

Government Polytechnic Kullu, Distt. Kullu H.P.

Department of Electrical Engineering

Lesson Plan

Name of Faculty	Er. Naval Kishor
Discipline	Electrical Engineering
Semester	3rd
Subject	EMT (L-3, DS-2, Hrs./Week)
Lesson Plan Duration	August – November 2026

Week	Chapter	Topic to be covered
1 st (01 Aug. – 07 Aug.)	Unit – I DC Generators	DC generator: construction, parts, materials and their functions. Principle of operation of DC generator: Fleming's right hand rule, schematic diagrams
2 nd (10 Aug. – 14 Aug.)	Unit – I DC Generators	e.m.f. equation of generator, armature reaction, commutation and Applications of DC generators.
3 rd (17 Aug. – 22 Aug.)	Unit – II DC Motors	DC motor: Types of DC motors. Fleming's left hand rule, Principle of operation of, Back e.m.f. and its significance, Voltage equation of DC motor.
4 th (24 Aug. – 29 Aug.)	Unit – II DC Motors	Torque and Speed; Armature torque, Shaft torque, BHP, Brake test, losses, efficiency. DC motor starters: Necessity, two point and three point starters
5 th (31 Aug. – 05 Sept.)	Unit – II DC Motors	Speed control of DC shunt and series motor: Flux and Armature control. Brushless DC Motor: Construction and working.
Class Test – 1		In Second Week of September
6 th (07 Sept. – 11 Sept.)	Unit – III Single Phase transformer	Types of transformers: Shell type and core type; Construction: Parts and functions, materials used for different parts: CRGO, CRNGO, HRGO, amorphous cores. Transformer: Principle of operation,
7 th (14 Sept. – 19 Sept.)	Unit – III Single Phase transformer	EMF equation of transformer: Derivation, Voltage transformation ratio, Significance of transformer ratings. Transformer No-load and on-load phasor diagram,
8 th (21 Sept. – 26 Sept.)	Unit – III Single Phase transformer	Leakage reactance, Equivalent circuit of transformer: Equivalent resistance and reactance. Voltage regulation and Efficiency: Direct loading, OC/SC method, All day efficiency
9 th (28 Sept. – 03 Oct.)	Unit – IV Three Phase Transformer	Bank of three single phase transformers, Single unit of three phase transformer. Distribution and Power transformers, Construction, cooling, Three phase transformers connections as per IS:2026 (part IV)-1977

10th (05 Oct. – 09 Oct.)	Unit– IV Three Phase Transformer	Three phase to two phase conversion (Scott Connection), Selection of transformer as per IS: 10028 (Part I)-1985, Criteria for selection of distribution transformer, and power transformer, Amorphous Core type Distribution Transformer
Class Test – 2		In Second Week of October .
11th (12 Oct. – 17 Oct.)	Unit– IV Three Phase Transformer	Specifications of three-phase distribution transformers as per IS:1180 (part I)-1989. Need of parallel operation of three phase transformer, Conditions for parallel operation
12th (19 Oct.. – 24 Oct.)	Unit– IV Three Phase Transformer	Polarity tests on mutually inductive coils and single phase transformers; Polarity test, Phasing out test on Three-phase transformer.
13th (27 Oct . – 31 Oct .)	Unit– V Special Purpose motors	Single phase and three phase auto transformers: Construction, working and applications. Instrument Transformers: Construction, working and applications of Current transformer and Potential transformer
House Test		In First Week of November
14th (09 Nov- 13 Nov)	Unit– V Special Purpose motors	Isolation transformer: Constructional Features and applications. Single phase welding transformer: constructional features and applications
15th (16 Nov- 21 Nov.)	Unit– V Special Purpose motors	Pulse transformer: constructional features and applications. 'K' factor of transformers: overheating due to non-linear loads and harmonics.
16th (23 Nov- 28 Nov.)		Revision and Doubt clearance

- **NOTE:** Lesson Plan is Tentative, subject to availability of Time, Students & Faculty.


Prepared by
(Er. Naval Kishor)


Signature of HOD/QIC.
(Er. Aman Anand)

Government Polytechnic Kullu, Distt. Kullu H.P.

Department of Electrical Engineering

Lesson Plan

Name of Faculty	Er. Naval Kishor
Discipline	Electrical Engineering
Semester	3rd
Subject	EMT Lab (P-2 Hrs./Week)
Lesson Plan Duration	August – November 2026

Week	Practical No.	Practical Name
1 st (01 Aug. – 07 Aug.)	Practical-I	Dismantle a DC machine.
2 nd (10 Aug. – 14 Aug.)	Practical-II	Reverse the direction of rotation of the DC shunt motor.
3 rd (17 Aug. – 22 Aug.)	Practical-III	Perform brake test on DC shunt motor.
4 th (24 Aug. – 29 Aug.)	Practical-IV	Control the speed of DC shunt motor by different methods.
5 th (31 Aug. – 05 Sept.)	Practical-V	Control the speed of DC series motor by different methods.
6 th (07 Sept. – 11 Sept.)	Practical-VI	Perform the brake test on DC series motor.
7 th (14 Sept. – 19 Sept.)	Practical-VII	Check the functioning of single phase transformer.
8 th (21 Sept. – 26 Sept.)	Practical-VIII	Determine regulation and efficiency of single phase transformer by direct loading.
9 th (28 Sept. – 03 Oct.)	Practical-IX	Perform open circuit and short circuit test on single phase transformer to determine equivalent circuit constants, voltage regulation and efficiency.
10 th (05 Oct. – 09 Oct.)		
11 th (12 Oct. – 17 Oct.)	Practical-X	Perform parallel operation of two single phase transformers to determine the load current sharing.
12 th (19 Oct. – 24 Oct.)	Practical-XI	Perform parallel operation of two single phase transformers and determine the apparent and Real power load sharing.
13 th (27 Oct. – 31 Oct.)		

14 th (09 Nov- 13 Nov)	Practical-XII	Perform polarity test on a single phase transformer whose polarity markings are masked.
15 th (16 Nov- 21 Nov.)		
16 th (23 Nov- 28 Nov.)		Revision

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Government Polytechnic Kullu, Distt. Kullu (H.P)175138

Department of Electrical Engineering

Lesson Plan

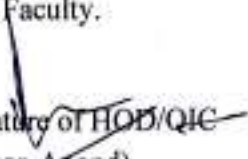
Name of Faculty	Er. Lalit Kumar
Discipline	Electrical Engineering
Semester	3rd
Subject	Introduction to Electrical Generation System (P-2 Hrs./Week)
Lesson Plan Duration	August – December 2026

Week	Practical No.	Practical Name
1 st (01Aug. – 07Aug.)	Practical-I	Identify the routine maintenance parts of the gas fired thermal power plant after watching a video programme.
2 nd (10Aug. – 14Aug.)	Practical-II	Assemble and dismantle a small diesel generator power plant.
3 rd (17Aug. – 22Aug.)	Practical-III	Identify the routine maintenance parts of the nuclear-fired thermal power plant after watching a video programme.
4 th (24Aug– 29 Aug.)	Practical-IV	Identify the routine maintenance parts of the large hydro power plant after watching a video program.
5 th (31 Aug. –05 Sept.)	Practical-V	Identify the routine maintenance parts of the micro hydro power plant after watching a video program.
6 th (07 Sept. – 11 Sept.)	Practical-VI	Assemble a micro hydro power plant and then dismantle it.
7 th (14 Sept. – 19 Sept.)	Practical-VII	Assemble the parabolic trough or parabolic dish Concentrated Solar Power (CSP) plant.
8 th (21 Sept. – 26 Sept.)	Practical-VIII	Dismantle the parabolic trough or parabolic dish CSP plant.
9 th (28 Sept. – 03 Oct.)	Practical-IX	Assemble the solar PV plant to produce electric power and then dismantle it.
10 th (05 Oct. – 09 Oct.)	Practical-X	Assemble a small biogas plant to generate electric power.
11 th (12 Oct. – 17 Oct.)	Practical-XI	Dismantle the biogas plant.
12 th (19 Oct. – 24 Oct.)	Practical-XII	Identify the routine maintenance parts of the large wind power plant after watching a video programme.
13 th (27 Oct. – 31 Oct.)	Practical-XIII	Identify the routine maintenance parts of the horizontal axis small wind turbine after watching a video programme.

14 th (16 Nov- 28 Nov)		Revision and evaluation
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Prepared by 
(Er. Lalit Kumar)

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(Er. Aman Anand)

Government Polytechnic Kullu, Distt. Kullu (H.P)175138**Department of Electrical Engineering****Lesson Plan**

Name of Faculty	Er. Lalit Kumar
Discipline	Electrical Engineering
Semester	3 rd
Subject	IEGS(L-4 Hrs./Week)
Lesson Plan Duration	August – December 2026

Week	Topic	Theory
1 st (01Aug. – 07Aug.)	Unit – I Thermal Power Plants: Coal, Gas/ Diesel and Nuclear-based	Layout and working of a typical thermal power plant with steam turbines and electric generators. Properties of conventional fuels used in the energy conversion equipment used in thermal power plants: Coal, Gas/ diesel, Nuclear fuels– fusion and fission action.
2 nd (10Aug. – 14Aug.)	Unit – I Thermal Power Plants: Coal, Gas/ Diesel and Nuclear-based	Safe Practices and working of various thermal power plants: coal-based, gas-based, diesel-based, nuclear-based. Functions of the following types of thermal power plants and their major auxiliaries:
3 rd (17Aug. – 22Aug.)	Unit – I Thermal Power Plants: Coal, Gas/ Diesel and Nuclear-based UNIT – II LARGE AND MICRO- HYDRO POWER PLANTS	Coal fired boilers, fire tube and water tube. Gas/diesel based combustion engines, Types of nuclear reactors: Disposal of nuclear waste and nuclear shielding. Thermal power plants in India. Energy conversion process of hydro power plant. Classification of hydro power plant: High, medium and low head
4 th (24Aug– 29 Aug.)	UNIT – II LARGE AND MICRO- HYDRO POWER PLANTS	Construction and working of hydro turbines used in different types of hydro power plant: a. High head – Pelton turbine b. Medium head – Francis turbine c. Low head – Kaplan turbine.
5 th (31 Aug. –05 Sept.)	UNIT – II LARGE AND MICRO- HYDRO POWER PLANTS	Safe Practices for hydro power plants. Different types of micro- hydro turbines for different heads: Pelton, Francis and Kaplan turbines, Locations of these different types of large and micro-hydro power plants in Himachal. Potential locations of micro-hydro power plants in Himachal
Class Test – 1		In Second Week of September
6 th (07 Sept. – 11 Sept.)	UNIT– III SOLAR AND BIOMASS BASED POWER PLANTS	Solar Map of India: Global solar power radiation. <i>Solar Power Technology</i> a. Concentrated Solar Power (CSP) plants, construction and working of: Power Tower, Parabolic Trough,
7 th (14 Sept. – 19 Sept.)	UNIT– III SOLAR AND BIOMASS BASED POWER PLANTS	e. Layout of a Thermo-chemical based (e.g. Municipal waste) power plant f. Layout of an Agro-chemical based (e.g. bio-diesel) power plant, Features of the solid, liquid and gas biomasses as fuel for biomass power plant.

8 th (21 Sept. – 26 Sept.)	UNIT– IV WIND POWER PLANTS	Wind Map of India: Wind power density in watts per square meter Layout of Horizontal axis large wind power plant: Geared wind power plant. Direct-drive wind power plant.
9 th (28 Sept. – 03 Oct.)	UNIT– IV WIND POWER PLANTS	Salient Features of electric generators used in large wind power plants: Constant Speed Electric Generators: Squirrel Cage Induction Generators (SCIG), Wound Rotor Induction Generator (WRIG)
10 th (05 Oct. – 09 Oct.)	UNIT– IV WIND POWER PLANTS	Variable Speed Electric Generators: Doubly-fed induction generator (DFIG), wound rotor synchronous generator (WRSG), permanent magnet synchronous generator (PMSG)
Class Test – 2		In Second Week of October .
11 th (12 Oct. – 17 Oct.)	UNIT– V ECONOMICS OF POWER GENERATION AND INTERCONNECTED POWER SYSTEM	Related terms: connected load, firm power, cold reserve, hot reserve, spinning reserve.
12 th (19 Oct. – 24 Oct.)	UNIT– V ECONOMICS OF POWER GENERATION AND INTERCONNECTED POWER SYSTEM	Base load and peak load plants; Load curve, load duration curve, integrated duration curve
13 th (27 Oct. – 31 Oct.)	UNIT– V ECONOMICS OF POWER GENERATION AND INTERCONNECTED POWER SYSTEM	Cost of generation: Average demand, maximum demand, demand factor, plant capacity factor, plant use factor, diversity factor, load factor and plant load factor.
House Test		In First Week of November
14 th (09 Nov- 13 Nov)	UNIT– V ECONOMICS OF POWER GENERATION AND INTERCONNECTED POWER SYSTEM	Choice of size and number of generator units, combined operation of power station Causes
15 th (16 Nov- 21Nov)	UNIT– V ECONOMICS OF POWER GENERATION AND INTERCONNECTED POWER SYSTEM	Impact and reasons of Grid system fault: State grid, national grid, brown out and black out; sample blackouts at national and international level.
16 th (23 Nov- 28 Nov)	Revision & Doubt Clearance	

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Signature of Teacher/Prepared by
(Er. Lalit Kumar)

Signature of HOD
(Er. Aman Anand)

Government Polytechnic Kullu, Distt. Kullu (H.P)175138
Department of Electrical Engineering
Lesson Plan

Name of Faculty	Er. Akash
Discipline	Electrical Engineering
Semester	3 rd
Subject	EDC (L-4 Hrs./Week)
Lesson Plan Duration	August – December 2026

Week	Topic	Theory
1 st (01Aug. – 07Aug.)	Unit – I Semiconductor and Diodes	Definition, Extrinsic/Intrinsic, N-type & P-type, PN Junction Diode
2 nd (10Aug. – 15Aug.)	Unit – I Semiconductor and Diodes	Diode Forward and Reverse Bias Characteristics, Zener Diode Principle, characteristics, construction, and working.
3 rd (17Aug. – 22Aug.)	Unit – I Semiconductor and Diodes	Diode Rectifiers Half Wave and Full Wave. Filters C, LC, and PI Filters
4 th (24Aug– 29Aug)	UNIT – II Bipolar Junction Transistor (BJT)	NPN and PNP Transistor Operation and characteristics. Common Base Configuration characteristics and working.
5 th (31 Aug –05 Sept.)	UNIT – II Bipolar Junction Transistor (BJT)	Common Emitter Configuration characteristics and working. Common Collector Configuration characteristics and working.
Class Test – 1		In Second Week of September
6 th (07 Sept. – 11 Sept.)	UNIT – II Bipolar Junction Transistor (BJT)	High frequency model of BJT. Classification of amplifiers,
7 th (14 Sept. – 19 Sept.)	UNIT – II Bipolar Junction Transistor (BJT) UNIT– III Field Effect Transistors	negative feedback. FET Working Principle,
8 th (21 Sept. – 26 Sept.)	UNIT– III Field Effect Transistors	Classification, MOSFET Small Signal model. N-Channel/ P-Channel MOSFETs characteristics,
9 th (28 Sept. – 03 Oct.)	UNIT– III Field Effect Transistors	enhancement, and depletion mode, MOS- FET as a Switch. Common Source Amplifiers.
10 th (5 Oct. – 10 Oct.)	UNIT– III Field Effect Transistors UNIT– IV SCR DIAC & TRIAC	Uni-Junction Transistor equivalent circuit and operation Construction, operation, working, characteristics. DIAC
Class Test – 2		In Second Week of October .
11 th (12 Oct. – 17 Oct.)	UNIT– IV SCR DIAC & TRIAC	Construction, operation, working, characteristics. TRIAC - Construction, operation, working, characteristics. SCR

12 th (19 Oct., – 24 Oct.)	UNIT– IV SCR DIAC & TRIAC	Construction, operation, working, characteristics MOSFET, MOSFET as a Switch,
13 th (27 Oct., – 31 Oct.)	UNIT– IV SCR DIAC & TRIAC	DIAC as bidirectional switch. Comparison of SCR, DIAC, TRIAC, MOSFET.
House Test		In First Week of November
14 th (09 Nov. – 14 Nov.)	UNIT– V Amplifiers and Oscillators	Feedback Amplifiers Properties of negative Feedback, impact of feedback on different parameters.
15 th (16 Nov- 21 Nov)	UNIT– V Amplifiers and Oscillators	Basic Feedback Amplifier Topologies: Voltage Series, Voltage Shunt, Current Series, Current Shunt.
16 th (23 Nov- 28 Nov)	UNIT– V Amplifiers and Oscillators Revision	Oscillator Basic Principles, Crystal Oscillator, Non-linear/ Pulse Oscillator Revision and doubt clearance

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Government Polytechnic Kullu, Distt. Kullu (H.P)175138
Department of Electrical Engineering
Lesson Plan

Name of Faculty	Er. Akash
Discipline	Electrical Engineering
Semester	3rd
Subject	EDC Lab (P-2 Hrs./Week)
Lesson Plan Duration	August – December 2026

Week	Practical No.	Practical Name
1 st	Practical-I	Construct the circuit and plot the VI characteristics of the PN Junction Diode, find the cut in voltage.
2 nd	Practical-II	Construct the circuit and plot the characteristics of a Zener Diode. Find the breakdown voltage.
3 rd	Practical-III	Construct a Half Wave Rectifier and obtain regulation characteristics Without Filters and with Filters Compare the results.
4 th		Revision and evaluation
5 th	Practical-IV	Construct a Full Wave center tap Rectifier and obtain regulation characteristics Without Filters and with Filters Compare the results.
6 th	Practical-V	Construct a Bridge Rectifier and obtain regulation characteristics Without Filters and with Filters.
7 th	Practical-VI	Obtain the characteristics of DIAC and TRIAC
8 th		Revision and evaluation
9 th	Practical-VII	Simulate half wave, full wave and bridge rectifier using simulation tool like PSpice/ ORCAD/ Multisim.
10 th	Practical-VIII	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
11 th		Revision and evaluation
12 th	Practical-IX	Develop a simulation model for Current Series and Current Shunt Feedback Amplifiers.
13 th	Practical-X	Develop circuits for Current Series and Current Shunt Feedback Amplifiers and obtain output plots. Compare the results with the simulation model.
14 th		Revision and evaluation
15 th		Revision and evaluation

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(Er. Akash)

Signature of HOD/etc
(Er. Aman Anand)

Government Polytechnic Kullu at Seobagh, Distt. Kullu H.P-175138

Department of Electrical Engineering

Lesson Plan

Name of Faculty	Er. Devender Kumar
Discipline	Electrical Engineering
Semester	3rd
Subject	Electrical & Electronics Measurement
Lesson Plan Duration	August – November 2026

Week	Chapters	Topics
1 st (3Aug. - 7Aug.)	Unit – I Fundamentals of Measurements	Measurement: Significance, units, fundamental quantities and standards Classification of Instrument Systems: Null and deflection type instruments Absolute and secondary instruments Analog and digital instruments Static and dynamic characteristics, types of errors
2 nd (10Aug. – 14Aug.)	Unit – I Fundamentals of Measurements	Calibration: need and procedure Classification of measuring instruments: indicating, recording and integrating instruments. Essential requirements of an indicating instruments
3 rd (17Aug. – 22 aug.)	Unit – II Measurement of voltage and current	DC Ammeter: Basic, Multi range, Universal shunt, DC Voltmeter: Basic, Multi-range, concept of loading effect and sensitivity AC voltmeter: Rectifier type (half wave and full wave)
4 th (24 aug. – 29 Aug.)	Unit – II Measurement of voltage and current	CT and PT: construction, working and applications. Clamp-on meter.
5 th (31aug. – 5 Sept.)	Unit– III Measurement of Electric Power	Analog meters: Permanent magnet moving coil (PMMC) and Permanent magnet moving iron (PMMI) meter, their construction, working, salient features, merits and demerits. Dynamometer type wattmeter: Construction and working
6 th		Class test 1 (Second week of September)



7 th (14Sept. – 19Sept.)	Unit– III Measurement of Electric Power	Range: Multiplying factor and extension of range using CT and PT Errors and compensations. Active and reactive power measurement: One, two and three wattmeter method. Effect of Power factor on wattmeter reading in two wattmeter method. Maximum Demand Indicator
8 th (21Sept. – 26Sept.)	Unit– IV Measurement of Electric Energy	Single and three phase electronic energy meter: Constructional features and working principle, Errors and their compensations.
9 th (28Sept. – 3 Oct.)	Unit– IV Measurement of Electric Energy	Calibration of single phase electronic energy meter using direct loading
10 th (5 Oct. – 9Oct.)	Unit– V Circuit Parameter Measurement, CRO and Other Meters	Measurement of resistance: Low resistance: Kelvin's double bridge, Medium Resistance: Voltmeter and ammeter method, High resistance: Megger and Ohm meter: Series and shunt Measurement of inductance using Anderson Bridge (no derivation and phasor diagram)
11 th (12Oct. – 17Oct.)	Unit– V Circuit Parameter Measurement, CRO and Other Meters	Measurement of capacitance using Schering bridge (no derivation and phasor diagram) Single beam/single trace CRO, Digital storage Oscilloscope: Basic block diagram, working, Cathode ray tube
12 th		Class test -2 (second week of October)
13 th (19oct. – 24oct.)	Unit– V Circuit Parameter Measurement, CRO and Other Meters	, electrostatic deflection, vertical amplifier, time base generator, horizontal amplifier, measurement of voltage/ amplitude/ time period/ frequency/ phase angle delay line, specifications Other meters: Earth tester, Digital Multi-meter; L-C-R meter, Frequency meter (ferromagnetic and Weston type), Phase
First week of November		House test
14 th (9 Nov. – 16 Nov.)	Unit– V Circuit Parameter Measurement, CRO and Other Meters	+sequence indicator, power factor meter (single phase and three phase dynamometer type Synchroscope, Tri-vector meter, Signal generator need, working and basic block diagram. Function generator: need, working and basic block diagram, function of symmetry.
15 th (21 Nov. – 28 Nov.)		Revision

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Signature of Teacher
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Signature of HOD
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Government Polytechnic Kullu, Distt. Kullu H.P.
Department of Electrical Engineering
Lesson Plan

Name of Faculty	Er. Devender kumar
Discipline	Electrical Engineering
Semester	3 rd
Subject	Electric circuits lab (P-2 Hrs./Week)
Lesson Plan Duration	Aug – Nov 2026

Week	Practical No.	Practical Name
1 st (3Aug. – 7Aug.)	Practical-I	Use dual trace oscilloscope to determine A.C. voltage and current response in given R, L, C circuit
2 nd (10Aug. – 14Aug.)	Practical-II	Use voltmeter, ammeter, wattmeter to determine active, reactive and apparent power consumed in given R-L series circuit. Draw phasor diagram
3 rd (17 Aug. – 22Aug.)	Practical-III	Use voltmeter, ammeter to determine active, reactive and apparent power consumed in given R-C series circuit. Draw phasor diagram
4 th (24Aug to 29 Aug.)	Practical-IV	Use voltmeter, ammeter, wattmeter to determine active, reactive and apparent power consumed in given R-L- C series circuit. Draw phasor diagram
5 th (31 Aug to 5 Sep.)	Practical-V	Use variable frequency supply to create resonance in given series R-L-C circuit or by using variable inductor or variable capacitor
6 th (14 Sep to 19Sep)	Practical-VI	Use voltmeter, ammeter, and wattmeter to determine current, p.f., active, reactive and apparent power in R-C parallel A.C. circuit.
7 th (21Sep to 26 Sep.)	Practical-VII	Use variable frequency supply create resonance in given parallel R-L-C circuit or by using variable inductor or capacitor.
8 th (28 Sep to 3 oct)	Practical-VIII	Use voltmeter, ammeter, wattmeter, p.f meter to determine line and phase quantities of voltage and current for balanced three phase star and delta connected load and calculate active, reactive, and apparent power. Draw phasor diagram.
9 th (5oct to 9oct)	Practical-IX	Use voltmeter, ammeter, wattmeter, p.f meter to determine line and phase quantities of voltage and current for unbalanced three phase star and delta connected load and calculate active, reactive, and apparent power. Draw phasor diagram.
10 th (12Oct to 17Oct.)	Practical-X	Use voltmeter, ammeter to determine current through the given branch of a electric network by applying mesh analysis.
11 th (19Oct to 24 Oct.)	Practical-XI	Use voltmeter, ammeter to determine current through the given branch of a electric network by applying node analysis.
12 th (9Nov to 16 nov)	Practical-XII	Use voltmeter, ammeter to determine current through the given branch and voltage across the given element of circuit by applying superposition theorem.
13 th (18Nov-21 Nov.)	Practical-XIII	Use voltmeter, ammeter to determine equivalent circuit parameter in a given circuit by applying Thevenin's Theorem
14 th (22Nov to 28 Nov.)		Revision and evaluation

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Department of Electrical Engineering

Lesson Plan

Name of Faculty	Er. Devender Kumar
Discipline	Electrical Engineering
Semester	3rd
Subject	Electrical Circuits
Lesson Plan Duration	August – November 2026

Week	Chapters	Topics
1 st (3Aug. - 7Aug.)	Unit – I Single Phase A.C Series Circuits	Generation of alternating voltage, Phasor representation of sinusoidal quantities R, L, C circuit elements its voltage and current respons
2 nd (10Aug. – 14Aug.)	Unit – I Single Phase A.C Series Circuits	R-L, R-C, R-L-C combination of A.C series circuit, impedance, reactance, impedance triangle, Power factor, active power, reactive power, apparent powe
3 rd (17Aug. – 22 aug.)	Unit – I Single Phase A.C Series Circuits	power triangle and vector diagram, Resonance, Bandwidth, Quality factor and voltage magnification in series R-L, R-C, RL-C circuit
4 th (24 aug. – 29 Aug.)	Unit – II Single Phase A.C Parallel Circuits	R-L, R-C and R-L-C parallel combination of A.C. circuits, Impedance, reactance, phasor diagram, impedance triangle
5 th (31aug. – 5 Sept.)	Unit – II Single Phase A.C Parallel Circuits	R-L, R-C, R-L-C parallel A.C. circuits power factor, active power, apparent power, reactive power, power triangle Resonance in parallel R-L, R-C, R-L-C circuit, Bandwidth, Quality factor and voltage magnification
6 th		Class test 1 (Second week of September)

Law

7 th (14Sept. – 19Sept.)	Unit– III Three Phase Circuits	Phasor and complex representation of three phase supply. Phase sequence and polarity
8 th (21Sept. – 26Sept.)	Unit– III Three Phase Circuits	Types of three-phase connections, Phase and line quantities in three phase star and delta system, Balanced and unbalanced load
9 th (28Sept. – 3 Oct.)	Unit– III Three Phase Circuits	neutral shift in unbalanced load. Three phase power, active, reactive and apparent power in star and delta system.
10 th (5 Oct. – 9Oct.)	Unit– IV Network Reduction and Principles of Circuit Analysis	Source transformation. and numerical Mesh analysis
11 th (12Oct. – 17Oct.)	Unit– IV Network Reduction and Principles of Circuit Analysis	Star/delta and delta/star transformation. Node analysis
12 th		Class test -2 (second week of October)
13 th (19Oct. – 24Oct.)	Unit– V Network Theorems	Superposition theorem. Thevenin's theorem. Norton's theorem Maximum power transfer theorem
First week of November		House test
14 th (9 Nov. – 16 Nov.)	Unit– V Network Theorems	Reciprocity theorem Duality in electric circuits.
15 th (21 Nov. – 28 Nov.)	Revision	

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Lesson Plan

Name of Faculty	Er. Devender Kumar
Discipline	Electrical Engineering
Semester	3rd
Subject	Electrical & Electronics measurement lab
Lesson Plan Duration	August - Nov 2026

Week	Practical No.	Practical Name
1 st (3Aug. - 7Aug.)	Practical-I	Identify measuring instruments on the basis of symbols on dial, type, accuracy, class position and scale
2 nd (10Aug. - 14Aug.)	Practical-II	Identify the components of PMMC and MI instruments
3 rd (17 Aug. - 22Aug.)	Practical-III	Troubleshoot PMMC and MI instruments.
4 th (24Aug to 29 Aug.)	Practical-IV	Measure AC and DC quantities in a working circuit
5 th (31 Aug to 5 Sep.)	Practical-V	Extend range of ammeter and voltmeter by using (i) shunt and multiplier (ii) CT and PT
6 th (14 Sep to 19Sep)	Practical-VI	Use Clamp-on meter for measurement of AC/DC current, AC/DC voltage.
7 th (21Sep to 26 Sep.)	Practical-VII	Use electro-dynamic watt-meter for measurement of power in a single phase circuit
8 th (28 Sep to 3 oct)	Practical-VIII	Troubleshoot electrodynamic watt-meter for measurement of power in a single phase circuit
9 th (5oct to 9oct)	Practical-IX	. Use single wattmeter for measurement of active and reactive power of three phase balanced load.
10 th (12Oct to 17Oct.)	Practical-X	Use two watt-meters for measuring active power of three-phase balanced load
11 th (19Oct to 24 Oct.)	Practical-XI	Calibrate single phase electronic energy meter by direct loading
12 th (9Nov to 16 nov)	Practical-XII	Troubleshoot single phase electronic energy meter.
13 th (18Nov-21Nov.)	Practical-XIII	. Use digital multi-meter for measurement of AC/DC current, AC/DC voltage
14 th (22Nov to 28 Nov.)		Revision and evaluation

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