33	N-Channel/ P-Channel MOSFETs – characteristics	01/10/2024		
34	Enhancement, and depletion mode	04/10/2024		
35	DCS	05/10/2024		
36	MOS- FET as a Switch	08/10/2024		
37	Common Source Amplifiers	09/10/2024		
38	Uni-Junction Transistor: equivalent circuit and operation.	11/10/2024		

39	**SCR DIAC &TRIAC :**SCR – Construction	15/10/2024		
40	**SCR DIAC &TRIAC :**SCR – operation. working, characteristics	16/10/2024		
41	DIAC - Construction, operation, working, characteristics.	18/10/2024		
42	DCS	19/10/2024		
43	DIAC - Construction. operation, working, characteristics.	22/10/2024		
44	TRIAC - Construction, operation, working. characteristics.	23/10/2024		
45	TRIAC - Construction, operation, working, characteristics.	25/10/2024		
46	DCS	26/10/2024		
47	SCR and MOSFET as a Switch	01/11/2024		
48	DCS	02/11/2024		
49	DIAC as bidirectional switch.	05/11/2024		
50	DIAC as bidirectional switch.	06/11/2024		
51	Comparison of SCR, DIAC, TRIAC, MOSFET.	08/11/2024		
52	Comparison of SCR, DIAC. TRIAC, MOSFET.	12/11/2024		
53	**Amplifiers and Oscillators:** Feedback Amplifiers	13/11/2024		
54	DCS	16/11/2024		
55	**Amplifiers and Oscillators:** Properties of negative Feedback	19/11/2024		
56	Impact of feedback on different parameters	20/11/2024		
57	Basic Feedback Amplifier Topologies: Voltage Series	22/11/2024		
58	DCS	23/11/2024		
59	Basic Feedback Amplifier Topologies: Voltage Shunt	26/11/2024		
60	Basic Feedback Amplifier Topologies: Voltage Current Series, Current Shunt	26/11/2024		
61	Oscillator – Basic Principles	27/11/2024		
62	Crystal Oscillator, Non-linear/ Pulse Oscillator .	27/11/2024		
63	Crystal Oscillator, Non-linear/ Pulse Oscillator .	29/11/2024		
64	DCS	30/11/2024		

Lab Plan : (16*2 =32+16=48)

Practical Outcomes (PrOs).
1. To understand the characteristics of diode, Zener diode, DIAC & TRIAC.
2. Verification of output waveforms of half wave and full wave bridge rectifier circuits.
3. Simulate half wave and full wave bridge circuits using suitable software.
4. Develop the circuit for all types of feedback amplifier.

Experiment No.	Name of Experiment	Proposed date	Actual Date	Remarks
1	Construct the circuit and plot the VI characteristics of the PN Junction Diode , find the cut in voltage	G1 06/08/2024 G2 05/08/2024	G1 G2	
2	Construct the circuit and plot the characteristics of a Zener Diode. Find the breakdown voltage	G1 13/08/2024 G2 12/08/2024	G1 G2	
3	Construct a Half Wave Rectifier and obtain regulation characteristics – Without Filters and with Filters Compare the results	G1 20/08/2024 G2 19/08/2024	G1 G2	
4	Construct a Full Wave center tap Rectifier and obtain regulation characteristics – Without Filters and with Filters Compare the results	G1 27/08/2024 G2 02/09/2024	G1 G2	
5	Construct a Bridge Rectifier and obtain regulation characteristics – Without Filters and with Filters	G1 03/09/2024 G2 09/09/2024	G1 G2	
6	Obtain the characteristics of DIAC and TRIAC	G1 10/09/2024 G2 16/09/2024	G1 G2	
7	Simulate half wave, full wave and bridge rectifier using simulation tool like PSpice/ ORCAD/ Multisim	G1 17/09/2024 G2 23/09/2024	G1 G2	
8	Develop a simulation model for Voltage Series and Voltage Shunt Feedback Amplifiers Or Develop circuits for Voltage Series and Voltage Shunt Feedback Amplifiers and obtain output plots. Compare the results with the simulation model.	G1 24/09/2024 G2 30/09/2024	G1 G2	
9	Develop a simulation model for Current Series and Current Shunt Feedback Amplifiers	G1 01/10/2024 G2 07/10/2024	G1 G2	
10	Develop circuits for Current Series and Current Shunt Feedback Amplifiers and obtain output plots. Compare the results with the simulation model.	G1 08/10/2024 G2 14/10/2024	G1 G2	

(Signature of Teacher)

Aman Kumar Sood
(Lecturer ECE)

(Signature of HOD)

LESSON PLAN

Program Name	ELTX & COMM ENGG.
Course/Subject Name	ELECTRICAL CIRCUITS & NETWORKS
Course/Subject Code	ES 104
Course/Subject Coordinator Name	ASHOK KUMAR

Evaluation scheme

S.No.	Subject Name	Study scheme (Hrs/Week)	Marks in evaluation scheme			
			Internal Assessment		External Assessment	
			Theory	Practical	Theory	Practical
1.	ELECTRICAL CIRCUITS & NETWORKS	TH |3+1(DCS)	40	-	60	-
	Reference books		1. Networks and Systems Ashfaq Husain Khanna Publishing House. 2. Network Analysis M. E. Van Valkenburg Prentice Hall of India. 3. Engineering Circuit Analysis W. H. Hayt, J. E. Kemmerly and S. M. Durbin McGraw Hill. 4. Electrical Circuits Joseph Edminister Schaum's Outline, Tata McGraw Hill. 5. Basic Circuit Theory Lawrence P. Huelsma Prentice Hall of India. 6. Network & Systems D. Roy Choudhury Wiley Eastern Ltd. 7. Linear Circuit Analysis De Carlo and Lin Oxford Press.			

Course Outcomes: After the completion of the course the student will be able to:

- Demonstration of network theorems and network graph
- Describe the response and state of 1st order & 2nd order circuit.
- Define the time domain & frequency domain analysis.

Teaching Plan:

Lecture No.	Topic Covered	Proposed date	Actual Date	Remarks
1.	**Basics of Network and Network Theorem:** Node and Mesh Analysis	01-08-2024	01/08/24	
2.	Node and Mesh Analysis	02-08-2024	02/08/24	
3.	Superposition Theorem,	05-08-2024	05/8/24	
		06-08-2024	07/08/24	
4.	**Doubt Clearing Session**	08-08-2024		
5.	**Revision Class**			
6.	Superposition Theorem,	09-08-2024		
7.	Thevenin Theorem	12-08-2024		
8.	Norton Theorem	13-08-2024		
9.	**Doubt Clearing Session**	16-08-2024		
10.	**Revision Class**	19-08-2024		
11.	Maximum Power transfer theorem	20-08-2024		
12.	Maximum Power transfer theorem	22-08-2024		
13.	Reciprocity Theorem	23-08-2024		
14.	**Doubt Clearing Session**	27-08-2024		
15.	**Revision Class**	29-08-2024		
16.	**Graph Theory:** Concept of Graph	30-08-2024		
17.	Concept of Graph	02-09-2024		
18.	Node Tree of network, and incidence matrix	03-09-2024		
19.	**Doubt Clearing Session**	05-09-2024		
20.	**Revision Class**	06-09-2024		
21.	Node Tree of network, and incidence matrix	09-09-2024		
22.	Analysis of resistive network using cut-set and tie-set	10-09-2024		
23.	Analysis of resistive network using cut-set and tie-set	12-09-2024		
24.	**Doubt Clearing Session**	13-09-2024		
25.	**Revision Class**	16-09-2024		
26.	Duality Theorem and their application in the electrical circuits	19-09-2024		
27.	**Time Domain and Frequency Domain Analysis:** Solution of first and second order differential equations for Series and parallel R-L, R-C, R-L-C circuits.	20-09-2024		
28.	**Time Domain and Frequency Domain Analysis:** Solution of first and second order differential equations for Series and parallel R	23-09-2024		

29.	Doubt Clearing Session	24-09-2024	
30.	**Revision Class**	26-09-2024	
31.	**Time Domain and Frequency Domain Analysis:** Solution of first and second order differential equations for Series and parallel R.	27-09-2024	
32.	R-C, R-L-C circuits. Initial and Final conditions in network elements. Forced and Free response, time constants	30-09-2024	
33.	Forced and Free response, time constants.	01-10-2024	
34.	**Doubt Clearing Session**	03-10-2024	
35.	**Revision Class**	04-10-2024	
36.	Forced and Free response, time constants.	07-10-2024	
37.	Steady State and Transient State Response.	08-10-2024	
38.	Analysis of electrical circuits using Laplace Transform for standard inputs (unit, Ramp, Step).	10-10-2024	
39.	**Doubt Clearing Session**	11-10-2024	
40.	**Revision Class**	14-10-2024	
41.	Analysis of electrical circuits using Laplace Transform for standard inputs (unit, Ramp, Step).	15-10-2024	
42.	**Trigonometric and exponential Fourier series:** Discrete spectra and symmetry of waveform..	18-10-2024	
43.	Discrete spectra and symmetry of waveform.	21-10-2024	
44.	**Doubt Clearing Session**	22-10-2024	
45.	Steady state response of a network to non-sinusoidal periodic inputs	24-10-2024	
46.	Steady state response of a network to non-sinusoidal periodic inputs	25-10-2024	
47.	Power factor, effective values. Fourier transform and continuous spectra.	31-10-2024	
48.	**Doubt Clearing Session**	04-11-2024	
49.	power factor	05-11-2024	
50.	power factor	07-11-2024	
51.	**Two Port Network:** Introduction of the Two Port Network	08-11-2024	
52.	**Doubt Clearing Session**	11-11-2024	
53.	Introduction of the Two Port Network	12-11-2024	
54.	The various network parameters i.e., Open Circuit Impedance Parameters	14-11-2024	
55.	The various network parameters i.e., Open Circuit Impedance Parameters.	18-11-2024	
56.	**Doubt Clearing Session**	19-11-2024	
57.	Short Circuit Admittance Parameters. Transmission Parameters	21-11-2024	
58.	Short Circuit Admittance Parameters. Transmission Parameters	22-11-2024	
59.	Introduction of Hybrid Parameters	25-11-2024	
60.	**Doubt Clearing Session**	26-11-2024	
61.	The various network parameters i.e., Open Circuit Impedance Parameters	28-11-2024	
62.	Introduction of Hybrid Parameters	29-11-2024	
63.	power factor	02-12-2024	
64.	**Doubt Clearing Session**	03-12-2024	

Assignments:

Assignment serial	Contents of syllabus covered	Proposed date	Actual date	Remarks
A-1	Basics of Network and Network Theorem Graph Theory	29-08-2024		
A-2	Time Domain and Frequency Domain Analysis Trigonometric and exponential Fourier series	28-09-2024		

House Test/Class Test:

House/Class Test	Contents of syllabus covered	Proposed date	Actual date	Remarks
CT-I	30% of the syllabus	As per Academic Calender		
CT-II	Next 30% of the syllabus	As per Academic Calender		
House Test	80% of the syllabus	As per Academic Calender		

(Signature of Teacher)   (Signature of HOD)