**GBN Govt. Polytechnic Nilokheri**

# Electrical Engineering Department

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| **Name of Faculty** |  **Rajesh Chopra** |
| **Discipline** | **Electrical Engineering** |
| **Semester** | **5th** |
| **Subject** | Solar Panel Installation & Maintenance |
| **Lesson Plan Duration** | **from 15/09/2022 to 16/01/2023** |

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| **Week** | **Lecture/Practical** |
| **Topic** | **Topic** |
| 1 | Introduction Of The Subject, Its Need, Applications | 1.Panel Installation |
| Basics on solar energy |
| power generation systems |
| Use and handling procedure of solar panels |
| 2 | Energy storage |
| control and conversion |
| Basic electrical system and functioning |
| Mechanical equipment , |
| 3 | functioning of Mechanical equipment |
| Maintenance procedure of equipment |
| Site survey |
| design and evaluation of various parameters |
| 4 | Tools involved in installation of system | 2.Using Tools and Machines |
| Quality and process standards |
| Occupational health |
| and safety standards |
| 5 | Queries taken from previous topics from students |
| Assignment no.1 |
| Class test no.1 |
| Discussion on Questions of class test |
| 6 | Introduction Of The Installation of Solar Panel |
| Installation of Solar Panel |
| Solar energy system components such as panels, batteries,charge controllers, inverters |
| Solar energy system components such as panels, batteries,charge controllers, inverters |
| 7 | Significance of volts, amps and watts |  |
| series connection |
| parallel connection |
| Voltage requirement of various equipment |
| 8 | Panel mounting |

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|  | inclination and angle of tilt | 3.Handling Safety Equipment |
| Placement of solar panel mounting |
| Sunlight and direction assessment |
| 9 | Site surveying methods and evaluation parameters |
| Site surveying methods and evaluation parameters |
| Tools involved in installation of system |
| Tools involved in installation of system |
| 10 | Queries taken from previous topics from students | Revision |
| Assignment no.2 |
| Class test no.2 |
| Discussion on Questions of class test |
| 11 | Coordinate colleagues at work | Copy Checking |
| Company’s policies on incentives, delivery standards, and personnel management |
| Importance of the individual’s role in the workflow |
| Reporting structure |
| 12 | Communicating effectively | Copy Checking |
| Building team coordination |
| 4. Safety at workplace |
| Maintaining the work area safe and secure |
| 13 | Handling hazardous material | Copy Checking |
| Operating hazardous tools and equipment |
| Emergency procedures to be followed such as fire accidents, etc. |
| Concept of Solar Tracking System |
| 14 | Concept of Solar Tracking System | Revision |
| Revision of 1st and 2nd chapters |
| Revision of 3rd and 4th chapters |
| Previous Exam Questions solved |
| 15 | Queries taken from previous topics from students | Revision |
| Assignment no.3 |
| Class test no.3 |
| Discussion on Questions of class test |
| 16 | Revision and discussion of old Q. papers | Revision |