

Lesson Plan

Nam : DIMPLE RANI

Disci : MECHANICAL ENGG.

Sem : 3rd Semester

Subj : BASICS OF ELECTRICAL AND ELECTRONICS ENGINEERING

Lessr : 15 Weeks (From July 2018 to November 2018)

Work Load (L

Wee	Theory		Practical Topic
	Lecture Day	Topic (including assignment/test)	
1 st	1	CHAPTER 1. Application and Advantage of Electricity Introduction, Difference between A.C. and D.C.	EX. 1 : Connection of a three-phase motor and starter with fuses and reversing of direction of rotation
	2	Various applications of Electricity	
	3	Advantages of Electrical Energy over other type of Energy, Advantage of A.C supply over D.C. supply	
2 nd	4	Advantages of D.C Supply over A.C Supply Revision of Chapter 1.	EX.2: Connection of a single-phase induction motor with supply and reversing of its direction of rotation
	5	CHAPTER 2. Basic Electrical Quantities Electricity, Nature of Electricity, Definition of Charge, Voltage, Current.	
	6	Name of instruments used for measuring above quantities, Definition of Resistance, Electrical Energy, Electrical Power (Actual Power, Apparent Power, Reactive Power)	
3 rd	7	Power Factor, Causes of Low Power Factor , Disadvantages of Low Power Factor	EX.3: To test a battery for its charged and
	8	Methods to Improved Power Factor , Advantages of Improved Power Factor, Instrument used for measurement these Quantities. Revision of Chapter 2 and Assignment Giving.	
	9	CHAPTER 3. Electromagnetic Induction Production of E.M.F , Faraday's Law's	

		of Electromagnetic Induction.	discharged condition.
4th	10	Direction of Induced E.M.F. ,Construction of Transformer ,Fleming 's Left and Right Hand Rule	
	11	Lenz's Law , Principle and Working of Transformer.	
	12	Types of Transformer , E.M.F. Equation of Transformer , Transformer Ratio, Revision of Chapter 3.	
			EX.4:Identify the different faults in a domestic wiring system

<u>5th</u>	13	CHAPTER 4. Transmission and Distribution System Generation of Electrical Power, Transmission of Electrical Power,	
	14	Distribution of Electrical Power, Key Diagram of 3 Phase Transmission and Distribution System	
	15	Components /Accessories of Transmission Line, Identification of Single Phase Wires	
			Revision of expt 3, 4
6TH	16	Identification of Three Phase wires of Low Voltage distribution system	
	17	Determination of Phase Voltage and Line Voltage , Difference between Single Phase and Three Phase Supply System.	
	18	Arrangement of Supply System from Pole to the Distribution board	
			EX.5: Connection and reading of an electric energy meter with supply and load using ammeter,voltmeter , wattmeter .
7TH	19	Function of Service Line,	
	20	Energy Meter ,Main Switch , Distribution Box	
	21	Revision of Chapter 4 ,Notebook Checking and Assignment Giving.	
			EX.6: Study of a distribution board for domestic installation .
8TH	22	CHAPTER 5. Domestic Installation Introduction to Circuit and Sub-Circuit	
	23	Difference Between Light Points and Power Points, Types of Circuits	
	24	Various Accessories and parts used in Installation, MCB , ELCB , Simple Electrical Circuits	
			EX.7: Ohm's law verification .

9TH	25	Identification of Wiring System (Cleat,Casing and Capping,C.T.S./Batten Wiring,Conduit Wiring),Staircase Wiring.	
	26	Revision Of Chapter 5 and Assignment Giving.	
	27	Class Test and Note Book Checking.	EX.8: Verification of law of resistance in series .
10T H	28	CHAPTER 6. Electric Motors and Pumps Motor , Working Principle of Motor.	
	29	Type of Electric Motors , Application of Motors.	
	30	Pumps , Types of Pumps and their applications.	Revision of expt 5,6
11T H	31	Servomotors , Characterstics and their application.	
	32	Starting of Three Phase Induction Motors(D.O.L. Starter,Star-Delta Starter)	
	33	Difference between D.O.L. and star-delta starter	EX.9: Verification of law of resistance in parallel

12T H	34	Conversion of Horsepower in Watts/Killowatts and related Numerical.	
	35	Revision and Note Book Checking.	
	36	CHAPTER 7. Electrical Safety Electric shock,Precautions against Electric Shock,Treatment of Electric Shock.	EX.10:Draw V-I characteristicsof P-N junction diode
13T H	37	Fuse,Types and Application of Fuses	
	38	Earthing ,Types of Earthing ,Application of MCB's and ECB'S.	
	39	Revision and Assignment Giving.	EX.11: Draw input and outputcharacters of a transistor
14T H	40	CHAPTER-8 Basic Electronics Structure of Atom,Energy Level and Energy Band Theory,	
	41	Classification of material according to Energy Band ,Crystal Structure of	

		Silicon and Germanium.	EX.12:Draw reverse breakdown characteristics of a zener diode
	42	Intrinsic and Extrinsic Semiconductors, Concept of electron Hole Pair in Extrinsic Semiconductor	
15T H	43	P-N junction diode, Biasing a Diode, V-I characteristics of junction Diode, Zener Diode.	
	44	Transistor, Thyristor (SCR), V-I Characteristics of SCR.	
	45	Types of Transistors, Advantages of Transistors, Revision and Note Book Checking.	
			Viva voce

