



UTKAL INSTITUTE OF ENGINEERING & TECHNOLOGY

| DISCIPLINE: All Branch | SEMESTER: 1st Sem | NAME OF THE TEACHING FACULTY: Er. PRIYADARSHINI PARIDA | | |
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| SUBJECT: BASIC ELECTRICAL ENGINEERING | No of Days/Per week class allotted: 4 Class P/W(60) | Semester From Date:14/08/2023 To Date:11/12/2023 No. Of Weeks: 15 | | |
| WEEK | CLASS DAY | THEORY TOPICS | REMARKS | |
| 1 st | 1 st | 1. FUNDAMENTALS | Date | Dean/Principal |
| | 2 nd | 1.1 Concept of current flow. | | |
| | 3 rd | 1.2 Concept of source and load. | | |
| | 4 th | 1.3 State Ohm's law and concept of resistance. | | |
| 2 nd | 1 st | 1.4 Relation of V, I & R in series circuit | | |
| | 2 nd | 1.5 Relation of V, I & R in parallel circuit. | | |
| | 3 rd | 1.6 Division of current in parallel circuit. | | |
| | 4 th | 1.7 Effect of power in series & parallel circuit. | | |
| 3 rd | 1 st | 1.8 Kirchoff's Law | | |
| | 2 nd | 1.9 Simple problems on Kirchoff's law. | | |
| | 3 rd | 2. A.C. THEORY | | |
| | 4 th | 2.1 Generation of alternating emf. | | |
| 4 th | 1 st | 2.2 Difference between D.C. & A.C | | |
| | 2 nd | 2.3 Define Amplitude, instantaneous value, cycle, Time period, frequency, phase angle, phase difference. | | |

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| | 3 rd | 2.4 State & Explain RMS value, Average value, Amplitude factor & Form factor with Simple problems. | | |
| | 4 th | 2.5 Represent AC values in phasor diagrams. | | |
| 5 th | 1 st | Assignment | | |
| | 2 nd | 2.6 AC through pure resistance, inductance & capacitance | | |
| | 3 rd | Assignment question Discussion | | |
| | 4 th | 2.7 AC though RL, RC, RLC series circuits. | | |
| 6 th | 1 st | Class test | | |
| | 2 nd | 2.8 Simple problems on RL, RC & RLC series circuits | | |
| | 3 rd | 2.9 Concept of Power and Power factor | | |
| | 4 th | Assignment | | |
| 7 th | 1 st | 2.10 Impedance triangle and power triangle. | | |
| | 2 nd | Doubt Clear Class | | |
| | 3 rd | 3. GENERATION OF ELECTRICAL POWER | | |
| | 4 th | Assignment | | |
| 8 th | 1 st | Assignment question Discussion | | |
| | 2 nd | of electricity from thermal , hydro & nuclear power station with block | | |
| | 3 rd | 4. CONVERSION OF ELECTRICAL ENERGY | | |
| | 4 th | (No operation, Derivation, numerical problems) | | |
| 9 th | 1 st | 4.2 Main parts of DC machines. | | |
| | 2 nd | 4.3 Classification of DC generator | | |
| | 3 rd | 4.4 Classification of DC motor | | |
| | 4 th | 4.5 Uses of different types of DC generators & motors. | | |
| 10 th | 1 st | 4.6 Types and uses of single phase induction motors. | | |
| | 2 nd | 4.7 Concept of Lumen | | |

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| | 3 rd | Doubt clear class | | |
| | 4 th | 4.8 Different types of Lamps (Filament, Fluorescent, LED bulb) its Construction and Principle. | | |
| 11 th | 1 st | Doubt Clear Class | | |
| | 2 nd | STAR RATING CONCEPT | | |
| | 3 rd | 4.9 Star rating of home appliances (Terminology, Energy efficiency, Star rating Concept) | | |
| | 4 th | 5. WIRING AND POWER BILLING | | |
| 12 th | 1 st | 5.1 Types of wiring for domestic installations. | | |
| | 2 nd | wiring (single line diagram showing all the important component in the | | |
| | 3 rd | 5.3 List out the basic protective devices used in house hold wiring. | | |
| | 4 th | Last Class Discussion | | |
| 13 th | 1 st | 5.4 Calculate energy consumed in a small electrical installation | | |
| | 2 nd | 6. MEASURING INSTRUMENTS | | |
| | 3 rd | 6.1 Introduction to measuring instruments. | | |
| | 4 th | 6.2 Torques in instruments. | | |
| | 1 st | 6.3 Different uses of PMMC type of instruments (Ammeter & Voltmeter). | | |

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| 14 th | 2 nd | Assignment | | |
| | 3 rd | Doubt clear class | | |
| | 4 th | 6.1 Introduction to measuring instruments. | | |
| 15 th | 1 st | 6.4 Different uses of MI type of instruments (Ammeter & Voltmeter) | | |
| | 2 nd | 5 Draw the connection diagram of A.C/ D.C Ammeter, voltmeter, energy meter and wattmeter. (Single phase only). | | |
| | 3 rd | internal question discussion | | |
| | 4 th | Doubt Clear Class | | |

Chittaranjan Parida

DEAN



PRINCIPAL