



GOVERNMENT OF TAMILNADU  
DIRECTORATE OF TECHNICAL EDUCATION, CHENNAI  
**STATE PROJECT COORDINATION UNIT**  
(Established Under Canada India Institutional Cooperation Project)  
**CURRICULUM**

Course Name	CIVIL DRAUGHTSMAN WITH COMPUTER APPLICATIONS
Course Code	CE / 2020 / 003
Course Duration	120 Hours
Minimum Eligibility Criteria and Pre-requisites (if any)	10 <sup>th</sup> / +2/Diploma/Graduates
Course Objectives	Training Module has been designed for the Participants to <ul style="list-style-type: none"> <li>• Learn about Basics of AUTOCAD</li> <li>• Learn about AUTOCAD Basic commands</li> <li>• Learn about Ms-word, Ms-Excel</li> </ul>
Course Outcomes	At the end of the training, participants will be able to <ul style="list-style-type: none"> <li>• Easily work with Auto-cad</li> <li>• Easily work with Ms-Word, Ms-Excel</li> <li>• Understand Basic Fundamentals of Computer Applications</li> <li>• Easily Understand the Basics of Estimate</li> </ul>
Expected Job Roles	<ul style="list-style-type: none"> <li>• Drafter</li> <li>• Document Creators</li> <li>• Estimator</li> <li>• Designer</li> <li>• Modeller</li> </ul>

TEACHING AND SCHEME OF EXAMINATION						
Course Code	Course Name	Hours		Assessment Marks		Duration of Examination
				Min	Max	
CE / 2020 / 003	CIVIL DRAUGHTSMAN WITH COMPUTER APPLICATIONS	Theory	40	10	20	3 Hours
		Practical	80	40	80	
		<b>Total</b>	<b>120</b>	<b>50</b>	<b>100</b>	

**DETAILED SYLLABUS**

Unit No	Modules	No. of Hours	
		Theory	Practical
1.	<b>INTRODUCTION TO AUTOCAD</b> Introduction - CAD Software – Auto CAD Screen (Title bar, Drawing area, Menu bar, Command window, Tool bars, Status bar) – Title bar (Auto CAD 2007 and Drawing file) – Menu bar (File, Edit, View, Insert, Format, Tools, Draw, Dimension, Modify, etc.) – Object Properties (Color, Line type, Line weight) – Standard Tool bar (New file, Open, Save, Undo, Redo, Zoom, Pan, Calculator, Design center – Basic Command - Units – (Feet, Inches, mm, Metc.), Limit, Zoom, UCS ICON	05	05
2.	<b>DRAW TOOL BAR</b> Status bar (Osnap, Grid, Ortho, Snap, Polar, Otrack,) – Short cut key – UCS ICON – Command line – Draw Tool bar – Line-(Type of Line Command), Line, Plane, Polygon, Rectangle, Arc, Circle, Spline, Ellipse arc, Insert block, Make Block, Point, Hatch, Region, Table, Mtext.	05	05
3.	<b>MODIFY TOOL BAR</b> Erase – Copy – Mirror - Offset – Array – Move – Rotate – Scale – Stretch – Trim – Extend – Break – Join – Chamfer – Fillet – Explode.	05	05
4.	<b>DIMENSIONS TOOL BARS</b> Dimensions – Aligned Dimension – Arc length – Dim Radius – Diameter Dimension – Jogged – Dim Diameter – Angular Dimension – Quick Dimension – Base line Dimension, Continue Dimension – Quick leader.	05	05
5.	<b>OTHER COMMANDS</b> Line Types manager – Save the drawing design center – Area of the Building – Match property – Dimension text – Donut.	05	05

6.	<b>ESTIMATION</b> Estimation and its types – Necessity of Estimate – Importance of fair Estimation – Duties and Requirement of a good quantity surveyor – Merit of trade / group system – Approximate and Detailed estimates – Main and Sub estimates – Trade and Group system – Stages in detailed estimation – Units of measurement for material and works – Measurement book – Standard data book – Preparing detailed estimate using trade system for given building Drawing.	05	05
7.	<b>MS WORD</b> Introduction to Word-Office button – New – Open – Save-Save as – Print- Print preview- Home menu- Font and its options- Paragraph & its options- Find and Replace- Cut, Copy, Paste and Format Painter- Insert menu- Header, Footer- Page break- Date and Time, Symbol – Picture- Clip art, Shape- Table command & its options- Page layout menu- Page setup option- Page background options- Mailings menu- Mail merge.	05	---
8.	<b>MS EXCEL</b> Introduction to Excel-Office button – New – Open – Save-Save as – Print- Print preview- Home menu- Font & its options- Clipboard options- Alignment option, Wraptext, Merge and center- Format- General, Number, Currency, Percentage – Auto sum- Sort and Filter- Conditional formatting-Insert menu –Charts – Text- Insert function-Sum, Average, Max, Min,if any.	05	---
	Practical Exercises for ACAD Drawings	-	40
	Practical Exercises for MS Word & MS Excel	-	10
<b>TOTAL THEORY AND PRACTICAL HOURS</b>		<b>40</b>	<b>80</b>
<b>TOTAL HOURS</b>		<b>120</b>	

<b>PRACTICAL EXERCISES (50 Hours)</b>	
<b>S.NO.</b>	<b>LIST OF EXERCISES</b>
	<b>DRAWINGS (40 Hours)</b>
1.	Draw the Elevation of Door, Window, and Semicircular Arch.
2.	Preparation of Plan showing arrangement of furniture / fixture in Living, Bed room, Kitchen, Toilet
3.	Draw the given building drawing (A Single Room) using available CAD Software.
4.	Plan, Section, Elevation of Single Bed Roomed Building
5.	Plan, Section, Elevation of Primary School Building
6.	Plan, Section, Elevation of Hospital Building.
7.	Plan, Section, Elevation of Workshop.
8.	Plan, Section, Elevation of Tiled Hips & Valleys.
9.	Preparation of approval drawing to be submitted to corporation (or) municipality showing required details in one sheet such as. <ul style="list-style-type: none"> <li>a) Site plan</li> <li>b) G.F plan, FF, Section &amp; Elevation</li> <li>c) Key plan</li> <li>d) Septic tank plan &amp; Section</li> </ul>
10.	Building Bye laws & Print out the drawing.
	<b>MS WORD (05 Hours)</b>
11.	<ul style="list-style-type: none"> <li>• Create a document and practice formatting and its options.</li> <li>• Create table and practice its options.</li> <li>• Practice the mail merge and its options.</li> </ul>
	<b>MS EXCEL (05 Hours)</b>
12.	<ul style="list-style-type: none"> <li>• Using formulas and functions.</li> <li>• Chart creation and its options.</li> </ul>

### **HARDWARE REQUIREMENT**

<b>SL. NO.</b>	<b>LIST OF TOOLS / EQUIPMENTS / MATERIALS</b>
1.	CPU – 64 bit Intel® or AMD® multi-core processor
2.	RAM - 4 GB of RAM minimum (8 GB or more recommended)
3.	DISK SPACE -6 GB of free disk space for install
4.	VGA MONITOR
5.	USB KEYBOARD
6.	USB OPTICAL MOUSE

### **SOFTWARE REQUIREMENT**

<b>SL. NO.</b>	<b>NAME OF THE SOFTWARE</b>
1.	AUTOCAD 2015, MS Office 2010, MS Excel 2010

### **REFERENCE BOOKS**

<b>SL. NO</b>	<b>NAME OF THE BOOK</b>	<b>AUTHOR</b>	<b>PUBLISHER</b>
1.	Computer Applications	Gupta	Lakshmi Publications
2.	AutoCAD for Beginners Tutorials	Willey	Autodesk

## 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 the End 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	Maximum Marks
1.	THEORY EXAM	20
2.	PRACTICAL EXAM	
	a. PLAN	15
	b. SECTION	10
	c. ELEVATION	10
	d. ESTIMATION	5
	e. MS WORD / MS EXCEL	10
	f. RESULT / OUTPUT	10
	g. RECORD	20
<b>Total</b>		<b>100</b>

## **THEORY MODEL QUESTION PAPER**

**CE / 2020 / 003 – CIVIL DRAUGHTSMAN WITH COMPUTER APPLICATIONS**

(Maximum Marks: 20)

(N.B: Answer any **Twenty** Questions)

**20 x 1 = 20 Marks**

**1.CADD stands for**

- a) Computer aided design and drafting
- b) Computer aided drawing and design
- c) Computer aided design and demonstration
- d) None of these

**2. Which command converts discrete object into polyline?**

- a) Merge
- b) Union
- c) Join
- d) Add

**3. The offset command cannot be used to create .....**

- a) Concentric circles
- b) Vertical straights
- c) Three parallel lines
- d) Parallel arcs

**4. Which axis is not used, when working in 2-D frame?**

- a) Z-axis
- b) Y-axis
- c) X-axis
- d) WCS

**5. Which is corresponded to zoom mouse wheel?**

- a) Extend/all
- b) Zoom in/ Zoom out
- c) Pan and scan
- d) Scale

**6. Which key is used to obtain properties palette in AutoCAD?**

- a) Control+1
- b) Control+2
- c) Control+3
- d) Control+4

**7. To obtain parallel lines, concentric circles and parallel curves; \_\_\_\_\_ is used.**

- a) Array
- b) Fillet
- c) Copy
- d) Offset

**8. How many units available in AutoCAD?**

- a) 4
- b) 5
- c) 7
- d) 6

**9. Which command is used to divide the object into segments having predefined length?**

- a) Divide
- b) Chamfer
- c) Trim
- d) Measure

**10. How many grip points does a circle have?**

- a) 5
- b) 4
- c) 3
- d) 2





