|  |  |
| --- | --- |
| Lesson Plan  |  |
| **Name of the faculty :** | POONAM SHARMA |
| **Discipline :** | Electrical |
| **Semester :** | 4th |
| **Subject :** |  | Utilization of electrical engineeringv |
| **Lesson Plan Duration :** | 15 weeks (from 20 Jan2025 to MAY 2025) |
|  |  |  |
| **Work load (Lecture/Practical) per week (55 minutes) : Lectures-03**  |
|  |  |  |
| **Week** | **Theory** |
| **Lecture day** | **Topic (Including assignment/test)** |
| 1st | Ist | Introduction |
| 2nd | terms used in illumination, laws of illumination, indoor and outdoor illuminationlevels**.** |
| 3rd | **Discharge lamps, MV and SV lamps** |
| 2nd | Ist | **General ideas about time switches, street lighting,flood lighting and decorative lighting.** |
| 2nd | **UNIT II Advantages and methods of electric heating, resistance heating,** |
| 3rd | **induction heating, and dielectric****heating.** |
| 3rd | Ist | **Electric welding, resistance and arc welding** |
| 2nd | **electric welding equipment, comparison between A.C. and D.C, Welding.** |
| 3rd | REVISION OF UNIT 1 & 2 |
| 4th | Ist | **UNIT III****Electrolytic Processes Need of electro-deposition; Laws of electrolysis** |
| 2nd | **process of electro-deposition - clearing,****operation, deposition of metals, polishing and buffing;** |
| 3rd | **Principle of galvanizing and its applications; Principles of anodizing and its applications;** |
| 5th | Ist | **Electroplating of non-conducting materials,** |
| 2nd | **Electrical Circuits used in Refrigeration** |
| 3rd | **Air Conditioning**  |
| 6th | Ist | **Water Coolers.** |
| 2nd | **REVISION COPY CHECKING** |
| 3rd | **REVISION COPY CHECKING** |
| 7th | Ist | **UNIT IV Electric Drives****Electric Drive and its part, Advantages of electric drives,** |
| 2nd | **Types of electric Drives,** |
| 3rd | **Characteristics of different mechanical loads,** |
| 8th | Ist | **Types of motors used in used in Industrial Drives,** |
| 2nd | **Factors affecting selection of motors,,** |
| 3rd | **Applications of Electric Drive.** |
| 9th | Ist | **Introduction to Energy efficient drives.** |
| 2nd | COPY CHECKING |
| 3rd | **REVISION** |
| 10th | Ist |  |
| 2nd | **UNIT V Electrical Traction Advantages of electric traction,** |
| 3rd | **Concept of diesel electric Traction system** |
| 11th | Ist | **Systems of Track****Electrification (DC & AC system** |
| 2nd | **types of services – urban, sub-urban, and main line and their** |
| 3rd | **speed-time curves.** |
| 12th | Ist | **Electrical block diagram and** |
| 2nd | **accessories of an electric locomotive**  |
| 3rd | **different accessories for track electrification such as overhead centenary wire, conductor railsystem, current collector / pentagraph etc** |
| 13th | Ist | **Power supply arrangements and types of motors used****for electric traction.** |
| 2nd | **Starting and braking of electric locomotives** |
| 3rd | **Introduction to EMU and metro railways** |
| 14th | Ist | COPY CHECKING |
| 2nd | REVISION |
| 3rd | REVISION |
| 15th | Ist | REVISION |
| 2nd | REVISION |
| 3rd | REVISION |