

Analog Electronics and OP-AMP

| S/N | Lect No | Topic no | Lecture details | Date | Status |
|-----|---------|-------------------------------|--|------------------|-----------|
| 1 | 1/1 | P-N Junction diode | P-N Junction diode | 14/2/23 | Completed |
| 2 | 1/2 | 1/2 | Working of diode | 18/2/23 | Completed |
| 3 | 1/3 | | V-I characteristic of PN Junction diode | 16/2/23 | Completed |
| 4 | 1/4 | | DC load line | 20/2/23 | Completed |
| 5 | 1/5 | | Important terms such as Ideal Diode, knee voltage. | 21/2/23 | Completed |
| 6 | 1/6 | | Junctions break down | 22/2/23 | Completed |
| 7 | 1/7 | | P-N Diode Clipping ckt | 23/2/23 | Completed |
| 8 | 1/8 | | P-N Diode Clamping circuit | 27/2/23 | Completed |
| 9 | 1/1 | Special semiconductor devices | Thermistors, sensors and varistors | 28/2/23 | Completed |
| 10 | 1/2 | | Zener Diode | 4/3/23 1/3/23 | Completed |
| 11 | 1/3 | | Tunnel Diode | 2/3/23 | Completed |

| S.No | Lec No | Topic no | Lecture details | Date | Status |
|------|--------|---------------------------------|---|---------|-----------|
| 12 | 1/4 | | Pin Diode | 6/3/23 | Completed |
| 13 | 1/1 | Rectifier ckt and filters | Classification of rectifiers | 9/3/23 | Completed |
| 14 | 1/2 | | Analysis of half wave center tapped and Bridge rectifiers and | 13/3/23 | Completed |
| 15 | 1/3 | | DC Output current and voltage | 14/3/23 | Completed |
| 16 | 1/4 | | Rectifier efficiency | 18/3/23 | Completed |
| | | | " | 18/3/23 | Completed |
| 17 | | | Ripple factor | 20/3/23 | Completed |
| 18 | | | Regulation | 21/3/23 | Completed |
| 19 | | | Transformer utilization factor | 22/3/23 | Completed |
| 20 | | | Peak inverse Voltage | 23/3/23 | Completed |
| 21 | 1/5 | | filters | 27/3/23 | Completed |
| 22 | 1/6 | | choke input filter | 28/3/23 | Completed |
| 23 | 1/7 | | π filter | | |

| Sl. No. | Topic No. | Lecture Details | Date | Status |
|---------|-----------|---|---------|--------------------|
| 24 | 1/1 | Transistor principle of Bipolar Junction Transistor | 20/9/23 | Completed |
| 25 | 1/2 | Current components in a Transistor | 3/4/23 | Completed |
| 26 | 1/3 | Different modes of operation of Transistor | 5/4/23 | Completed |
| 27 | 1/4 | Transistor as a Amplifier | 6/4/23 | Completed |
| 28 | 1/5 | Transistor circuit configuration and its character | 10/4/23 | Completed |
| 29 | 1/6 | CB Configuration | " | Practical complete |
| 30 | | CE Configuration | " | Practical complete |
| 31 | 1/7 | CC Configuration | " | Practical complete |
| 32 | 1/1 | Transistor Circuit | 12/4/23 | Complete complete |
| 33 | 1/2 | Stabilization | 13/4/23 | Completed |
| 34 | 1/3 | Stability factor | " | do |
| 35 | 1/4 | Different methods of Transistor biasing | 17/4/23 | Completed |

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|----|-----|--------------------------------------|--|---------|---------------------|
| 36 | 1/5 | | Base resistor method | 19/4/23 | Completed |
| 37 | 1/6 | | Conditions for base bias | " | do |
| 38 | 1/7 | | Self bias in voltage divider method | 20/4/23 | Completed |
| 39 | 1/1 | Transistor Amplifier and OS circuits | Practical cell of transistor amplifier | 27/4/23 | Completed |
| 40 | 1/2 | | DC load line and DC equivalent circuit | 28/4/23 | Completed |
| 41 | 1/3 | | AC load line and AC equivalent circuit calculation of gain, phase in d.c. | 28/4/23 | Partially completed |
| 42 | 1/4 | | H-parameters of transistor Simplified H-parameters of transistor generalized Approximate model | " | Completed |
| 43 | 1/5 | | Analysis of CB, CE, CC amplifier using generalized approximate | 1/5/23 | Completed |
| 44 | 1/6 | | Transform coupled amplifier | 2/5/23 | Completed |
| 45 | 1/7 | | Feedback in amplifier, general theory of feedback | 3/5/23 | Completed |

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| 46 | | negative feedback circuit, | 4/8/23 | complete |
| 47 | | power amplifier and its classification | 8/5/23 | complete |
| 48 | | Transformer coupled class B power amplifier | 9/5/23 | complete |
| 49 | | Class B push-pull amplifier | 14/5/23 | complete |
| 50 | | Oscillators, types of oscillators, Essentials of transistor oscillator | 11/5/23 | complete |
| 51 | | principle of operation of tuned circuit oscillator | 12/5/23 | complete |
| 52 | | principle of operation of LC oscillator | 13/5/23 | complete |
| 53 | | principle of operation of phase shift oscillator | 13/5/23 | complete |
| 54 | | principle of operation of principle of operation of Wien-bridge oscillator | 15/5/23 | complete |
| 55 | field effect transistor | classification of FET | 16/5/23 | complete |

Assignment / EST via BOT

16/1/23 Completed

EE Parameters

| | | |
|----|---|-------------------|
| 56 | Additional gain of common emitter stage Analysis using load line | 16/1/23 Completed |
| 57 | Operational amplifier stages | 16/1/23 Completed |
| 58 | Equivalent circuit of operational amplifier | |
| 59 | Voltage follower buffer | 16/1/23 Completed |
| 60 | Differential amplifier | 16/1/23 Completed |
| | Adder on summing amplifier | 16/1/23 Completed |
| | Subtractor | |
| | Integrator | |
| | Differentiator | |
| | Comparator | |

GENERATION TRANSMISSION & DISTRIBUTION

| SCNO. | Lect. No. | Lecture Details | Topic Name | Date | Status |
|-------|-----------|--|--------------------------------|-----------|-----------|
| 1 | 1/1 | Elementary idea on generation of electricity from Thermal, Hydel, Nuclear, Power station | Generation of Electricity | 14.2.2023 | Completed |
| 2 | 1/2 | - do - | | 15.2.2023 | Completed |
| 3 | 1/3 | Introduction to solar power plant (Photovoltaic cells) | | 16.2.2023 | Completed |
| 4 | 1/4 | Layout diagram of generating stations. | | 20.2.2023 | Continue |
| 5 | 1/5 | - do - | | 21.2.2023 | Completed |
| 6 | 2/1 | Layout of transmission & distribution scheme. | Transmission of Electric Power | 22.2.2023 | Completed |
| 7 | 2/2 | Voltage Regulation | | 23.2.2023 | Completed |
| 8 | 2/3 | Efficiency of Transmission | | 27.2.2023 | Completed |
| 9 | 2/4 | State & explain Kelvin's law for economical size of conductor. | | 28.2.2023 | Continue |
| 10 | 2/5 | - do - | | 1.3.2023 | Completed |
| 11 | 2/6 | Corona and Corona loss on transmission lines. | | 2.3.2023 | Completed |

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|----|-----|---|-------------------------------------|-----------|------------|
| 12 | 3/1 | Types of supports, size and spacing of conductor. | Overhead Lines | 19.3.2023 | Continuous |
| 13 | 3/2 | - do - | | 13.3.2023 | Completed |
| 14 | 3/3 | Types of conductor materials | | 14.3.2023 | Completed |
| 15 | 3/4 | State types of insulator and cross arms. | | 15.3.2023 | Completed |
| 16 | 3/5 | Sag in overhead line with support at same level & different level. (Approximate Formula effect of wind, ice and temperature on sag. | | 16.3.2023 | Completed |
| 17 | 3/6 | - do - | | 20.3.2023 | Completed |
| 18 | 3/7 | Simple problem on sag. | | 21.3.2023 | Completed |
| 19 | 4/1 | Calculation of regulation and efficiency. | Performance of Short & Medium Lines | 22.3.2023 | Continuous |
| 20 | 4/2 | - do - | | 23.3.2023 | Completed |
| 21 | 5/1 | EHV AC transmission | EHV Transmission | 27.3.2023 | Completed |
| 22 | 5/2 | Reasons for adoption of EHV AC transmission | | 28.3.2023 | Completed |
| 23 | 5/3 | Problems involved in EHV transmission. | | 29.3.2023 | Completed |

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| 24 | 5/4 | HVDC transmission . | | 5/4/23 | Completed |
| 25 | 5/5 | Advantages and limitations of HVDC transmission system. | | 6/1/23 | Continue |
| 26 | 5/6 | - do - | | 9/1/23 | Completed |
| 27 | 6/1 | Introduction to Distribution System . | Distribution Systems. | 8/4/23 | Completed |
| 28 | 6/2 | Connection schemes of Distribution System: (Radial, Ring main and inter connected system) | | 11/4/23 | Continue |
| 29 | 6/3 | - do - | | 12/4/23 | Completed |
| 30 | 6/4 | DC distributions . | | 13/4/23 | Completed |
| 31 | 6/5 | Distributor fed at one end. | | 14/4/23 | Completed |
| 32 | 6/6 | Distributor fed at both ends. | | 15/4/23 | Completed |
| 33 | 6/7 | Ring Distributors . | | 16/4/23 | Completed |
| 34 | 6/8 | AC distribution system . | | 20/4/23 | Completed |
| 35 | 6/9 | Method of solving AC distribution Problems . | | 21/4/23 | Continue |
| 36 | 6/10 | - do - | | 22/4/23 | Completed |
| 37 | 6/11 | Three phase four wire star connected system arrangement | | 23/4/23 | Continue |
| 38 | 6/12 | - do - | | 25/4/23 | Completed |

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| 39 | 7/1 | Cable insulation and classification of cables. | Underground Cables | 26/4/23 | Completed |
| 40 | 7/2 | Types of L.T. & H.T. cables with constructional features. | | 27/4/23 | Continue |
| 41 | 7/3 | - do - | | 28/4/23 | Completed |
| 42 | 7/4 | Methods of cable laying. | | 1/5/23 | Completed |
| 43 | 7/5 | Localization of cable faults: Murray and Varley loop test for short circuit fault / Earth fault. | | 2/5/23 | Continue |
| 44 | 7/6 | - do - | | 2/5/23 | Completed |
| 45 | 8/1 | Causes of low power and methods of improvement of power factor in power system. | Economic Aspects | 3/5/23 | Continue |
| 46 | 8/2 | - do - | | 3/5/23 | Completed |
| 47 | 8/3 | Factors affecting the economics of generation. (Define and explain) | | 8/5/23 | Completed |
| 48 | 8/4 | Load Curves. | | 9/5/23 | Completed |
| 49 | 8/5 | Demand factor | | 10/5/23 | Completed |
| 50 | 8/6 | Maximum demand | | 11/5/23 | Completed |
| 51 | 8/7 | Load factor. | | 12/5/23 | Completed |

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|---|------|---|-----------------|---------|-----------|
| 2 | 8/8 | Diversity factor | | 14/5/23 | Completed |
| 3 | 8/9 | Plant capacity factor | | 17/5/23 | Completed |
| 4 | 8/10 | Peak load and Base load on power station. | | 18/5/23 | Completed |
| 5 | 9/1 | Desirable characteristic of a tariff. | Types of Tariff | 19/5/23 | Completed |
| | 9/2 | Explain Flat rate, block rate, two part and maximum demand tariff. (Solve Problems) | | 20/5/23 | Completed |
| | 9/3 | - do - | | 21/5/23 | Completed |
| | 10/1 | Layout of LT, HT and EHT substation. | Substation | 24/5/23 | Continue |
| | 10/2 | - do - | | 25/5/23 | Completed |
| | 10/3 | Earthing of substation, transmission and distribution lines. | | 28/5/23 | Completed |

ENERGY CONVERSION-I

| S.No. | Lect. No. | Lecture Details | Topic Name | Date | Status |
|-------|-----------|--|----------------|-----------|-----------|
| 1 | 1/1 | Operating principle of generator | D.C. Generator | 14.2.2023 | Completed |
| 2 | 1/2 | Constructional features of DC machine. | | 15.2.2023 | Completed |
| 3 | 1/3 | Yoke, Pole & field windings, Armature, Commutator. | | 16.2.2023 | Completed |
| 4 | 1/4 | Armature winding, back Pitch, front Pitch, | | 17.2.2023 | Completed |
| 5 | 1/5 | Resultant Pitch, Commutator Pitch. | | 20.2.2023 | Completed |
| 6 | 1/6 | Simple lap and wave winding, Dummy coils. | | 21.2.2023 | Completed |
| 7 | 1/7 | Different types of D.C. M/Cs. (Shunt, Series, Compound) | | 22.2.2023 | Completed |
| 8 | 1/8 | Derivation of EMF equation of DC generators. | | 23.2.2023 | Completed |
| 9 | 1/9 | Losses and Efficiency of DC generator. | | 24.2.2023 | Completed |
| 10 | 1/10 | Condition for maximum efficiency and numerical problems. | | 27.2.2023 | Completed |

| Sl No. | Lect No. | Lecture Details | Topic Name | Date | Status |
|--------|----------|--|-------------|-----------|-----------|
| 11 | 1/11 | Armature reaction in D.C. Machine. | | 30.3.2023 | Completed |
| 12 | 1/12 | Communication and methods of improving commutation. | | 1.3.2023 | Completed |
| 13 | 1/13 | Role of interpole and compensating winding in commutation. | | 2.3.2023 | Completed |
| 14 | 1/14 | Characteristics of D.C. Generators. | | 3.3.2023 | Completed |
| 15 | 1/15 | Application of different types of D.C. Generators. | | 6.3.2023 | Completed |
| 16 | 1/16 | Concept of critical resistance and critical speed of DC shunt generator. | | 9.3.2023 | Completed |
| 17 | 1/17 | Conditions of Build-up of emf of DC generator. | | 10.3.2023 | Completed |
| 18 | 1/18 | Parallel operation of DC. Generators. | | 13.3.2023 | Completed |
| 19 | 1/19 | Uses of DC generators. | | 14.3.2023 | Completed |
| 20 | 2/1 | Basic working principle of DC motor. | D.C. Motors | 15.3.2023 | Completed |

| Sl. No. | Lect No. | Lecture Details | Topic Name | Date | Status |
|---------|----------|--|------------|-----------|-----------|
| 21 | 2/2 | Significance of back emf in D.C. Motor. | | 16.3.2023 | Completed |
| 22 | 2/3 | Voltage equation of D.C. Motor | | 17.3.2023 | Completed |
| 23 | 2/4 | Condition for maximum power output. | | 20.3.2023 | Completed |
| 24 | 2/5 | Derive torque equation. | | 21.3.2023 | Completed |
| 25 | 2/6 | Characteristic of shunt, series and compound motors and their applications. | | 22.3.2023 | Completed |
| 26 | 2/7 | Starting method of shunt, series and compound motors. | | 23.3.2023 | Completed |
| 27 | 2/8 | Speed control of DC shunt motor by flux control method, Armature voltage control method. | | 24.3.2023 | Continue |
| 28 | 2/9 | - do - | | 27.3.2023 | Completed |
| 29 | 2/10 | Speed control of DC series motor by field flux control method, Tapped field method and series-parallel method. | | 28.3.2023 | Continue |
| 30 | 2/11 | - do - | | 29.3.2023 | Completed |

| Sr. No. | Lect. No. | Lecture Details | Topic Name | Date | Status |
|---------|-----------|---|--------------|---------|--------------------|
| 31 | 2/12 | Determination of efficiency of D.C. machine by Brake test method. | | 3/4/23 | partially complete |
| 32 | 2/13 | -do- | | 4/4/23 | complete |
| 33 | 2/14 | Determination of efficiency of D.C. machine by Swinburne's Test method. | | 5/4/23 | partially complete |
| 34 | 2/15 | -do- | | 6/4/23 | complete |
| 35 | 2/16 | Losses, efficiency and power stages of D.C. motor. | | 10/4/23 | complete |
| 36 | 2/17 | Uses of D.C. Motors. | | 11/4/23 | complete |
| 37 | 3/1 | Working Principle of Transformer | Single Phase | 12/4/23 | complete |
| 38 | 3/2 | Constructional feature of Transformer. | Transformer | 17/4/23 | complete |
| 39 | 3/3 | Arrangement of core & winding in different types of transformer. | | 18/4/23 | complete |
| 40 | 3/4 | Brief idea about transformer accessories such as conservator, tank breather and explosion vent etc. | | 19/4/23 | partially complete |
| 41 | 3/5 | -do- | | 20/4/23 | complete |
| 42 | 3/6 | Explain types of cooling methods. | | 24/4/23 | complete |
| 43 | 3/7 | State the procedures for care and maintenance. | | 25/4/23 | complete |

| Sl. No. | Lesson | Lecture Details | Topic Name | Date | Status |
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| 44 | 3/8 | EMF equation of transformer. | | 26/4/23 | Complete |
| 45 | 3/9 | Basic transformer voltage transformation ratio. | | 27/4/23 | Complete |
| 46 | 3/10 | Operation of transformer at no load, on load with phase diagrams. | | 28/4/23 | Partially Complete |
| 47 | 3/22 | -do- | | 1/5/23 | Complete |
| 48 | 3/20 | Equivalent resistance, leakage Resistance and impedance of transformer. | | 2/5/23 | Partially Complete |
| 49 | 3/20 | -do- | | 3/5/23 | Complete |
| 50 | 3/24 | To draw phase diagram of transformer on load, with winding resistance and magnetic leakage with using up, leading pf and lagging pf load. | | 4/5/23 | Partially Complete |
| 51 | 3/25 | -do- | | 6/5/23 | Complete |
| 52 | 3/26 | To explain Equivalent circuit and solve numerical problems. | | 8/5/23 | Partially Complete |
| 53 | 3/27 | -do- | | 9/5/23 | Complete |
| 54 | 3/28 | Approximate & exact voltage drop calculation of a Transformer. | | 10/5/23 | Complete |

| Sr. No. | Lect No. | Lecture Details | Topic Name | Date | Status |
|---------|----------|---|------------------|---------|-----------|
| 55 | 3/19 | Regulation of transformer. | | 11/5/23 | Completed |
| 56 | 3/20 | Different types of losses in a Transformer. | | 12/5/23 | Completed |
| 57 | 3/21 | Explain open circuit and short circuit test. | | 13/5/23 | Completed |
| 58 | 3/22 | Explain Efficiency, efficiency at different loads and power factors, condition for maximum efficiency. (Solving Problems) | | 15/5/23 | Completed |
| 59 | 3/23 | - do - | | 16/5/23 | Completed |
| 60 | 3/24 | Explain All day Efficiency. (Solve Problems) | | 17/5/23 | Completed |
| 61 | 3/25 | Determination of load corresponding to max. efficiency. | | 20/5/23 | |
| 62 | 3/26 | Parallel operation of single phase transformer. | | 23/5/23 | |
| 63 | 4/1 | Constructional features of Auto transformer. | Auto Transformer | 25/5/23 | |
| 64 | 4/2 | - do - | | 26/5/23 | |

| Sl No. | Cell No. | Content | Activity | Topic Name | Date | Status |
|--------|----------|--|----------|------------------------|---------|--------|
| 67 | 4/3 | Working Principle of Single Phase Auto Transformer. | | | 27/5/23 | |
| 68 | 4/4 | | -do- | | 28/5/23 | |
| 69 | 4/5 | Comparison of Auto transformer with an two winding transformer | | | | |
| 68 | 4/6 | | -do- | | | |
| 69 | 4/7 | Uses of Auto Transformer. | | | | |
| 70 | 4/8 | Explain Tap changer with transformer (on load and off load condition). | | | | |
| 71 | 5/1 | Explain Current Transformer. | | Instrument Transformer | | |
| 72 | 5/2 | Explain Potential Transformer. | | | | |
| 73 | 5/3 | Define Ratio error, Phase angle error, Burden. | | | | |
| 74 | 5/4 | | -do- | | | |
| 75 | 5/5 | Uses of C.T. and P.T. | | | | |

ELECTRICAL MEASUREMENT & INST.

| S.No | Locality | Topic Name | Lecture Details | Date | Status |
|------|----------|---|---|---------|-----------|
| 01. | 1/1 | Measur- ing Instrument | Errors Accuracy, Precision, Error, Resolution, Sensitivity and Tolerance. | 14.2.23 | completed |
| 02 | 1/2 | | classification of Measuring instruments | 15.2.23 | completed |
| 03. | 1/3. | | Explain deflecting Controlling and damp- ing and arrangements in Indicating type of instruments. | 16.2.23 | completed |
| 04. | 1/4. | | Calibration of instruments. | 20.2.23 | completed |
| 05. | 2/1 | Analog Ammeters And Voltmeters | Describe construction principle of operation, errors ranges, merits and demerits of Moving iron type instruments. | 21.2.23 | completed |
| 06 | 2/2 | | Permanent Magnet Moving Coil type instruments. | 22.2.23 | completed |
| 07. | 2/3 | | Dynamometer type instruments. | 1.3.23 | completed |
| 08 | 2/4 | | Rectifier type instruments. | 2.3.23 | completed |

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| 9 | 2/5 | | Induction type Instruments. | 6.3.23 | Completed |
| 10 | 2/6 | | Extend the range of Instruments by use of shunts and Multipliers | 9.3.23 | Completed |
| 11 | 2/7 | | Solve Numerical. | 13.3.23 | Completed |
| 12 | 3/1 | Wattmeters And Measurement of Power. | Describe Construction, principle of working of Dynamometer type wattmeter. | 14.3.23 | Completed |
| 13 | 3/2 | | What are the Errors in Dynamometer type wattmeter and Methods of their correction. | 15.3.23 | Completed |
| 14 | 3/3 | | Discuss LPF Electro-Dynamometer type wattmeter | 16.3.23 | Completed |
| 15 | 3/4 | | Discuss Induction type wattmeters. | 20.3.23 | Completed |
| 16 | 3/5 | | Measurement of Power in Single phase and three phase circuit. | 21.3.23 | Completed |

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|----|-----|---|--------------|---------|-----------|
| 7 | 4/1 | Energy meters and Measurement of Energy | Introduction | 22.3.23 | Completed |
| 8 | 4/2 | Single phase and poly phase induction type Energy meters - Construction working principle and their compensation and Adjustments. | | 23.3.23 | Completed |
| 19 | 4/3 | Testing of Energy Meters. | | 27.3.23 | Completed |
| 20 | 5/1 | Measurement of speed, frequency and power factor | | 28.3.23 | Completed |
| 21 | 5/2 | Tachometers types and working principles. | | 29.3.23 | Completed |
| 22 | 5/3 | Principle of operation and Construction of Mechanical and Electrical resonance type frequency meters. | | 3.4.23 | Completed |

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| 23 | 5/4 | | Principle of operation and working of Dynamometer type single phase and three phase power factor meters. | 4/4/23 | Completed |
| 24 | 5/5 | | Synchrosopes - objectives and working | 5/4/23 | Completed |
| 25 | 5/6 | | Phase sequence indicators and its working. | 6/4/23 | Completed |
| 26 | 6/1 | Instal- ment Trans- former | Explain current transformer and potential transformer | 10/4/23 | Completed |
| 27 | 6/2 | | Explain Ratio error, phase angle error and Burden. | 11/4/23 | Completed |
| 28 | 6/3 | | Clamp-On Ammeter etc. | 12/4/23 | Completed |
| 29 | 6/4 | | State Use of CT and PT. | 13/4/23 | Completed |
| 30 | 7/1 | Measu- rement of Resistance | classification of Resistance. | 17/4/23 | Completed |
| 31 | 7/2 | | Explain Measurement of low resistance by voltage drop and Potentiometer Method. | 18/4/23 | Completed |

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| 7/3 | | Its use to Measure Resistance. | 17/4/23 | Completed |
| 7/4 | | Explain Measurement of medium resistance by wheat stone bridge Method and Substitution Method. | 20/4/23 | Completed |
| 7/5 | | Explain Measurement of high Resistance by loss of charge Method. | 24/4/23 | Completed |
| 7/6 | | Explain Construction & principle of operations (Meggers) Insulation resistance & Earth resistance Megger. | 25/4/23 | Completed |
| | | Explain construction and principles of Multimeter. | 26/4/23 | Completed |
| 8/1 | Measure-ment of Inductance & Capacitance. | Explain measurement of Inductance by Maxwell's Bridge Method. | 1/5/23 | Completed |
| 8/2 | | Oven Bridge Method. | 2/5/23 | Completed |

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| 42 | 8/3 | Revision on Maxwell's Bridge Method. | 3/5/23 | Completed |
| 43 | 8/4 | Revision on Oven Bridge Method. | 4/5/23 | Completed |
| 44 | 8/5 | Explain Measurement of Capacitance. | 8/5/23 | Completed |
| 45 | 8/6 | By De Sauty Bridge Method. | 9/5/23 | Completed |
| 46 | 8/7 | Schering Bridge Method. | 10/5/23 | Completed |
| 47 | 8/8 | LCR Bridge Method | 11/5/23 | Completed |
| 48 | 8/9 | Revision on LCR Bridge Method. | 12/5/23 | Completed |
| 49 | 9/1 | Digital Voltmeters (DVM). | 13/5/23 | Completed |
| 50 | 9/2 | Revision on (DVM). | | |
| 51 | 9/3 | characteristics of Digital Meters. | 15/5/23 | Completed |
| 52 | 9/4 | Revision on characteristics of Digital Meters. | 16/5/23 | Completed |

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| 9/6 | Digital Multi meters. | 12/2/23 | (Completed) |
| 9/6 | Revision on Digital Multimeters. | | |
| 9/7 | Revision on Moving Iron type instruments | | |
| 9/8 | Revision on Permanent Magnet Moving coil type instrument. | | |
| 9/9 | Revision on Rectifier type Instruments. | | |
| 9/10 | Revision on Induction type Instruments. | | |
| 10/1 | Revision on Numerical Problems. | | |
| 10/2 | Revision on tachometers types and working principle. | | |
| 10/3 | Revision on testing Energy Meters. | | |

24

Revision on
Scale use of CT
and PT

25

Revision on
Clamp-on
Ammeters.

SIMULATION PRACTICE ON MATLAB

| Sl. No. | Lect. No. | Topic Name | Details | Date | Status |
|---------|-----------|------------------------------------|---|------------------------|----------------------------------|
| 1 | 1/1 | Introduction to MATLAB Programming | Functions and operation using variables and arrays. | 17.2.2023 24.2.2023 | Partially Completed Completed |
| 2 | 1/2 | | To learn algebraic, trigonometric and exponential manipulation. | 3.3.2023 10.3.2023 | Partially Completed Completed |
| 3 | 1/3 | | To learn Arithmetic, Relational and logic operators. | 17.3.2023 | Completed |
| 4 | 1/4 | | Matrix formation and its manipulation. | 24.3.2023 | Completed |
| 5 | 1/5 | | Vector Manipulation : Use of linspace to create vectors. | 31.3.2023 | Completed |
| 6 | 1/6 | | To create, add and multiply vectors. | 21.4.23 | Completed |
| 7 | 1/7 | | Use of sin and sqrt functions with vector arguments. | 28.4.23 | Completed |
| 8 | 1/8 | | Plotting : Two dimensional Plots and sub plots. | 12.4.23 | Completed |
| 9 | 1/9 | | Label the plot and printing. | 12.9.23 | Completed |

| Sl. No. Lec. No. | Topic Name | Details | Date | Status |
|------------------|------------|---|---------|-----------|
| 10 | 1/10 | Write and execute a file to plot a circle, impulse, step, ramp, sine and cosine functions. | 21/4/23 | Completed |
| | | | 8/5/23 | Completed |
| 11 | 2/1 | Introduction to Simulation Use of commonly used blocks, Math operation block and Display block from SIMULINK library. | 11/5/23 | Completed |
| 12 | 2/2 | Use of logical and relational operator block. | | |
| 13 | 2/3 | Use of Sim-power System block to use electrical sources, elements and power electronics devices. | | |
| 14 | 2/4 | SIMULATION: -Verification of Network Theorems -Simulation of a half wave ^{uncontrolled} rectifier | | |
| 15 | 2/5 | -Simulation of 1-phase full bridge controlled rectifier. -Simulation of step-down chopper | | |

ELECTRICAL MACHINE LAB-I

| S.No. | Lect.No. | Experiment | Details | Date | Status |
|-------|----------|------------|---|-----------|---------------------|
| 1 | 1/1 | Exp-1 | Demonstration and Identification of different terminals of a DC Machine by test lamp method and multimeter method & to measure insulation resistance by megger. | 14.2.2023 | Completed |
| 2 | 1/2 | | Practical | 15.2.2023 | Partially Completed |
| 3 | 1/3 | | Observation | 21.2.2023 | Completed |
| 4 | 2/1 | Exp-2 | Demonstration on Dimensional and material study of various parts of a DC Machine. | 22.2.2023 | Partially Completed |
| 5 | 2/2 | | Practical & Observation. | 28.2.2023 | Completed |
| 6 | 3/1 | Exp-3 | Demonstration on Plot O/C of a DC shunt generator at constant speed and determine critical resistance from the graph. | 14.3.2023 | Partially Completed |
| | | | | 15.3.2023 | Partially Completed |
| 7 | 3/2 | | Practical | 21.3.2023 | Partially Completed |
| 8 | 3/3 | | Observation . | 22.3.2023 | Completed |
| 9 | 4/1 | Exp-4 | Demonstration on Plot External characteristics of DC shunt generator at constant speed. | 28.3.2023 | Partially Completed |
| 10 | 4/2 | | Practical & Observation . | 29.3.2023 | Completed |

| Sl. No. | Experiment | Details | Date | Status |
|---------|------------|--|---------|-----------|
| 11 | 5/1 Exp-5 | Demonstration and study of Three point starter, connect and run a DC shunt motor & measure the no load current. | 4.4.23 | Completed |
| 12 | 5/2 | Practical & Observation. | 5.4.23 | Completed |
| 13 | 6/1 Exp-6 | Demonstration and study of Four point starter, connect and run a DC Compound motor & measure no load current. | 11.4.23 | Completed |
| 14 | 6/2 | Practical & Observation. | 12.4.23 | Completed |
| 15 | 7/1 Exp-7 | Demonstration on Control the speed of a DC shunt motor by Field Flux control method & armature voltage control method. | 15.4.23 | Completed |
| 16 | 7/2 | Practical | 17.4.23 | Completed |
| 17 | 7/3 | Observation. | 25.4.23 | Completed |
| 18 | 8/1 Exp-8 | Determination of armature current Vs speed characteristics of a DC Motor. | 26.4.23 | Completed |
| 19 | 8/2 | Practical | 2.5.23 | Completed |
| 20 | 8/3 | Observation. | 3.5.23 | Completed |

| Sl. No. | Lect. No. | Experiment | Details | Date | Status |
|---------|-----------|------------|--|---------|-----------|
| 21 | 9/1 | Exp-9 | Determination the efficiency of a DC Machine by brake test method. | 8.5.23 | Completed |
| 22 | 9/2 | | Practical and observation. | 9.5.23 | Completed |
| 23 | 10/1 | Exp-10 | Demonstration and identification of terminals, determination of voltage transformation ratio of a single phase transformer. | 12.5.23 | Completed |
| 24 | 10/2 | | Practical | 13.5.23 | Completed |
| 25 | 10/3 | | observation. | 17.5.23 | Completed |
| 26 | 11/1 | Exp-11 | Demonstration and performance of OC Test and SC Test of a single phase transformer. | | |
| 27 | 11/2 | | Practical | | |
| 28 | 11/3 | | observation | | |
| 29 | 12/1 | Exp-12 | Determination and observation of voltage regulation of a single phase transformer at different loads. | | |
| 30 | 13/1 | Exp-13 | Demonstration, Practical and observation of Polarity test of single phase transformer and parallel operation of two single phase transformers. | | |

ANALOG ELECTRONICS LAB.

| Sr No. | Lab No. | Experiment | Details | Date | Status |
|--------|---------|------------|--|---------|-----------|
| 1 | 1/1 | Exp-1 | Voltage amplifier, current amplifier | 9/2/23 | Completed |
| 2 | 1/2 | | Trans-conductance amplifier & trans-resistance amplifier. | 13/2/23 | Completed |
| 3 | 1/3 | | Biasing scheme for BJT | 20/2/23 | Completed |
| 4 | 2/1 | Exp-2 | Biasing scheme for FET | 27/2/23 | Completed |
| 5 | 2/2 | | Bias-stability, various configurations such CE/CS. | 5/3/23 | Completed |
| 6 | 2/3 | | CB/CG, CC/CD & their features | 13/3/23 | Completed |
| 7 | 3/1 | Exp-3 | Small signal analysis. | 20/3/23 | Completed |
| 8 | 3/2 | | Low frequency transistor model. | 27/3/23 | Completed |
| 9 | 3/3 | | Estimation of voltage gain, input resistance, output resistance. | 3/4/23 | Completed |
| 10 | 4/1 | Exp-4 | Design procedure for particular specification. | 10/4/23 | Completed |
| 11 | 4/2 | | Low frequency analysis of multi-stage amplifier. | 17/4/23 | Completed |
| 12 | 4/3 | | High frequency transistor model. | 24/4/23 | Completed |
| 13 | 5/1 | Exp-5 | Frequency response of single stage amplifier. | 1/5/23 | Completed |

| Sl No. | Lect No. | Experiment | Details | Date | Status |
|--------|----------|------------|---|---------|-----------|
| 14 | 5/2 | | Multi stage amplifier . | 8/5/23 | Completed |
| 15 | 5/3 | | Cascade amplifier . | 12/5/23 | Completed |
| 16 | 6/1 | Exp-6 | Various classes of operation class-A | 13/5/23 | Completed |
| 17 | 6/2 | | Class-B | 17/5/23 | Completed |
| 18 | 6/3 | | Class-AB | | |
| 19 | 7/1 | Exp-7 | Class-C | | |
| 20 | 7/2 | | Power efficiency & linearity issues | | |
| 21 | 7/3 | | Voltage series feedback | | |
| 22 | 8/1 | Exp-8 | Current series feedback . | | |
| 23 | 8/2 | | Voltage shunt, current shunt | | |
| 24 | 8/3 | | Effect of feedback on gain, bandwidth etc . | | |
| 25 | 9/1 | Exp-9 | Calculation with practical circuit | | |
| 26 | 9/2 | | Concept of stability . | | |
| 27 | 9/3 | | Gain margin & Phase margin | | |
| 28 | 10/1 | Exp-10 | Review of basic concept: Barkhausen criterion for oscillator . | | |

| Sl. No. | Test No. | Experiment | Details | Date | Status |
|---------|----------|------------|--|------|--------|
| 29 | 10/2 | | RC phase shift oscillator | | |
| 30 | 10/3 | | Wein bridge oscillator. | | |
| 31 | 11/1 | Exp-11 | Harley oscillator. | | |
| 32 | 11/2 | | Colpitts oscillator, Clapp oscillator | | |
| 33 | 11/3 | | 555 Timer as Monostable & Astable multivibrator. | | |
| 34 | 12/1 | Exp-12 | Schmitt trigger & its application | | |
| 35 | 12/2 | | Current mirror: basic topology & its variants. | | |
| 36 | 12/3 | | Output resistance & minimum sustainable voltage. | | |
| 37 | 13/1 | Exp-13 | Minimum usable load. | | |
| 38 | 13/2 | | Differential amplifier. | | |
| 39 | 13/3 | | Basic structure & principle of operation. | | |
| 40 | 14/1 | Exp-14 | Calculation of differential gain. | | |
| 41 | 14/2 | | Common mode gain. | | |
| 42 | 14/3 | | CMRR & ICMR | | |

| Sl No. | Lab No. | Experiment | Details | Date | Status |
|--------|---------|------------|---------|------|--------|
|--------|---------|------------|---------|------|--------|

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| 43 | 15/1 | Exp-15 | Op-amp design | | |
|----|------|--------|---------------|--|--|

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| 44 | 15/2 | | Design of differential amplifier for a given specification. | | |
|----|------|--|---|--|--|

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| 45 | 15/3 | | Design for gain stages & output stages. | | |
|----|------|--|---|--|--|

ELECTRICAL DRAWING

| Q.No. | Lect No. | Topic Name | Details | Date | Status |
|-------|----------|--------------------------|--|---------|-----------|
| 1 | 1/1 | Wiring Diagram and | 3 point D.C. motor starter 4 point D.C. motor starter | 16.2.23 | Completed |
| 2 | 1/2 | Control Circuit | - do - | 17.2.23 | Completed |
| 3 | 1/3 | | DOL starter | 23.2.23 | Completed |
| 4 | 1/4 | | Star delta starter | 24.2.23 | Completed |
| 5 | 1/5 | | Auto Transformer starter. | 2.3.23 | Completed |
| 6 | 1/6 | | Rotor resistance starter | 3.3.23 | Completed |
| 7 | 2/1 | Draw D.C. | Pole with pole shoes. | 9.3.23 | Completed |
| 8 | 2/2 | M/c parts | Commutator | 10.3.23 | Completed |
| 9 | 2/3 | | Armature | 16.3.23 | Completed |
| 10 | 2/4 | | D.C. armature winding. | 17.3.23 | Completed |
| 11 | 2/5 | | Simple lap winding. | 23.3.23 | Completed |
| 12 | 2/6 | | Simple wave winding. | 24.3.23 | Completed |
| 13 | 3/1 | Draw 1-Phase Transformer | Stepped Core type | 6.4.23 | Completed |
| 14 | 3/2 | | Plane shell type. | 13.4.23 | Completed |
| 15 | 3/3 | Draw 3-Phase Transformer | Stepped Core type. | 20.4.23 | Completed |
| 16 | 3/4 | | Plane Shell type. | 21.4.23 | Completed |

| Sl No. | Lect No. | Topic Name | Details | Date | Status |
|--------|----------|--|--|---------|-------------------------|
| 17 | 4/1 | Draw sketches of the following as per B.I.S. specifications | Earthing installation | 27.4.23 | Completed |
| 18 | 4/2 | Draw sketches of the following as per REC specifications | Double Pole Structure for LT and HT distribution lines | 28.4.23 | Completed |
| 19 | 4/3 | Draw sketches of the following as per REC specifications | Earthing installation | 4.5.23 | Completed |
| 20 | 4/4 | Draw sketches of the following as per REC specifications | Double Pole Structure for LT and HT distribution lines | 11.5.23 | Completed |
| 21 | 5/1 | Draw single line diagram of 33/11 KV distribution substation | Single line diagram of 33/11 KV distribution substation | 12.5.23 | Practising Completed |
| 22 | 5/2 | Diagram of substation | -do- | 12.5.23 | Completed |
| 23 | 5/3 | Single line diagram of a 11/0.4 KV distribution substation | Single line diagram of a 11/0.4 KV distribution substation | 15.5.23 | Completed |
| 24 | 5/4 | | -do- | 16.5.23 | Completed |
| 25 | 6/1 | Computer Aided | Draw Electrical Symbols | | |
| 26 | 6/2 | Electrical Drawing using soft. | Draw D.C. M/C parts | | |
| 27 | 6/3 | ware | -do- | | |
| 28 | 6/4 | | Draw A.C. M/C parts | | |
| 29 | 6/5 | | -do- | | |

