**Lesson Plan**

**Name of Faculty :- DHARAM PAL**

**Designation :- SR. LECTURER**

**Discipline :- ELECTRICAL ENGINEERING**

**Semester :- 3rd**

**Subject :- ELECTRICAL ENGINEERING.DRAWING**

**Lesson Plan Duration:- 15 Weeks**

**Work load (Lecture/Practical) per week (60 minutes) : Lectures-00, Practicals-06**

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| **Week** | **Theory** | | **Practical** | |
| **1st** | **Lecture Day** | **Topic** | **Practical Day** | **Topic** |
| **1st** | Introduction about the syllabus of the subject & scope of the subject. |  |  |
| **2nd** | **Unit-I Simple Electrical Circuits**  **Sheet No. 1**  Various Electrical Symbols used in Domestic and Industrial Installation (40 Symbols). |
| **2nd** | **1st** | **Sheet No. 2**  (i)Draw schematic, wiring & single line diagram for light & fan circuits controlled by individual switches.  (ii) Draw schematic, wiring & single line diagram for fluorescent tube light controlled by one way switch. |  |  |
| **2nd** | Revision of sheet No. 1 & Sheet No. 2. |
| **3rd** | **1st** | **Sheet No. 3**  (i) Draw schematic, wiring & single line diagram for single stair case wiring.  (ii) Draw schematic, wiring & single line diagram for Corridor light circuit wiring using master switch. |  |  |
| **2nd** | **Sheet No. 4**  (i) Complete wiring diagram & single line diagram for domestic installation having 3-light sub circuits & 2-power sub circuits.  (ii) Complete wiring diagram & single line diagram for domestic installation having 5-light sub circuits with ELCB & 2-power sub circuits. |
| **4th** | **1st** | Revision of sheet No. 3 & Sheet No. 4. |  |  |
| **2nd** | **Sheet No. 5**  (i) Complete wiring diagram & single line diagram for workshop having 3-power sub circuits with TPIC main switch.  (ii) Complete wiring diagram & single line diagram for workshop having different 3-phase machines with change over & TPIC main switch. |
| **5th** | **1st** | **Unit-II Contractor Control Circuits**  **Sheet No. 6**  (i) Draw schematic & power wiring diagram of Direct On Line starting of a 3-phase induction motor with specification of contractor.  (ii) Draw schematic & power wiring diagram of Direct On Line remote starting of a 3-phase induction motor from two different location's with specification of contractor. |  |  |
| **2nd** | Revision of sheet No. 5 & Sheet No. 6. |
| **6th** | **1st** | **Sheet No. 7**  (i) Draw schematic & power wiring diagram of 3-phase induction motor getting supply from two different feeders having Electrical interlocking with specification of contractor.  (ii) Draw schematic & power wiring diagram for forwarding/reversing of 3-phase induction motor using TDR. |  |  |
| **2nd** | **1st Sessional test.** |
| **7th** | **1st** | **Sheet No. 8**  (i) Draw schematic & power wiring diagram of sequential starting of two 3-phase induction motor manually.  (ii) Draw schematic & power wiring diagram of sequential starting of two 3-phase induction motor automatically using Time Delay Relay with specifications. |  |  |
| **2nd** | Revision of sheet No. 7 & Sheet No. 8. |
| **8th** | **1st** | **Sheet No. 9**  (i) Draw schematic & power wiring diagram for two speed control of 3-phase induction motor manually having electrical interlocking with specifications of contractors.  (ii) Draw schematic & power wiring diagram for two speed control of 3-phase induction motor automatically using Time Delay Relay with specifications of contractors. |  |  |
| **2nd** | Revision of sheet No. 9 |
| **9th** | **1st** | **Sheet No. 10**  (i) Draw the neat connection diagram of manually operated star-Delta starter for 3-phase induction motor.  ii) Draw schematic & power wiring diagram of Automatic Star Delta Starter for 3-phase induction with specifications of contractors. |  |  |
| **2nd** | Revision of Sheet No. 10. |
| **10th** | **1st** | **Unit-III Professional Control Circuits**  **Sheet No. 11**  (i) Draw the wiring diagram of battery & inverter connected to residential load.  (ii) Draw the wiring diagram of standalone solar light system with battery for a residential house.  (iii)Draw the wiring diagram of solar water heating system. |  |  |
| **2nd** | **Sheet No. 12**  (i) Draw the neat sketch of key diagram of 11Kv sub-station with the table of symbols used.  (ii) Draw the neat sketch of key diagram of 33Kv sub-station with the table of symbols used. |
| **11th** | **1st** | Revision of sheet No. 11 & Sheet No. 12. |  |  |
| **2nd** | **2nd Sessional test.** |
| **12th** | **1st** | **Sheet No. 13**  (i) Draw the neat sketch of key diagram of 66Kv sub-station with the table of symbols used.  (ii) Draw the neat sketch of key diagram of 132Kv sub-station with the table of symbols used. |  |  |
| **2nd** | Revision of sheet No. 13 |
| **13th** | **1st** | **Sheet No. 14**  (i) Draw the neat sketch of Pipe earthing showing all relevant dimensions with the list of materials & costing required for the pipe earthing.  (ii) Draw the neat sketch of Plate earthing showing all relevant dimensions with the list of materials & costing required for the plate earthing. |  |  |
| **2nd** | Revision of sheet No. 14 |
| **14th** | **1st** | **Unit-IV**  **Sheet No. 15**  (i) Draw Front view, side view & top view of bus bar post showing all relevant dimensions.  (ii) Draw the half sectional possible views of Pin type insulator showing all relevant dimensions. |  |  |
| **2nd** | **Sheet No. 16**  (i) Draw Front view, side view & top view of kit kat fuse carrier showing all relevant dimensions.  (ii) Draw Front view, side view & top view of kit kat fuse base showing all relevant dimensions. |
| **15th** | **1st** | **Sheet No. 17**  (i) Draw Front view, side view & top view of rotor of squirrel cage induction motor showing all relevant dimensions.  (ii) Stator of 3 phase Induction motor (Sectional View) |  |  |
| **2nd** | **3rd Sessional test.** |