Reg. No.												

Question Paper Code	13054

M.E. / M.Tech. - DEGREE EXAMINATIONS, NOV / DEC 2024

Third Semester

M.E. - CAD/CAM

20PCDEL311 - COMPUTER AIDED PRODUCTION PLANNING

Regulations - 2020

Duration: 3 Hours | Max. Marks: 100

PART - A (10 × 2 = 20 Marks)

Answer ALL Questions

		Marks	K – Level	CO
1.	Differentiate between CAPP and CAPM.	2	K2	CO1
2.	What is Computer-Aided Process Planning?	2	K1	CO1
3.	List two primary sources of data used in forecasting.	2	K1	CO2
4.	Explain the concept of layout planning in facility location decisions.	2	K2	CO2
5.	Define Group Technology (GT).	2	K1	CO3
6.	What are the benefits of integrating CAD/CAM with Group Technology?	2	K1	CO3
7.	What are the main objectives of MRP?	2	K1	CO4
8.	Explain the concept of job sequencing in operations management.	2	K2	CO4
9.	Define Computer Aided Testing (CAT).	2	K1	CO5
10.	What is the role of microprocessors in metrology?	2	K1	CO5

PART - B (5 × 13 = 65 Marks)

Answer ALL Questions

			Marks	K – Level	CO
11.	a)	Illustrate the differences between variant CAPP and generative CAPP, and provide scenarios where each might be used effectively.	13	K2	CO1
		OR			
	b)	Explain in detail about cellular manufacturing.	13	K2	CO1
12.	a)	Develop a detailed forecasting plan for a new product launch, including data sources, selected models, and anticipated demand patterns. Justify your choices.	13	K3	CO2
		OR			
	b)	Explain the layout planning for facility location and layout.	13	K3	CO2
13.	a)	Illustrate the various FMS layout configuration with suitable sketches.	13	K2	CO3

OR

b)	i)	Explain the significance of component cell formation in the context of group technology.	*6*	*K2*	*CO3*
	ii)	Investigate the relationship between CAD/CAM systems and Group Technology in improving product design and manufacturing processes.	*7*	*K2*	*CO3*
14.	a)	Illustrate the steps involved in the computational procedure of MRP with a practical example.	*13*	*K2*	*CO4*

OR

	b)	Explain the analytic hierarchy approach to select an ERP system for a hypothetical manufacturing company.	*13*	*K2*	*CO4*
15.	a)	Explain the impact of machine vision technology on defect detection rates in manufacturing.	*13*	*K2*	*CO5*

OR

	b)	Demonstrate how to utilize a coordinate measuring machine (CMM) for precision measurements.	*13*	*K2*	*CO5*

PART - C (1× 15 = 15 Marks)

16.	a) i)	Illustrate the steps involved in developing a process plan for a new product.	*8*	*K3*	*CO1*
	ii)	Apply knowledge of CAPP to design a process plan for a complex product.	*7*	*K3*	*CO1*

OR

b)	i)	Design a graphical implementation of a production schedule using scheduling techniques.	*8*	*K3*	*CO4*
	ii)	Discuss the relationship between MRP and capacity planning.	*7*	*K3*	*CO4*