



GOVERNMENT OF TAMILNADU

DIRECTORATE OF TECHNICAL EDUCATION, CHENNAI-25

STATE PROJECT COORDINATION UNIT

(Established under Canada India Institutional Cooperation Project)

CURRICULUM

Course Name	ELECTRICAL DRAWING USING AUTOCAD
Course Code	EE/2020/009
Course Duration	60 Hours
Minimum Eligibility Criteria	10 th /+2 /ITI/Diploma/Graduates
Pre-requisites (if any)	-
Course Objectives	<p>Training module has been designed for the participants to</p> <ul style="list-style-type: none"> • Understand the Commands in AutoCAD • Practice in Creating new drawing by using Auto CAD Software • Familiarize with drafting of two dimensional drawings in AutoCAD • Drafting Electrical Drawing using AutoCAD Software
Course Outcomes	<p>At the end of training, the trainees will be able to</p> <ul style="list-style-type: none"> • Create, annotate, edit and plot drawings using basic AutoCAD commands and features. • Familiar with Auto Cad two dimensional drawings • Draft Electrical drawing in AutoCAD Environment
Expected Job Roles	Draftsman

TEACHING AND SCHEME OF EXAMINATION						
Course Code	Course Name	Hours		Assessment Marks		Duration of Examination
				Min	Max	
EE/2020/009	ELECTRICAL DRAWING USING AUTOCAD	Theory	24	10	20	3 Hours
		Practical	36	40	80	
		Total	60	50	100	

EE/2020/009- ELECTRICAL DRAWING USING AUTOCAD**DETAILED SYLLABUS**

Unit No	Modules	No.of.Hours	
		Theory	Practical
I	Theory	24 Hours	
1.1	Introduction of CAD	14	10
1.2	Basic commands		
1.3	Tool bars		
1.4	Basic Drawings		
1.5	Electrical symbols		
1.6	Electrical Circuits		
1.7	Small Electrical design circuits		
1.8	Basic 3D commands		
II	Practical	36 Hours	
2.1	Practice of Auto CAD command	10	26
2.2	Practice draw tool bar commands		
2.3	Practice modify tool bar commands		
2.4	Practice Electrical symbols		
2.5	Practice small Electrical circuits		
2.6	Practice Electrical circuit design		
2.7	Practice Electrical 3D commands		
Total Theory and Practical Hours		24	36
Total hours		60	

HARDWARE REQUIREMENT

S.NO	LIST OF TOOLS /EQUIPMENTS
1	PC/Laptop

SOFTWARE REQUIREMENT

S.NO	LIST OF SOFTWARE
1	AutoCAD Software

REFERENCE BOOKS

S.NO	NAME OF THE BOOK	AUTHOR	PUBLISHER
1	AutoCAD Electrical 2018 Black Book	Gaurav Verma	BPB Publications, 2018
2	AutoCAD Electrical 2019: Fundamentals with NFPA Standards: Autodesk Authorized Publisher	ASCENT - Center for Technical Knowledge	Amazon Digital Services LLC - KDP Print US, 2018

ASSESSMENT AND CERTIFICATION

S.No	Criteria for assessment
1.	A trainee will be assessed based on the performance in End Examination for Theory and Practical conducted internally in the CIICP Project Polytechnic College for a duration of 3 hours
2.	A trainee must have 75% of attendance to appear for End examination in Theory and Practical.
3.	The assessment for theory part will be based on the marks scored in the end examination on the knowledge bank of questions (1 word/objective type questions)
4.	The assessment for practical part will be based on the marks scored in the end examination conducted by the CIICP Project Polytechnic and assessed by the Examiners approved by Strategic Plan Implementation Committee (SPIC) of the project polytechnic.
5.	The passing criteria for successful completion of training is every trainee should score 50% of marks in theory and practical examination.
6.	On successful completion of training, Certificate will be issued to the participants by the Directorate of Technical Education through the Project Polytechnics.

END EXAMINATION

ALLOCATION OF MARKS

S.NO	Description	Max. Marks
1.	Theory Examination	20
2.	Practical Examination	
	a) Objective and Manual Circuit Diagram	20
	b) Procedure and AutoCAD Diagram	20
	c) Printout and Viva	20
	d) Record	20
Total Marks		100

THEORY MODEL QUESTION PAPER
EE/2020/009 ELECTRICAL DRAWING USING AUTOCAD

(Maximum Marks: 20)

(N.B: Answer any Twenty questions)

20x1= 20 Marks

1. What is the file formats used in AutoCAD design?
2. What are the benefits of using AutoCAD?
3. Can you name the areas of the AutoCAD screen?
4. In AutoCAD, what is the command that is used to rotate the grid at 45 degrees?
5. Which are the common coordinate formats used in AutoCAD?
6. What are the components of Draw Tool bar?
7. What are the components of Modify Tool bar?
8. Give any two example for editing command.
9. Which command is used to increase the size of text in AutoCAD?
10. Which Keys are used to perform the same action in AutoCAD?
11. What is the use of Ortho Mode in AutoCAD?
12. Which command creates a new object parallel to the original object?
13. Which is the hotkey for Help in AutoCAD?
14. What is the full form of UCS?
15. What is a Hatch Patterns?
16. What is the use of Array commands?
17. What is the use of the MIRROR command?
18. How many entity colors do the AutoCAD support?
19. Which command is used to obtain parallel lines, concentric circles, and parallel curves?
20. Which command is used to draw a rectangle in AutoCAD?
21. List the command required to draw the transformer winding.
22. Suggest suitable command to be used to draw the Busbar.
23. Which Shapes Cannot Be Drawn By The Polygon Command?
24. What are grips?
25. Which key in the keyboard is used to activate O snap feature of AutoCAD?