

LESSON PLAN FOR BASIC ELECTRICAL AND ELECTRONICS ENGINEERING

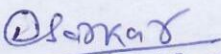
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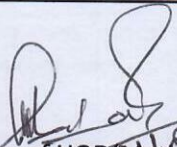
| Discipline : Electrical Engineering | | Semester: 1st | Name of the Teaching Faculty: MS. Deepika Sarkar |
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| Subject: BASIC ELECTRICAL AND ELECTRONICS ENGINEERING(Th4AB) | | No. of days/ per week class allotted: 4 | Semester From Date : 16.08.23 to Date: 11.12.23 No. of Weeks: 15 No. of class : 60 |
| Week | Date Range | Class Day | Theory Topics |
| | | | Basic Electrical:- 1. FUNDAMENTALS : |
| 1st | 16.08.23 to 19.08.23 | 1st | Introduction to the syllabus and the course |
| | | 2 nd | 1.1 Concept of current flow. |
| | | 3rd | 1.2 Concept of source and load. |
| 2nd | 21.08.23 to 26.08.23 | 1st | 1.3 State Ohm's law and concept of resistance. Simple problems on ohms law |
| | | 2nd | 1.4 Relation of V, I & R in series circuit. |
| | | 3rd | 1.5 Relation of V, I & R in parallel circuit. |
| | | 4th | 1.6 Division of current in parallel circuit. Simple problems on series and parallel circuit |
| 3rd | 28.08.23 to 02.09.23 | 1st | 1.7 Effect of power in series & parallel circuit. |
| | | 2nd | 1.8 Kirchhoff's law 1.9 Simple problems on Kirchhoff's law. |
| | | 3rd | Basic Electrical:-2. A.C. THEORY :- 2.1 Generation of alternating emf. |
| | | 4th | 2.2 Difference between D.C. & A.C. |
| 4th | 14.11.22 to 19.11.22 | 1st | 2.3 Define Amplitude, instantaneous value, cycle, Time period, frequency, phase angle, phase difference. |
| | | 2nd | 2.4 State & Explain RMS value, Average value, Amplitude factor & Form factor with Simple problems. |
| | | 3rd | 2.5 Represent AC values in phasor diagrams. |
| | | 4th | 2.6 AC through pure resistance, inductance & capacitance |

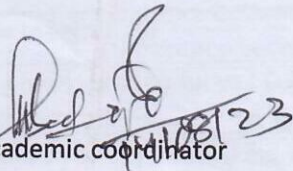
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| 5th | 04.09.23 to 09.09.23 | 1st | 2.7 AC though RL, RC, RLC series circuits |
| | | 2nd | 2.8 Simple problems on RL, RC & RLC series circuits |
| | | 3rd | 2.9 Concept of Power and Power factor 2.10 Impedance triangle and power triangle. |
| | | 4th | Unit test |
| | | | Basic Electronics:-1. ELECTRONIC DEVICES:- |
| 6th | 11.09.23 to 16.09.23 | 1st | 1.1 Basic Concept of Electronics and its application. 1.2 Basic Concept of Electron Emission & its types |
| | | 2nd | 1.3 Classification of material according to electrical conductivity (Conductor, Semiconductor & Insulator) with respect to energy band diagram only. |
| | | 3rd | 1.4 Difference between Intrinsic & Extrinsic Semiconductor |
| | | 4th | 1.5 Difference between vacuum tube & semiconductor |
| 7th | 18.09.23 to 23.09.23 | 1st | 1.6 Principle of working and use of PN junction diode, Zener diode and Light Emitting Diode (LED) |
| | | 2nd | 1.7 Integrated circuits (I.C) & its advantages. |
| | | 3rd | Basic Electronics:- 2. ELECTRONIC CIRCUITS :- 2.1 Rectifier & its uses. 2.2 Principles of working of different types of Rectifiers with their merits and demerits |
| | | 4th | 2.3 Functions of filters and classification of simple Filter circuit (Capacitor, choke input and π) |
| 8th | 25.09.23 to 30.09.23 | 1st | 2.4 Working of D.C power supply system (unregulated) with help of block diagrams only |
| | | 2nd | 2.5 Transistor, Different types of Transistor Configuration and state output and input current gain relationship in CE, CB and CC configuration(No mathematical derivation) |
| | | 3rd | 2.5 Transistor, Different types of Transistor Configuration and state output and input current gain relationship in CE, CB and CC configuration(No mathematical derivation) |
| | | 4th | 2.6 Need of biasing and explain different types of biasing with circuit diagram.(only CE configuration) 2.7 Amplifiers(concept) , working principles of single phase CE amplifier |
| 9th | 02.10.23 to 07.10.23 | 1st | 2.8 Electronic Oscillator and its classification |
| | | 2nd | 2.9 Working of Basic Oscillator with different elements through simple Block Diagram |
| | | | Basic Electrical :- 3. GENERATION OF ELECTRICAL POWER:- |
| | | 3rd | 3.1 Give elementary idea on generation of electricity from , hydro with block diagram |
| | | 4th | 3.1 Give elementary idea on generation of electricity from thermal , with block diagram. |
| | | 1st | 3.1 Give elementary idea on generation of electricity from nuclear |

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| 10th | 09.10.23 to 14.10.23 | 2nd | Basic Electrical: 4. CONVERSION OF ELECTRICAL ENERGY:- 4.1 Introduction of DC machines. 4.2 Main parts of DC machines |
| | | 3rd | 4.3 Classification of DC generator 4.4 Classification of DC motor |
| | | 4th | 4.5 Uses of different types of DC generators & motors. 4.6 Types and uses of single phase induction motors. |
| 11th | 30.10.23 to 04.11.23 | 1st | 4.7 Concept of Lumen. 4.8 Different types of Lamps (Filament, Fluorescent, LED bulb) its Construction and Principle |
| | | 2nd | 4.9 Star rating of home appliances (Terminology, Energy efficiency, Star rating Concept) |
| | | | Basic Electrical:-5. WIRING AND POWER BILLING:- |
| | | 3rd | 5.1 Types of wiring for domestic installations. |
| | 4th | 5.2 Layout of household electrical wiring (single line diagram showing all the important component in the system). | |
| 12th | 06.11.23 to 11.11.23 | 1st | 5.3 List out the basic protective devices used in house hold wiring. |
| | | 2nd | 5.4 Calculate energy consumed in a small electrical installation. |
| | | | Basic Electronics:- 3. COMMUNICATION SYSTEM |
| | | 3rd | 3.1 Basic communication system (concept & explanation with help of Block diagram) |
| | 4th | 3.2 Concept of Modulation and Demodulation, Difference between them. | |
| 13th | 20.11.23 to 25.11.23 | 1st | 3.3 Different types of Modulation (AM, FM & PM) based on signal, carrier wave and modulated wave (only concept, No mathematical Derivation) |
| | | | Basic Electrical :-6. MEASURING INSTRUMENTS:- |
| | | 2nd | 6.1 Introduction to measuring instruments. 6.2 Torques in instruments |
| | | 3rd | 6.3 Different uses of PMMC type of instruments (Ammeter & Voltmeter). |
| | 4th | 6.4 Different uses of MI type of instruments (Ammeter & Voltmeter). | |
| 14th | 27.11.23 to 02.12.23 | 1st | 6.5 Draw the connection diagram of A.C/ D.C Ammeter, voltmeter, energy meter and wattmeter. (Single phase only) |
| | | | Basic Electronics:- 4.TRANDUCERS AND MEASURING INSTRUMENTS |
| | | 2nd | 4.1 Concept of Transducer and sensor with their differences 4.2 Different type of Transducers & concept of active and passive transducer. |
| | 3rd | 4.3 Working principle of photo emissive, photoconductive, photovoltaic | |

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| | | | Transducer and its application. |
| | | 4th | 4.4 Multimeter and its applications 4.5 Analog and Digital Multimeter and their differences |
| 15th | 04.12.23 to 09.12.23 | 1st | 4.6 Working principle of Multimeter with Basic Block diagram. |
| | | 2nd | 4.7 CRO, working principle of CRO with simple Block diagram. |
| | | 3rd | Doubt clearing class |
| | | 4th | Last Unit test |
| | 11.12.23 | 1st | Doubt clearing class |


14.08.23
Signature of faculty


Signature of HOD (Math & Science)


Signature of Academic coordinator