Seat No.:	Enrolment No.

Subject Code:X61901

GUJARAT TECHNOLOGICAL UNIVERSITY

PDDC - SEMESTER-VI EXAMINATION - WINTER 2015

Date:10/12/2015

Tir	ne: 0 ructio 1. 2.	Attempt all questio	pm ns. mptions wherever no		Total Marks:	70		
Q.1	(a)	Compare the comp detail.	outer aided design	with conventional	design processes in	07		
	(b)	Discuss the CAD so	ftwares giving their	specific features.		07		
Q.2	(a) (b)							
	(b)	Explain Bresenham	_	R r generation of vario	us figure	07		
Q.3	(a) (b)	Explain B-spline curve. State its advantages. Explain constructive solid geometry (CSG).						
Q.3	(a)	Compare C-rep and		R		07		
V.	(b)	Discuss wire frame				07		
Q.4	(a) (b)	Explain the solid modeling in detail. Explain the different types of elements used in FEA. OR						
Q.4	(a) (b)	Write a detailed note on geometric modeling with neat sketch. What is FEA? Give suitable examples of it. Explain the steps of Finite Element analysis in detail.						
Q.5	(a)	able examples. How	07					
	(b)	does optimum design differ from engineering design? Explain the computer aided design of mechanical elements with the help of flow chart.						
Q.5	(a) (b)	OR Explain the penalty approach used in FEM. Design a tensile bar of length = 200 mm to carry a load of 5000 N for a minimum cost from the following material:						
		Material	Mass density kg/m ³	Material cost (Rs/N weight)	Yield stress (MPa)			
		Steal	7500	16	130			
		Aluminum alloy	3000	32	50			
		Magnesium	2100	32	20			

The space requirement makes it necessary to have an area of atleast 85mm². Assume factor of safety as 2.
