Reg. No.												

Question Paper Code	11835

B.E. / B.Tech. - DEGREE EXAMINATIONS, APRIL / MAY 2023

Sixth Semester

Mechanical Engineering

ME 8691 - COMPUTER AIDED DESIGN AND MANUFACTURING

(Regulations 2017)

Duration: 3 Hours | Max. Marks: 100

PART - A (10 × 2 = 20 Marks)

Answer ALL Questions

		Marks, K-Level, CO
1.	What is meant by concatenation transformation?	2,K1,CO1
2.	List down the uses of manufacturing metrics.	2,K1,CO1
3.	Write a short note on surface patch.	2,K2,CO2
4.	Differentiate topological and geometrical data.	2,K2,CO2
5.	Mention the need for standardization in computer graphics.	2,K1,CO3
6.	Write any three Cad standards for exchange of modeling data.	2,K2,CO3
7.	State the limitation of CNC machine tool.	2,K1,CO4
8.	Define canned cycle.	2,K1,CO5
9.	What is cellular manufacturing?	2,K1,CO6
10.	List the four tests for flexibility in FMS.	2,K1,CO6

PART - B (5 × 13 = 65 Marks)

Answer ALL Questions

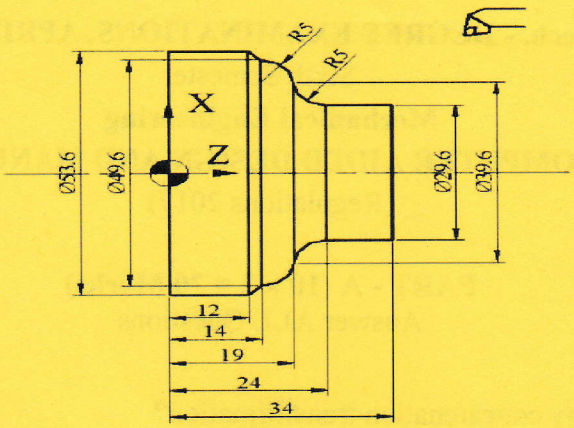
11.	a)	With a neat sketch explain in detail about product life cycle.	13,K2,CO1
		OR	
	b)	What is meant by manufacturing metrics? Explain in detail about the various production performance measures.	13,K2,CO1
12.	a)	Elaborate the different features of a Bezier curve with constructional details.	13,K2,C02
		OR	
	b)	With a suitable example explain how solid models can be generated by Constructive Solid Geometry method.	13,K2,C02
13.	a)	Explain in detail about the various layers of Graphic Kernel System.	13,K2,CO3
		OR	
	b)	Explain the concept of product data exchange using STEP.	13,K2,CO3

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

14. a) Describe the working of a NC machine tool with the help of a neat sketch and also state its advantages and limitations. *13,K2,CO4*

OR

b) *13,K3,CO5*



Prepare a part program to manufacture the above component.

15. a) With a suitable example explain the concept of OPITZ coding system. *13,K2,CO6*

OR

b) Discuss in detail about the various components of FMS and also state its applications. *13,K2,CO6*

PART - C (1 × 15 = 15 Marks)

16. a) A triangle ABC with vertices A (32, 22), B (88, 20) and C (32, 82) is to be scaled by a factor of 0.6 about a point x (50, 42). Determine: (i) composite transformation and (ii) coordinates of the vertices for the scaled triangle. *15,K3,CO1*

OR

b) Derive the transformation matrix for a Hermit curve. *15,K3,CO2*