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| GBN GOVERNMENT POLYTECHNIC NILOKHERI |
| Name of the Faculty | Sh Rajesh chopra |
| Discipline | Electrical Engg |
| Semester | 3rd Sem |
| Subject | NCES |
| Lesson Plan Duration | 15Sep2022 to 16 Jan 2023 |
| **Week**  | **Topic** |
| 1st |  Vision mission and CO (i) Introduction to the Subject (ii) Introduction of the nature of the examination and marks distribution of different topics |
| Introduction to various energy sources |
| Importance of non conventional sources of energy |
| Commercial and non- commercial energy |
| 2nd | Present scenario for energy conservation  |
| Future prospectus of Energy Scenario in India |
| sector-wise energy consumption (domestic, industrial, agriculture etc.)  |
| **Revision** |
| 3rd | Principle of conversion of solar radiation into heat |
| photo-voltaic cell |
| Solar Collectors, Efficiency |
| PV System Merits ,Demerits, Applications |
| 4th | Solar Electric Power Generation |
| Applications of solar Energy |
| solar water heaters, solar furnaces,  |
| solar cookers, solar lighting,  |
| 5th | solar pumping. |
| **Assignment 1** |
| Introduction to Bio Mass Conversion |
| Bio-mass conversion technologies- wet processes.  |
| 6th |  Sessional test |
|  Review test |
| seminarBio-mass conversion technologies- dry processes.  |
| Biogas Plant |
| 7th | Contd |
| Power generation by using gasifiers |
| Contd |
| **Revision / seminar**  |
| 8th | Wind energy conversion |
| windmills |
| Electricity generation from wind-  |
| local control Methods |
| 9th | Types of wind mills |
| Energy storage in WPP |
| **Assignment 2** |
| Geo-thermal sources |
| 10th | Ocean thermal electric conversion |
| Open and Closed cycles |
| Hybrid cycles |
| Prime movers for geo-thermal energy conversion |
| 11th | Sessional test |
| Review of test |
| Steam Generation and electricity generation |
| Applications of Geothermal |
| 12th | Magneto Hydro Dynamic (MHD) Power Generation |
| **Seminar and doubt class** |
| Design and operating principles of a fuel cell |
| Conversion efficiency |
| 13th | work output of a fuel cell |
| work output of a fuel cell |
| EMF of fuel cells, |
| Applications of Chemical Energy |
| 14th | **Revision and doubt class** |
| Hydro Energy Introduction |
| Principle of Energy Conversion |
| Mini hydro plants, Assignment |
| 15th | Mini hydro plants |
| Micro hydro plants |
| Micro hydro plants, Mini hydro plants |
| Applications |
| 16th | Sessional test |
|  | Review of test |
|  | Revision and old q. paper discussion |
|  | Revision and old q. paper discussion |