Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–V • EXAMINATION – SUMMER • 2015

Subject Code: 153402 **Date: 05/05/2015**

Subject Name: Computer Aided Design and Analysis

Time: 02.30pm-05.00pm **Total Marks: 70**

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1	**(a)**	What is CAD? Explain the applications and advantages.	**07**
	(b)	Discuss different types of FEA with suitable examples.	**07**
Q.2	**(a)**	Compare wireframe modeling with solid modeling.	**07**
	(b)	Write a detailed note on Bezier curve and mention its advantages.	**07**
		OR	
	(b)	Compare CSG and B-rep techniques of solid modeling.	**07**
Q.3	**(a)**	What is geometric transformation? Explain scaling and reflection.	**07**
	(b)	Explain about Boolean operations in CAD with suitable sketches.	**07**
		OR	
Q.3	**(a)**	Explain feature based modeling with suitable example.	**07**
	(b)	What are the different software packages available for CAD and FEA? Give detailed specification for CAD workstation to run these packages.	**07**
Q.4	**(a)**	Write about various CAD data exchange standards.	**07**
	(b)	Explain various types of elements used in FEA.	**07**
		OR	
Q.4	**(a)**	Write about the general finite element analysis procedure.	**07**
	(b)	Explain the application of FEA in manufacturing engineering.	**07**
Q.5	**(a)**	What is buckling analysis? Explain the methodology and its applications.	**07**
	(b)	Explain the procedure for thermal analysis using FEM.	**07**
		OR	
Q.5	**(a)**	What is nonlinear analysis? Explain its types with suitable examples.	**07**
	(b)	Explain the types of post-processors.	**07**

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