



## **C.U.SHAH UNIVERSITY – Wadhwan City**

**FACULTY OF:** -Technology and Engineering (Diploma Engineering)

**DEPARTMENT OF:** -Electrical Engineering

**SEMESTER:** - III

**CODE:** - 2TE03CAD1

**NAME –** Computer Aided Electrical Drawing and Simulation (CAD)

### **Teaching & Evaluation Scheme:-**

Subject Code	Subject Name	Teaching Scheme (Hours)				Credits	Evaluation Scheme							
		Th	Tu	Pr	Total		Theory				Practical (Marks)			Total Marks
							Sessional Exam		University Exam		Internal		University	
							Marks	Hours	Marks	Hours	Pr	TW	Pr	
2TE03CAD1	Computer Aided Electrical Drawing and Simulation (CAD)	0	0	2	2	1	----	----	----	----	50	50	----	100

### **Objectives:-**

- To developed the basic knowledge of Computer Aided Electrical Drawing and Drafting.
- Design different types of electrical circuits through CAD

**Prerequisites:** - Basic knowledge of computer & electrical engineering.

### **Course Outlines:-**

Sr. No.	Course Contents
1	<b>Computer Aided Electrical Drawing:-</b> Draw Electrical Symbols (Take Print Out), Draw D.C. Machine Parts (Take Print Out), Draw A.C.Machine Parts (Take Print Out), Draw R-L Series Circuit (Take Print Out), Draw R-C Series Circuit (Take Print Out), Draw R-L-C Series Circuit (Take Print Out), Draw A.C. & D.C. Winding Diagrams (Take Print Out)
2	<b>Computer Aided Electronics Drawing:-</b> Draw Solid State Semiconductor Devices Symbol (Take Print Out) , Draw Half Wave, Full Wave And Bridge Rectifier Circuit (Take Print Out), Draw Power Amplifier And Voltage Amplifier Circuit (Take Print Out), Draw Different Types Of Oscillators Circuit (Take Print Out)
3	<b>Computer Based Electrical Circuit Solution:-</b> Solution Of R-L, R-C, R-L-C Circuit (Take Print Out), Electrical Machines Circuits Solution (Take Print Out)
4	<b>Computer Based Electronics Circuit Solution:-</b> Rectifier Circuit Solution (Take Print Out), Amplifier Circuit Solution (Take Print Out), Oscillator Circuit Solution (Take Print Out)
5	<b>Design Of Single Phase Transformer &amp; Three Phase Induction Motor Using Computer Software:-</b> Awareness of Available Software, Design of Single Phase Transformer Using Software For Given Data (Take Print Out, Design of Three Phase Induction Motor Using Software For Given Data(Take Print Out)
6	<b>Computer Aided P.C.B. Design:-</b> Awareness of Software For PCB Design, PCB Layout of Rectifier Circuit (Take Print Out), PCB Layout of Amplifier Circuit (Take Print Out), PCB Layout of Oscillator Circuit (Take Print Out)

**List of Experiments:-**

- Draw Electrical Symbols and Take Print Out With the Help Of Computer.
- Draw Electronic Symbols and Take Print Out With the Help Of Computer.
- Draw D.C. & A.C Machine Parts and Take Print Out.
- Develop Winding Diagram For Given Data and Take Print Out.
- Draw Different Types of Rectifier Circuit and Take Print Out.
- Draw R-C Couple Amplifier Circuit and Take Print Out.
- Draw Hartley Oscillator Circuit and Take Print Out.
- Design Single Phase Transformer Using Software For Given Data (Take Print Out).
- Design Three Phase Induction Motor Using Software For Given Data (Take Print Out).
- Develop P.C.B. Layout For A Given Circuit Using Software

**Learning Outcomes:-**

- From This Subject Student Will Be Able To:
- Draw Various Electrical and Electronics Circuit.
- Design of the Basic Electrical and Electronics Circuit.
- Selection of Proper Electrical Software for Drawing Electrical and Electronics Circuit.

**Books Recommended:-**

- AutoCAD 2013 for Engineers & Designers., **Prof. Sham Tickoo**, Dream tech press.
- Mastering AutoCAD 2013 and AutoCAD LT 2013, **George Omura**, Sybex
- Mastering electronics workbench : Version 5 and Multisim Version 6, **John Adams**, McGraw-Hill
- Introduction To PSpice Using OrCAD For Circuits And Electronics, **Muhammad H. Rashid**, PHI
- Inside AUTO-CAD by **Racter & Rice**
- Mastering AUTO-CAD by **Georse Omura**