



P.E.S. College of Engineering, Mandya - 571 401

(An Autonomous Institution affiliated to VTU, Belagavi)

Eighth Semester, B.E. - Industrial and Production Engineering

Semester End Examination; July - 2023

Agile Manufacturing

Time: 3 hrs

Max. Marks: 100

Course Outcomes

The Students will be able to:

CO1: Summarize the role of agile manufacturing in manufacturing sector.

CO2: Analyze the concept of robust design, QDF and strategies used in agile manufacturing.

CO3: Enlighten the concept CAPP cellular manufacturing and role of computer in agile manufacturing.

CO4: Describe the technique skills and factors affecting agile manufacturing.

CO5: Analyze the role of employee in agile manufacturing and role of management in implementing agile manufacturing.

Note: I) PART - A is compulsory. Two marks for each question.

II) PART - B: Answer any TWO sub questions (from a, b, c) for a Maximum of 18 marks from each unit.

Q. No.	Questions	Marks	BLs	COs	POs
I : PART - A		10			
1 a.	List any two advantages and limitations of agile manufacturing.	2	L1	CO1	PO1
b.	Give two differences between quality function deployment and robust design.	2	L1	CO2	PO1
c.	Write any two advantages of computer aided process planning and aggregate capacity planning.	2	L1	CO3	PO1
d.	Define machine tool system.	2	L1	CO4	PO1
e.	List the role of management while implementing agile manufacturing.	2	L1	CO5	PO1
II : PART - B		90			
UNIT - I		18			
2 a.	Why agile manufacturing is essential for manufacturing organization? Discuss with a suitable case study.	9	L3	CO1	PO1
b.	Explain the conceptual model of agile manufacturing.	9	L2	CO1	PO1
c.	Discuss about the following:				
	i) Integration of organization	9	L3	CO1	PO1
	ii) Strategies of agile manufacturing				
UNIT - II		18			
3 a.	Explain how people are managed in agile organization with an example.	9	L2	CO2	PO1
b.	Discuss the following:				
	i) Role of robust design approach in AM	9	L3	CO2	PO1
	ii) Application of It/Is concepts in AM				
c.	Why integration of product / process development is required in agile manufacturing? Explain with suitable example.	9	L2	CO2	PO1

UNIT - III**18**

- 4 a. Discuss with a case study why CAPP is required for agile manufacturing? 9 L3 CO3 PO1
- b. Explain the role of aggregate capacity planning and production line design / redesign in agile manufacturing process. 9 L2 CO3 PO1
- c. Write a note on the following:
- i) Strategic options in agile manufacturing 9 L1 CO3 PO1
- ii) Role of standards in agile manufacturing

UNIT - IV**18**

- 5 a. Explain the enhancing technology for machine tool system with respect to agile manufacturing. 9 L2 CO4 PO1
- b. Discuss on the following with respect to agile manufacturing:
- i) Design requirement approaches 9 L3 CO4 PO1
- ii) Design enhancement approaches
- c. Explain the parametric approaches used in agile manufacturing. 9 L2 CO4 PO1

UNIT - V**18**

- 6 a. Explain the nature of management required for implementing agile manufacturing practices. 9 L2 CO5 PO1
- b. Discuss on the employee status in agile manufacturing organization. 9 L3 CO5 PO1
- c. With suitable example, explain the agile manufacturing through design automation technologies. 9 L2 CO5 PO1

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