



## SCHOOL OF RESEARCH & TECHNOLOGY

AN ISO 9001: 2008 Certified Institute

| Course Title:  | Electrical     | Electrical Power Generation                                                                |            |  |  |
|----------------|----------------|--------------------------------------------------------------------------------------------|------------|--|--|
| Course Code:   | <b>DEE-501</b> | DEE-501                                                                                    |            |  |  |
| Program:       | Diploma        |                                                                                            | Semester-V |  |  |
| Credits:       | T-04 P-00      |                                                                                            | Total-04   |  |  |
| Course Outcome |                |                                                                                            |            |  |  |
| 1              | To unders      | To understand the development of electrical energy needs of various consumer areas         |            |  |  |
| 2              | To describ     | To describe and use from technical point of view the various methods of energy production  |            |  |  |
| 3              | Introducti     | Introduction to thermal power genration and their drawbacks and impact on the environment. |            |  |  |
| 4              | Operation      | Operation of Nuclear Power plants and their future scope in India.                         |            |  |  |
| 5              | Introducti     | Introduction to renewable energy resources and their advantages over conventional souces.  |            |  |  |

| Course Title:       | Estimatio  | Estimating & costing                                                                                |             |  |  |
|---------------------|------------|-----------------------------------------------------------------------------------------------------|-------------|--|--|
| <b>Course Code:</b> | DEE-502    | DEE-502                                                                                             |             |  |  |
| Program:            | Diploma    |                                                                                                     | Semester -V |  |  |
| Credits:            | T-3        | P-2                                                                                                 | Total-5     |  |  |
| Course Outcome      |            |                                                                                                     |             |  |  |
| 1                   | Estimatio  | Estimating and costing market survey ,calculation of material and labour cost,idea of tender        |             |  |  |
| 2                   | Earthing   | Earthing of electrical installation ,pipe earthing and plate earthing and determine earth wire size |             |  |  |
| 3                   | Estimation | Estimation of power wiring ,determine size of cable ,main switch and starter of power circuit       |             |  |  |
| 4                   | Estimation | Estimation of overhead and underground distribution line,cost of material and work                  |             |  |  |
| 5                   | Estimatio  | Estimation of material require for small distribution substation ,cost of material & work           |             |  |  |

| Course Title:  | Electrica | Electrical Drives-I                                                                            |            |  |  |
|----------------|-----------|------------------------------------------------------------------------------------------------|------------|--|--|
| Course Code:   | DEE-503   | DEE-503                                                                                        |            |  |  |
| Program:       | Diploma   |                                                                                                | Semester-V |  |  |
| Credits:       | T-4       | P-2                                                                                            | Total-6    |  |  |
| Course Outcome |           | •                                                                                              | ·          |  |  |
| 1              | Introduc  | Introduction to Electrical drives and their applications in the Industry.                      |            |  |  |
| 2              | Various   | Various types of starters used in the industry and their limitations.                          |            |  |  |
| 3              | Electrica | Electrical breaking, their types, advantages and advantages over mechanical drives.            |            |  |  |
| 4              | Review o  | Review of conventioinal methods & convertor control methods used in speed control of DC motor. |            |  |  |
| 5              | Various   | Various power recovery schemes in drives to improve the effeciency of the drives in industry   |            |  |  |

| Course Title:  | Switch Ge     | Switch Gear & Protection                                                                      |              |  |  |
|----------------|---------------|-----------------------------------------------------------------------------------------------|--------------|--|--|
| Course Code:   | DEE-504       | DEE-504                                                                                       |              |  |  |
| Program:       | Diploma       |                                                                                               | Semester - V |  |  |
| Credits:       | T - 04 P - 02 |                                                                                               | Total - 06   |  |  |
| Course Outcome |               |                                                                                               |              |  |  |
| 1              | Identifica    | Identification of various types of faults in Power system and the analysis of such faults     |              |  |  |
| 2              | Understa      | Understanding the different types of protective relays for primary and backup protection.     |              |  |  |
| 3              | Maintaini     | Maintaining different types of circuit breakers also Knowledge of the fundamental components. |              |  |  |
| 4              | Introducti    | Introduction to Protection of transformer, alternator, motor and busbar.                      |              |  |  |
| 5              | Knowledg      | Knowledge of surge protection & insulation coordination .                                     |              |  |  |

| Course Title:  | Power Electronics                                                     |     |              |  |
|----------------|-----------------------------------------------------------------------|-----|--------------|--|
| Course Code:   | DEE-505                                                               |     |              |  |
| Program:       | Diploma                                                               |     | Semester : V |  |
| Credits:       | T-4                                                                   | P-2 | Total-6      |  |
| Course Outcome |                                                                       |     |              |  |
| 1              | Introduction of power electronic device and brief description of SCR. |     |              |  |
| 2              | Principle of operation of GTO,MOSFET,IGBT                             |     |              |  |
| 3              | Detail description of inverter and their utilization                  |     |              |  |
| 4              | Voltage control by inverter and harmonics reduction                   |     |              |  |
| 5              | Operation and analysis of phase control rectifier                     |     |              |  |

| Course Title:  | Minor Pr       | Minor Project                     |            |  |  |
|----------------|----------------|-----------------------------------|------------|--|--|
| Course Code:   | <b>DEE-506</b> | DEE-506                           |            |  |  |
| Program:       | Diploma        |                                   | Semester-V |  |  |
| Credits:       | T-Nil          | P-4                               | Total-4    |  |  |
| Course Outcome |                |                                   |            |  |  |
| 1              | Introduct      | Introduction about Project Making |            |  |  |
| 2              | Various S      | Various Steps of Project Making   |            |  |  |
| 3              | Demonstr       | Demonstration of Project          |            |  |  |
| 4              | Project R      | Project Report Making             |            |  |  |
| 5              | Future E       | Future Enhancements of Project    |            |  |  |

| Course Title:  | Industrial Training                                                                   |                                |             |  |
|----------------|---------------------------------------------------------------------------------------|--------------------------------|-------------|--|
| Course Code:   | DEE-507                                                                               |                                |             |  |
| Program:       | Diploma                                                                               |                                | Semester: V |  |
| Credits:       | T-Nil                                                                                 | P-4                            | Total-4     |  |
| Course Outcome |                                                                                       |                                |             |  |
| 1              | 10 be able to analyse a given engineering problem, solving methodology, implement the |                                |             |  |
| 2              | Ability to apply prior acquired knowledge in problem solving                          |                                |             |  |
| 3              | To be able to work in a team                                                          |                                |             |  |
| 4              | To be able t                                                                          | To be able to take initiatives |             |  |
| 5              | Ability to manage a project within a given time frame                                 |                                |             |  |