

**Course name** : Electrical Engineering Group  
**Course Code** : EE/EP  
**Semester** : Fourth  
**Subject Title** : Electrical Drawing  
**Subject Code** : --

**Teaching and Examination Scheme:**

Teaching Scheme			Examination Scheme						
TH	TU	PR	PAPER HRS	TH	TEST	PR	OR	TW	TOTAL
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**Rationale:**

This is a core subject and has importance in operation and Maintenance of Electrical Systems. Electrical Drawing indicates the symbolic representation and position of components. It also shows the power flow through them for a given systems.

Electrical Drawing symbolically represents the circuit configuration and enables to identify the sequential flow of current, power and measure voltage at various stages of the system.

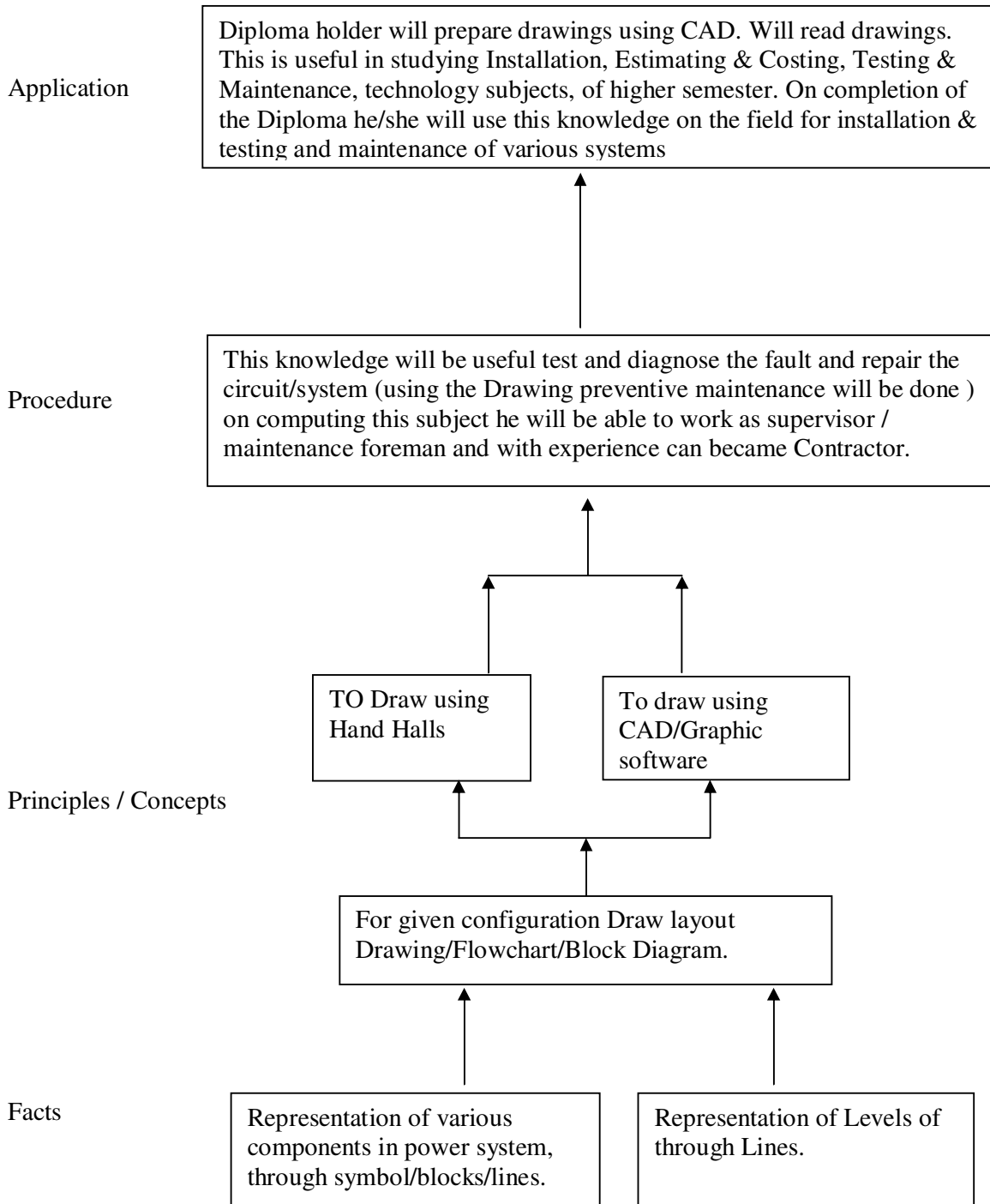
Ability to read and understand the drawing will facilitate the visualization of the complete installation which makes it easy to troubleshooting, maintenance of the system.

**Objectives:**

The students will be able to,

1. Read electrical drawing for any system to understand the working of the system and its components.
2. Find the important points in the circuit diagrams or layout for troubleshooting and maintenance.
3. Use these drawings effectively to measure various quantities (continuity also) in the actual circuits or systems and based on the readings (output) at these points can diagnose the fault.
4. Use graphic software to draw the circuit or block diagrams or flowchart for various types of electrical systems.

**Learning Structure:**



## Contents: Theory

Chapter	Topics	Hours
01	Study of symbols for representation of machines, Electrical Accessories Equipment switching and protection units as per IS 2032, 8270, 3722	2*
02	Study of various methods of representing circuits/systems through layouts, Block Diagrams, wiring diagrams.	1*
03	Study any Engineering Graphic package (preferably CAD) for preparing layout, Block Diagrams, wiring Diagrams of substations, Machine shop, Illumination systems etc.	1*
04	How to read and interpret, various types of electrical drawings based on the knowledge & Information given while studying the above 3 chapters.	4*

\* Eight Clock Hours of practical / drawing will be used for teaching theory

### Drawing Sheets: (HALF IMPERIAL)

- (A) Draw a sheet for symbolic representation of various electrical equipment's/machines  
(B) Read the given circuits identify the components & trace the path of flow of current.
- Draw a sheet of wires & wiring accessories
- Prepare a drawing sheet showing details of domestic appliances such as Electric iron, electric Geyser, Electric Bell, Hot plate.
- Draw a sheet of electrical symbols for various electrical devices using CAD.
- Draw circuit diagrams for Staircase & Godown wiring using CAD.
- Draw (a) circuit diagram (b) vector diagram for conducting direct loading test on transformer using CAD.
- Draw control and power circuit diagrams for DOL and Star/Delta Starter.

### Mini Project:

- Visit electrical Machine lab/workshop & trace the electrical installation. Draw Layout diagram & single line diagram.

### Learning Resources:

#### 1. Books :

Sr. No.	Author	Title	Publisher
01	Dr. S. K. Bhattacharya	Electrical Engineering Drawing	New Age International Publishers
02	Mr. Ajit Singh	Working with Auto CAD	Tata McGraw Hill

#### 2. IS/International Codes : IS 2032, 8270, 3722