

**E**

Reg. No. :

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

**Question Paper Code: 51P01**

M.E. DEGREE EXAMINATION, NOV 2019

First Semester

CAD / CAM

15PCD101 - COMPUTER APPLICATIONS IN DESIGN

(Regulation 2015)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART - A (5 x 20 = 100 Marks)

1. (a) (i) What is Window to View port Transformation . CO1- U (10)
- (ii) A point (50,50) in WCS having minimum and maximum coordinates as CO1- U (10)  
( $X_w \min, Y_w \min$ ) = (0,0) ( $X_w \max, Y_w \max$ ) = (100,100). Find the new Coordinates in VCS having minimum and maximum coordinates as ( $X_v \min, Y_v \min$ ) = (20,20) ( $X_v \max, Y_v \max$ ) = (60,60)
- Or
- (b) (i) Translate the line passing through (5,5) and (10,10) by 4 units CO1- U (16)  
in the x axis and 3 units in the y axis.
- (ii) What is meant by combined Transformation? CO1- U (4)
2. (a) Explain the exchange of CAD data through IGES. CO2- U (20)
- Or
- (b) (i) Distinguish between geometry and topology. CO2- U (4)
- (ii) Explain edge classification in Constructive solid Geometry CO2- U (16)  
using Dive and Conquer paradigm.
3. (a) (i) What is the use of silhouette in hidden line removal of CAD CO3- U (8)  
model.
- (ii) Explain the construction of lofted parts using CAD package. CO3- U (12)

Or

- |     |                                                                                       |        |      |
|-----|---------------------------------------------------------------------------------------|--------|------|
| (b) | (i) Explain Ray Tracing algorithm for hidden solid removal.                           | CO3- U | (4)  |
|     | (ii) Explain Warnock's algorithm for hidden surface removal.                          | CO3- U | (16) |
| 4.  | (a) Explain different categories of Property evaluation of sold model.                | CO4- U | (20) |
|     | Or                                                                                    |        |      |
|     | (b) Explain precedence graph for an assembly.                                         | CO4- U | (20) |
| 5.  | (a) (i) Explain Feature based modeling .                                              | CO5- U | (10) |
|     | (ii) Explain Behavioural modeling.                                                    | CO5- U | (10) |
|     | Or                                                                                    |        |      |
|     | (b) Develop and discuss the conceptual design of Hybrid Car (Petrol and electricity). | CO5- U | (20) |