

ACADEMIC LESSON PLAN OF SUMMER 2025

Discipline Electrical Engg.	Semester: - 6 th (Sec A)	Name of the Teaching Faculty: -SANDEEP MOHAPATRA
Subject: ELECTRICAL INSTALLATION AND ESTIMATING(TH-1)	No. of days/per week class allotted: 4p/week Tutorial:1p/w week	Semester from: 04 th FEBRUARY 2025 to 17 th MAY 2025 No. of weeks:15 weeks
Week	Class Day	Theory Topics
1 st	1 st	1. INDIAN ELECTRICITY RULES 1.1 Definitions, Ampere, Apparatus, Accessible, Bare, cablew, circuit, circuit breaker,conductor voltage (low, medium, high, EH), live, dead, cut-out, conduit, system,danger, Installation, earthing system, span, volt, switch gear, etc.
	2 nd	1.2 General safety precautions, rule 29, 30, 31, 32, 33, 34, 35, 36, 40, 41, 43, 44, 45, 46.
	3 rd	1.3 General conditions relating to supply and use of energy : rule 47, 48, 49, 50, 51, 54, 55,56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 70. .(cont..)
	4 th	1.3 General conditions relating to supply and use of energy : rule 47, 48, 49, 50, 51, 54, 55,56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 70
	5 th	Tutorial
2 nd	1 st	1.4 OH lines : Rule 74, 75, 76, 77, 78, 79, 80, 86, 87, 88, 89, 90, 91.(cont..)
	2 nd	1.4 OH lines : Rule 74, 75, 76, 77, 78, 79, 80, 86, 87, 88, 89, 90, 91
	3 rd	2. ELECTRICAL INSTALLATIONS 2. 1 Electrical installations, domestics, industrial, Wiring System, Internal distribution of Electrical Energy. Methods of wiring, systems of wiring, wire and cable, conductor materials used in cables, insulating materials mechanical protection. Types of cables used in internal wiring, multi-stranded cables, voltage grinding of cables, general specifications of cables. .(cont..)
	4 th	2. 1 Electrical installations, domestics, industrial, Wiring System, Internal distribution of Electrical Energy. Methods of wiring, systems of wiring, wire and cable, conductor materials used in cables, insulating materials mechanical protection. Types of cables used in internal wiring, multi-stranded cables, voltage grinding of cables, general specifications of cables. .(cont..)
	5 th	Tutorial

3 rd	1 st	2. 1 Electrical installations, domestics, industrial, Wiring System, Internal distribution of Electrical Energy. Methods of wiring, systems of wiring, wire and cable, conductor materials used in cables, insulating materials mechanical protection. Types of cables used in internal wiring, multi-stranded cables, voltage grinding of cables, general specifications of cables. .(cont..)
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	2 nd	2. 1 Electrical installations, domestics, industrial, Wiring System, Internal distribution of Electrical Energy. Methods of wiring, systems of wiring, wire and cable, conductor materials used in cables, insulating materials mechanical protection. Types of cables used in internal wiring, multi-stranded cables, voltage grinding of cables, general specifications of cables.
	3 rd	2. 2 ACCESSORIES: Main switch and distribution boards, conduits, conduit accessories and fittings, lighting accessories and fittings, fuses, important definitions, determination of size of fuse – wire, fuse units. Earthing conductor, earthing, IS specifications regarding earthing of electrical installations, points to be earthed. Determination of size of earth wire and earth plate for domestic and industrial installations. Material required for GI pipe earthing(cont..)
	4 th	2. 2 ACCESSORIES: Main switch and distribution boards, conduits, conduit accessories and fittings, lighting accessories and fittings, fuses, important definitions, determination of size of fuse – wire, fuse units. Earthing conductor, earthing, IS specifications regarding earthing of electrical installations, points to be earthed. Determination of size of earth wire and earth plate for domestic and industrial installations. Material required for GI pipe earthing(cont..)
	5 th	Tutorial
4 th	1 st	2. 2 ACCESSORIES: Main switch and distribution boards, conduits, conduit accessories and fittings, lighting accessories and fittings, fuses, important definitions, determination of size of fuse – wire, fuse units. Earthing conductor, earthing, IS specifications regarding earthing of electrical installations, points to be earthed. Determination of size of earth wire and earth plate for domestic and industrial installations. Material required for GI pipe earthing(cont..)
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	3 rd	2. 3 LIGHTING SCHEME: Aspects of good lighting services. Types of lighting schemes, design of lighting schemes, factory lighting, public lighting installations, street lighting, general rules for wiring, determination of number of points (light, fan, socket, outlets), determination of total load, determination of Number of sub-circuits. (cont..)

	4 th	2. 3 LIGHTING SCHEME: Aspects of good lighting services. Types of lighting schemes, design of lighting schemes, factory lighting, public lighting installations, street lighting, general rules for wiring, determination of number of points (light, fan, socket, outlets), determination of total load, determination of Number of sub-circuits. (cont..)
	5 th	Tutorial
5 th	1 st	2. 3 LIGHTING SCHEME: Aspects of good lighting services. Types of lighting schemes, design of lighting schemes, factory lighting,

		public lighting installations, street lighting, general rules for wiring, determination of number of points (light, fan, socket, outlets), determination of total load, determination of Number of sub-circuits. (cont..)
	2 nd	2. 3 LIGHTING SCHEME: Aspects of good lighting services. Types of lighting schemes, design of lighting schemes, factory lighting, public lighting installations, street lighting, general rules for wiring, determination of number of points (light, fan, socket, outlets), determination of total load, determination of Number of sub-circuits.
	3 rd	3. INTERNAL WIRING 3 . 1 Type of internal wiring, cleat wiring, CTS wiring, wooden casing capping, metal sheathed wiring, conduit wiring, their advantage and disadvantages comparison and applications.(cont..)
	4 th	3 . 1 Type of internal wiring, cleat wiring, CTS wiring, wooden casing capping, metal sheathed wiring, conduit wiring, their advantage and disadvantages comparison and applications.(cont..)
	5 th	Tutorial
6 th	1 st	3 . 1 Type of internal wiring, cleat wiring, CTS wiring, wooden casing capping, metal sheathed wiring, conduit wiring, their advantage and disadvantages comparison and applications.
	2 nd	3 . 2 Prepare one estimate of materials required for CTS wiring for small domestic installation of one room and one verandah within 25 m ₂ with given light, fan & plug points.(cont..).
	3 rd	3 . 2 Prepare one estimate of materials required for CTS wiring for small domestic installation of one room and one verandah within 25 m ₂ with given light, fan & plug points.(cont..).
	4 th	3 . 2 Prepare one estimate of materials required for CTS wiring for small domestic installation of one room and one verandah within 25 m ₂ with given light, fan & plug points.
	5 th	Tutorial
7 th	1 st	3 . 3 Prepare one estimate of materials required for conduit wiring for small domestic installation of one room and one verandha within 25 m ₂ with given light, fan & plug points.(cont..)
	2 nd	3 . 3 Prepare one estimate of materials required for conduit wiring for small domestic installation of one room and one verandha within 25 m ₂ with given light, fan & plug points.
	3 rd	3 . 4 Prepare one estimate of materials required for concealed wiring for domestic installation of two rooms and one latrine, bath, kitchen & verandah within 80m ₂ with given light, fan & plug points.. (cont..)

8 th	4 th	3 . 4 Prepare one estimate of materials required for concealed wiring for domestic installation of two rooms and one latrine, bath, kitchen & verandah within 80m ₂ with given light, fan & plug points.
	5 th	Tutorial
	1 st	3 . 5 Prepare one estimate of materials required for erection of conduct wiring to a small workshop installation about 30m ₂ and load within 10 KW. .(cont..)
	2 nd	3 . 5 Prepare one estimate of materials required for erection of conduct wiring to a small workshop installation about 30m ₂ and load within 10 KW.
	3 rd	4. OVER HEAD INSTALLATION

		4.1 Main components of overhead lines, line supports, factors Governing Height of pole, conductor materials, determination of size of conductor for overhead transmission line, cross arms, pole brackets and clamps, guys and stays, conductors configurations, spacing and clearances, span lengths, overhead line insulators, types of insulators, lighting arresters, danger plates, anti-climbing devices, bird guards, beads of jumpers, jumpers, tee-offs, guarding of overhead lines.(cont..)
	4 th	4.1 Main components of overhead lines, line supports, factors Governing Height of pole, conductor materials, determination of size of conductor for overhead transmission line, cross arms, pole brackets and clamps, guys and stays, conductors configurations, spacing and clearances, span lengths, overhead line insulators, types of insulators, lighting arresters, danger plates, anti-climbing devices, bird guards, beads of jumpers, jumpers, tee-offs, guarding of overhead lines.(cont..)
	5 th	Tutorial
9 th	1 st	4.1 Main components of overhead lines, line supports, factors Governing Height of pole, conductor materials, determination of size of conductor for overhead transmission line, cross arms, pole brackets and clamps, guys and stays, conductors configurations, spacing and clearances, span lengths, overhead line insulators, types of insulators, lighting arresters, danger plates, anti-climbing devices, bird guards, beads of jumpers, jumpers, tee-offs, guarding of overhead lines.(cont..)
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	3 rd	4.2 Prepare an estimate of materials required for LT distribution line within load of 100 KW maximum and standard spans involving calculation of the size of conductor (from conductor chart), current carrying capacity and voltage regulation consideration using ACSR. .(cont..)
	4 th	4.2 Prepare an estimate of materials required for LT distribution line within load of 100 KW maximum and standard spans involving calculation of the size of conductor (from conductor chart), current carrying capacity and voltage regulation consideration using ACSR. .(cont..)
	5 th	Tutorial
10 th	1 st	4.2. Prepare an estimate of materials required for LT distribution line within load of 100 KW maximum and standard spans involving calculation of the size of conductor (from conductor chart), current carrying capacity and voltage regulation consideration using ACSR.
	2 nd	4.3. Prepare an estimate of materials required for LT distribution

		line within load of 100 KW maximum and standard spans involving calculation of the size of conductor (from conductor chart), current carrying capacity and voltage regulation consideration using ACSR.
	3 rd	4.3. Prepare an estimate of materials required for LT distribution line within load of 100 KW maximum and standard spans involving calculation of the size of conductor (from conductor chart), current carrying capacity and voltage regulation consideration using ACSR.
	4 th	4.4 Prepare an estimate of materials required for HT distribution line (11 KV)within 2 km and load of 2000 KVA maximum and standard spans involvingcalculation of the size of conductor (from conductor chart), current carryingcapacity and voltage regulation of the size of conductor (from conductor chart),current carrying capacity and voltage regulation consideration using ACSR. .(cont..)
	5 th	Tutorial
11 th	1 st	4.4 Prepare an estimate of materials required for HT distribution line (11 KV)within 2 km and load of 2000 KVA maximum and standard spans involvingcalculation of the size of conductor (from conductor chart), current carryingcapacity and voltage regulation of the size of conductor (from conductor chart),current carrying capacity and voltage regulation consideration using ACSR. .(cont..)
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	3 rd	5. OVER HEAD SERVICE LINES 5.1 Components of service lines, service line (cables and conductors), bearer wire,lacing rod. Ariel fuse, service support.(cont..)
	4 th	5.1 Components of service lines, service line (cables and conductors), bearer wire,lacing rod. Ariel fuse, service support.(cont..)
	5 th	Tutorial
12 th	1 st	5.1 Components of service lines, service line (cables and conductors), bearer wire,lacing rod. Ariel fuse, service support.
	2 nd	5.2 Prepare and estimate for providing single phase supply of load of 5 KW (light,fan, socket) to a single stored residential building.(cont..)
	3 rd	5.2 Prepare and estimate for providing single phase supply of load of 5 KW (light,fan, socket) to a single stored residential building.(cont..)
	4 th	5.2 Prepare and estimate for providing single phase supply of load of 5 KW (light,fan, socket) to a single stored residential building.
	5 th	Tutorial
13 th	1 st	5.3 Prepare and estimate for providing single phase supply load of 3KW to eachfloor of a double stored building having separate energy meter.(cont..)
	2 nd	5.3 Prepare and estimate for providing single phase supply load of 3KW to eachfloor of a double stored building having separate energy meter
	3 rd	5.4 Prepare one estimate of materials required for service connection to a factorybuilding with load within 15 KW using insulated wire.(cont..)
	4 th	5.4 Prepare one estimate of materials required for service connection to a factorybuilding with load within 15 KW using insulated wire
	5 th	Tutorial
14 th	1 st	5.5 Prepare one estimate of materials required for service connection to a factory building with load within 15 KW using bare conductor and insulated wire combined.(cont..)
	2 nd	5.5 Prepare one estimate of materials required for service connection to a factory building with load within 15 KW using bare conductor and insulated wire combined
	3 rd	6. ESTIMATING FOR DISTRIBUTION SUBSTATIONS 6.1 Prepare one materials estimate for following types of transformer substations.(cont..)
	4 th	6.1 Prepare one materials estimate for following types of transformer substations
	5 th	Tutorial
15 th	1 st	6.1.1 Pole mounted substation.(cont..)
	2 nd	6.1.1 Pole mounted substation

	3 rd	6.1.2 Plinth Mounted substation.(cont..)
	4 th	6.1.2 Plinth Mounted substation
	5 th	Tutorial



Signature of Teaching Faculty

ACADEMIC LESSON PLAN OF SUMMER 2025

Discipline Electrical Engg.	Semester: - 6 th (Sec B)	Name of the Teaching Faculty: - SANDEEP MOHAPTRA
Subject: ELECTRICAL INSTALLATION AND ESTIMATING(TH-1)	No. of days/per week class allotted : 4p/week Tutorial:1p/w week	Semester From: 04 th FEBRUARY 2025 to 17 th MAY 2025 No. of weeks:15 weeks
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	2 nd	1.2 General safety precautions, rule 29, 30, 31, 32, 33, 34, 35, 36, 40, 41, 43, 44, 45, 46.
	3 rd	1.3 General conditions relating to supply and use of energy : rule 47, 48, 49, 50, 51, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 70. .(cont..)
	4 th	1.3 General conditions relating to supply and use of energy : rule 47, 48, 49, 50, 51, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 70
	5 th	Tutorial
2 nd	1 st	1.4 OH lines : Rule 74, 75, 76, 77, 78, 79, 80, 86, 87, 88, 89, 90, 91.(cont..)
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	3 rd	2. ELECTRICAL INSTALLATIONS 2. 1 Electrical installations, domestics, industrial, Wiring System, Internal distribution of Electrical Energy. Methods of wiring, systems of wiring, wire and cable, conductor materials used in cables, insulating materials mechanical protection. Types of cables used in internal wiring, multi-stranded cables, voltage grinding of cables, general specifications of cables. .(cont..)
	4 th	2. 1 Electrical installations, domestics, industrial, Wiring System, Internal distribution of Electrical Energy. Methods of wiring, systems of wiring, wire and cable, conductor materials used in cables, insulating materials mechanical protection. Types of cables used in internal wiring, multi-stranded cables, voltage grinding of cables, general specifications of cables. .(cont..)
	5 th	Tutorial
3 rd	1 st	2. 1 Electrical installations, domestics, industrial, Wiring System, Internal distribution of Electrical Energy. Methods of wiring, systems of wiring, wire and cable, conductor materials used in

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	3 rd	2. 3 LIGHTING SCHEME: Aspects of good lighting services. Types of lighting schemes, design of lighting schemes, factory lighting, public lighting installations, street lighting, general rules for wiring, determination of number of points (light, fan, socket, outlets), determination of total load, determination of Number of sub-circuits. (cont..)
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	5 th	Tutorial
5 th	1 st	2. 3 LIGHTING SCHEME: Aspects of good lighting services. Types of lighting schemes, design of lighting schemes, factory lighting, public lighting installations, street lighting, general rules for wiring, determination of number of points (light, fan, socket, outlets), determination of total load, determination of Number of sub-circuits. (cont..)

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	4 th	3 . 1 Type of internal wiring, cleat wiring, CTS wiring, wooden casing capping, metal sheathed wiring, conduit wiring, their advantage and disadvantages comparison and applications.(cont..)
	5 th	Tutorial
6 th	1 st	3 . 1 Type of internal wiring, cleat wiring, CTS wiring, wooden casing capping, metal sheathed wiring, conduit wiring, their advantage and disadvantages comparison and applications.
	2 nd	3 . 2 Prepare one estimate of materials required for CTS wiring for small domestic installation of one room and one verandah within 25 m ₂ with given light, fan & plug points.(cont..).
	3 rd	3 . 2 Prepare one estimate of materials required for CTS wiring for small domestic installation of one room and one verandah within 25 m ₂ with given light, fan & plug points.(cont..).
	4 th	3 . 2 Prepare one estimate of materials required for CTS wiring for small domestic installation of one room and one verandah within 25 m ₂ with given light, fan & plug points.
	5 th	Tutorial
7 th	1 st	3 . 3 Prepare one estimate of materials required for conduit wiring for small domestic installation of one room and one verandha within 25 m ₂ with given light, fan & plug points.(cont..)
	2 nd	3 . 3 Prepare one estimate of materials required for conduit wiring for small domestic installation of one room and one verandha within 25 m ₂ with given light, fan & plug points.
	3 rd	3 . 4 Prepare one estimate of materials required for concealed wiring for domestic installation of two rooms and one latrine, bath, kitchen & verandah within 80m ₂ with given light, fan & plug points. .(cont..)
	4 th	3 . 4 Prepare one estimate of materials required for concealed wiring for domestic installation of two rooms and one latrine, bath, kitchen & verandah within 80m ₂ with given light, fan & plug points.
	5 th	Tutorial
8 th	1 st	3 . 5 Prepare one estimate of materials required for erection of conduct wiring to a small workshop installation about 30m ₂ and load within 10 KW. .(cont..)
	2 nd	3 . 5 Prepare one estimate of materials required for erection of
		conduct wiring to a small workshop installation about 30m ₂ and load within 10 KW.

	3 rd	4. OVER HEAD INSTALLATION 4.1 Main components of overhead lines, line supports, factors Governing Height of pole, conductor materials, determination of size of conductor for overhead transmission line, cross arms, pole brackets and clamps, guys and stays, conductors configurations, spacing and clearances, span lengths, overhead line insulators, types of insulators, lighting arresters, danger plates, anti-climbing devices, bird guards, beads of jumpers, jumpers, tee-offs, guarding of overhead lines.(cont..)
	4 th	4.1 Main components of overhead lines, line supports, factors Governing Height of pole, conductor materials, determination of size of conductor for overhead transmission line, cross arms, pole brackets and clamps, guys and stays, conductors configurations, spacing and clearances, span lengths, overhead line insulators, types of insulators, lighting arresters, danger plates, anti-climbing devices, bird guards, beads of jumpers, jumpers, tee-offs, guarding of overhead lines.(cont..)
	5 th	Tutorial
9 th	1 st	4.1 Main components of overhead lines, line supports, factors Governing Height of pole, conductor materials, determination of size of conductor for overhead transmission line, cross arms, pole brackets and clamps, guys and stays, conductors configurations, spacing and clearances, span lengths, overhead line insulators, types of insulators, lighting arresters, danger plates, anti-climbing devices, bird guards, beads of jumpers, jumpers, tee-offs, guarding of overhead lines.(cont..)
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	3 rd	4.2 Prepare an estimate of materials required for LT distribution line within load of 100 KW maximum and standard spans involving calculation of the size of conductor (from conductor chart), current carrying capacity and voltage regulation consideration using ACSR. .(cont..)
	4 th	4.2 Prepare an estimate of materials required for LT distribution line within load of 100 KW maximum and standard spans involving calculation of the size of conductor (from conductor chart), current carrying capacity and voltage regulation consideration using ACSR. .(cont..)
	5 th	Tutorial
10 th	1 st	4.2. Prepare an estimate of materials required for LT distribution line within load of 100 KW maximum and standard spans involving calculation of the size of conductor (from conductor chart), current

		carrying capacity and voltage regulation consideration using ACSR.
	2 nd	4.3. Prepare an estimate of materials required for LT distribution line within load of 100 KW maximum and standard spans involving calculation of the size of conductor (from conductor chart), current carrying capacity and voltage regulation consideration using ACSR.
	3 rd	4.3. Prepare an estimate of materials required for LT distribution line within load of 100 KW maximum and standard spans involving calculation of the size of conductor (from conductor chart), current carrying capacity and voltage regulation consideration using ACSR.
	4 th	4.4 Prepare an estimate of materials required for HT distribution line (11 KV) within 2 km and load of 2000 KVA maximum and standard spans involving calculation of the size of conductor (from conductor chart), current carrying capacity and voltage regulation of the size of conductor (from conductor chart), current carrying capacity and voltage regulation consideration using ACSR. .(cont..)
	5 th	Tutorial
11 th	1 st	4.4 Prepare an estimate of materials required for HT distribution line (11 KV) within 2 km and load of 2000 KVA maximum and standard spans involving calculation of the size of conductor (from conductor chart), current carrying capacity and voltage regulation of the size of conductor (from conductor chart), current carrying capacity and voltage regulation consideration using ACSR. .(cont..)
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	3 rd	5. OVER HEAD SERVICE LINES 5.1 Components of service lines, service line (cables and conductors), bearer wire, lacing rod. Ariel fuse, service support.(cont..)
	4 th	5.1 Components of service lines, service line (cables and conductors), bearer wire, lacing rod. Ariel fuse, service support.(cont..)
	5 th	Tutorial
12 th	1 st	5.1 Components of service lines, service line (cables and conductors), bearer wire, lacing rod. Ariel fuse, service support.
	2 nd	5.2 Prepare and estimate for providing single phase supply of load of 5 KW (light, fan, socket) to a single stored residential building.(cont..)
	3 rd	5.2 Prepare and estimate for providing single phase supply of load of 5 KW (light, fan, socket) to a single stored residential building.(cont..)

	4 th	5.2 Prepare and estimate for providing single phase supply of load of
		5 KW (light,fan, socket) to a single stored residential building.
	5 th	Tutorial
13 th	1 st	5.3 Prepare and estimate for providing single phase supply load of 3KW to eachfloor of a double stored building having separate energy meter.(cont..)
	2 nd	5.3 Prepare and estimate for providing single phase supply load of 3KW to eachfloor of a double stored building having separate energy meter
	3 rd	5.4 Prepare one estimate of materials required for service connection to a factorybuilding with load within 15 KW using insulated wire.(cont..)
	4 th	5.4 Prepare one estimate of materials required for service connection to a factorybuilding with load within 15 KW using insulated wire
	5 th	Tutorial
14 th	1 st	5.5 Prepare one estimate of materials required for service connection to a factory building with load within 15 KW using bare conductor and insulated wire combined.(cont..)
	2 nd	5.5 Prepare one estimate of materials required for service connection to a factory building with load within 15 KW using bare conductor and insulated wire combined
	3 rd	6. ESTIMATING FOR DISTRIBUTION SUBSTATIONS 6.1 Prepare one materials estimate for following types of transformer substations.(cont..)
	4 th	6.1 Prepare one materials estimate for following types of transformer substations
	5 th	Tutorial
15 th (Extra class)	1 st	6.1.1 Pole mounted substation.(cont..)
	2 nd	6.1.1 Pole mounted substation
	3 rd	6.1.2 Plinth Mounted substation.(cont..)
	4 th	6.1.2 Plinth Mounted substation
	5 th	Tutorial



Signature of Teaching Faculty

Discipline: MECHANICAL,ELE CTRONICS , IT,CE&IOT	Semester: 1 st Sem (SECTION – D,E,&F)	Name of the Teaching Faculty: SANDEEP MOHAPATRA & LUCKY RANI BEHURIA
Subject: FUNDAMENT ALS OF ELECTRICAL AND ELCTRONICS ENGINEERING	No. of days/per week class allotted:2/week	Semester From: 04 TH FEBRUARY 2025 to 17 TH MAY 2025 No. of weeks:16 weeks
Week	Class Day	Theory Topics
1 st	1 st	1. FUNDAMENTALS ELECTRIC CIRCUITS: 1.1 Concept of current flow 1.2 concept of source and load 1.3 concept of D.C source
	2 nd	1.4 Electro motive force 1.5 Potential Difference
2 nd	1 st	1.6state Ohm's law 1.7 Resistance 1.8 Series and parallel resistances 1.9problems on series and parallel resistances
	2 nd	1.10 Current and Voltage division in series and parallel circuits 1.11 Kirchhoff's laws 1.12 problems on kirchhoff's laws
3 rd	1 st	1.13 Power & Energy
	2 nd	MAGNETIC CIRCUITS 1.14 Magneto motive force 1.15 Magnetic field 1.16 Magnetic Field strength 1.17 Magnetic Flux
4 th	1 st	1.18 Permeability 1.19 BH curve
	2 nd	1.20 Hysteresis Loop and coercivity, retentivity
5 th	1 st	1.21 Reluctance and leakage Factor
	2 nd	1.22 Electromagnetic Induction 1.23 Mutual Induction
6 th	1 st	1.24 Faraday's law of electromagnetic induction 1.25 Lenz's Law
	2 nd	1.26 Dynamically induced EMF 1.27 Statistically Induced EMF
7 th	1 st	1.29 Equations of Self inductance 1.30 Equations of Mutual inductance
	2 nd	1.30 Equations of Mutual inductance 1.31Analogy between electrical and magnetic circuits
8 th	1 st	2 A.C THEORY 2.1 Concept of AC voltage and current
	2 nd	2.2 Generation of alternating EMF
9 th	1 st	2.3. Difference between AC and DC 2.4. Define frequency, amplitude, time period, cycle, phase angle, phase difference
	2 nd	2.5 Explanation of RMS value , instantaneous value, average value, amplitude factor, form factor(simple problems)
10 th	1 st	2.6 Representation of AC values in phasor diagrams.
	2 nd	2.7. AC through pure resistance , inductance, capacitance
11 th	1 st	2.8. AC through RL,RC, & RLC circuits

	2 nd	2.9. Problems on RL, RC,& RLC series circuits
12 th	1 st	2.10. concept of power and power factor
	2 nd	2.11. Impedance triangle 2.11.1 Power triangle
13 th	1 st	3. TRANSFORMER AND MACHINES 3.1 General construction and principle of different type of transformers
	2 nd	3.2 Emf equation and transformation ratio of transformers
14 th	1 st	3.3 Auto transformers
	2 nd	3.4 Construction and Working principle of DC motors
15 th	1 st	3.5 Basic equations
	2 nd	3.6 characteristic of motors.
16 th	1 st	REVISION
	2 nd	REVISION
17 th	1 st	REVISION
	2 nd	REVISION



Signature of Teaching Faculty