Reg. No.											

Question Paper Code	11836

B.E. / B.Tech. - DEGREE EXAMINATIONS, APRIL / MAY 2023
Sixth Semester
Production Engineering
PR8601 - COMPUTER AIDED PRODUCT DESIGN
(Regulations 2017)

Duration: 3 Hours   Max. Marks: 100

PART - A (10 × 2 = 20 Marks)
Answer ALL Questions

		Marks, K-Level, CO
1.	Define Graphical user interface.	2,K1,CO1
2.	What is concurrent engineering?	2,K1,CO1
3.	Define Computer Graphics.	2,K1,CO2
4.	Give any two characteristics of Bezier curve.	2,K2,CO2
5.	What is meant by lofted surface?	2,K1,CO3
6.	List the common entities of a typical surface modeler.	2,K1,CO3
7.	What is TRIZ inventive principle?	2,K1,CO4
8.	Define bench marking.	2,K1,CO4
9.	How customer need is acquired?	2,K2,CO5
10.	Differentiate between PDM and PLM.	2,K2,CO5

PART - B (5 × 13 = 65 Marks)
Answer ALL Questions

11.	a)	Discuss in detail about different phases of systematic design process.	13,K2,CO1
		OR	
	b)	(i) Compare and contrast sequential engineering and concurrent engineering.	6,K2,CO1
		(ii) Name the computer hardware components used for computer aided design and development. Briefly explain the functions of each.	7,K2,CO1
12.	a)	Explain the following transformation in 2D and 3D concept of computer graphic with individual examples. (a)Translation (b) Scaling (c) Rotation	13,K2,CO2
		OR	
	b)	Write a short notes on:	
		(i) B- Splines	7,K2,CO2
		(ii) NURBS	6,K2,CO2

K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze; K5 – Evaluate; K6 – Create   **11836**

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13. a) What are the types of geometric modeling? Briefly discuss each with suitable illustrations.   13,K2,CO3

OR

b) Explain the Constructive Solid Geometry (CSG) method to create models.   13,K2,CO3

14. a) What are the types of product models? Describe each with illustrations.   13,K2,CO4

OR

b) Explain the need for Failure Mode Effects Analysis (FMEA) with a case study. What are all its features?   13,K2,CO4

15. a) What are the challenges for PDM? Explain how overcome it.   13,K2,CO5

OR

b) What is design for assembly? Explain with neat diagrams the guidelines to be followed while designing for manufacture of a product.   13,K2,CO

PART - C (1 × 15 = 15 Marks)

16. a) Discuss in details about functions and Operational benefits of Product Life Cycle Management (PLM).   15,K2,CO6

OR

b) Briefly explain collaborative product design and commerce.   15,K2,CO6