Reg. No.															

Question Paper Code	13739

M.E. - DEGREE EXAMINATIONS, APRIL / MAY 2025

Second Semester

M.E - CAD/CAM

20PCDPC203 - INTEGRATED PRODUCT DESIGN AND PROCESS DEVELOPMENT

Regulations - 2020

Duration: 3 Hours | Max. Marks: 100

PART - A (10 × 2 = 20 Marks)

Answer ALL Questions

		Marks	K – Level	CO
1.	Define customer focus.	2	K1	CO1
2.	Interpret the life cycle of a product.	2	K2	CO1
3.	What is meant by concept screening?	2	K1	CO2
4.	Infer the Internal approach in concept generation.	2	K2	CO2
5.	Define Manufacturability.	2	K1	CO3
6.	Express the need for Product development management.	2	K1	CO3
7.	List out the steps involved in integrated process design.	2	K1	CO4
8.	Interpret the use of integrating CAE/CAD/CAM.	2	K2	CO4
9.	Briefly Explain assembly cost.	2	K2	CO5
10.	List out the main categories involved in DFM.	2	K1	CO5

PART - B (5 × 13 = 65 Marks)

Answer ALL Questions

			Marks	K – Level	CO
11.	a)	Explain in detail about organizations and its types.	13	K2	CO1
		OR			
	b)	Illustrate strategies for competitor analysis in detail.	13	K2	CO1
12.	a)	Interpret in detail about the problem search internally in concept generation.	13	K2	CO2
		OR			
	b)	Explain about the customer's feedback data collection methods.	13	K2	CO2
13.	a)	Explain how drone as a product can be used for agricultural purposes.	13	K2	CO3
		OR			
	b)	Interpret the clustered product architecture with an example.	13	K2	CO3

14.	a)	Explain the process of Design for assembly with a simple example of shaft, bearing, key and a pulley.	*13*	*K2*	*CO4*
		OR			
	b)	What are the metrics used in cost reduction. Explain any two of them.	*13*	*K2*	*CO4*
15.	a) (i)	With an example explain how a consumer product can be marketed effectively.	*7*	*K2*	*CO3*
	(ii)	Explain how to integrate customer, designer, material supplier and process planner.	*6*	*K2*	*CO1*
		OR			
	b) (i)	With an example explain design for manufacturability of a product.	*7*	*K2*	*CO3*
	(ii)	Explain the types of products? Illustrate with suitable examples.	*6*	*K2*	*CO1*

PART - C (1 × 15 = 15 Marks)

16.	a)	Prepare a customer analysis form and report for your own project.	*15*	*K2*	*CO5*
		OR			
	b)	Explain about value engineering or cost reduction with the assembly of flanged coupling.	*15*	*K2*	*CO5*