

Enrollment No.....



Faculty of Engineering  
End Sem Examination May-2024

ME3CO36 Computer Integrated Manufacturing

Programme: B.Tech.

Branch/Specialisation: ME

**Duration: 3 Hrs.****Maximum Marks: 60**

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d. Assume suitable data if necessary. Notations and symbols have their usual meaning.

- Q.1 i. CAD/CAM can be understood as a relation between- **1**  
 (a) Marketing and design  
 (b) Manufacturing and marketing  
 (c) Design and manufacturing  
 (d) None of these
- ii. Computer Aided Manufacturing can be best dictated by- **1**  
 (a) Numerical control (b) Rapid Prototyping  
 (c) Drafting (d) Geometric modelling
- iii. DFM means- **1**  
 (a) Design for manufacturing  
 (b) Design fixed manufacturing  
 (c) Design from manufacturing  
 (d) None of these
- iv. Concurrent engineering approach is deployed to- **1**  
 (a) Making interdepartmental teams  
 (b) Better than sequential engineering  
 (c) Decreases lead time  
 (d) All of these
- v. CAPP is - **1**  
 (a) Computer aided process planning  
 (b) A Process planning software  
 (c) Both (a) and (b)  
 (d) None of these
- vi. Which of the following code will use for circular interpolation clockwise? **1**  
 (a) G01 (b) G02 (c) G03 (d) G04

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- vii. Group technology is mainly used for- **1**  
 (a) Coding of parts (b) Machining operations  
 (c) CNC programming (d) None of these
- viii. Which of the following code is used for Dwell? **1**  
 (a) G02 (b) G03 (c) G04 (d) G16
- ix. From following, the alternative name for RP is \_\_\_\_\_. **1**  
 (a) Additive manufacturing  
 (b) Layer manufacturing  
 (c) Direct CAD manufacturing  
 (d) All of these
- x. What is the full name of SLS? **1**  
 (a) Selective Laser Simulator  
 (b) Sintering Laser Simulator  
 (c) Selective Laser Sintering  
 (d) Stereolithography Laser Sintering

- Q.2 Attempt any two: **5**  
 i. Explain business forecasting concept. **5**  
 ii. Explain the concept production variety and production volume. **5**  
 iii. Explain CIM wheel concept by drawing neat diagram. **5**
- Q.3 Attempt any two: **5**  
 i. Explain design for manufacturing. How it can be implemented? **5**  
 ii. Compare and contrast sequential engineering and concurrent engineering. **5**  
 iii. Explain the terms CAE, CAM, CAQ. **5**
- Q.4 i. Explain circular interpolation function in CNC machines. **2**  
 ii. Compare point to point and straight cut control system. **3**  
 iii. Write the part program to turn the profile of the part as shown in fig. – 1 (All dimensions are in mm). **5**

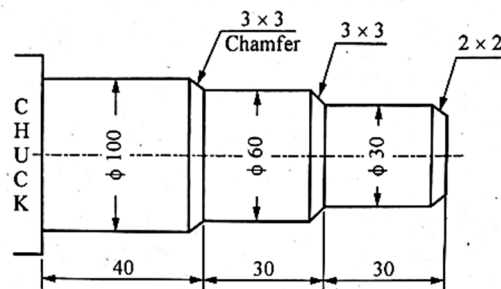


Fig. - 1

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- OR iv Write the part program to machine the profile of the part as shown in Fig. – 2 (All dimensions are in mm) **5**

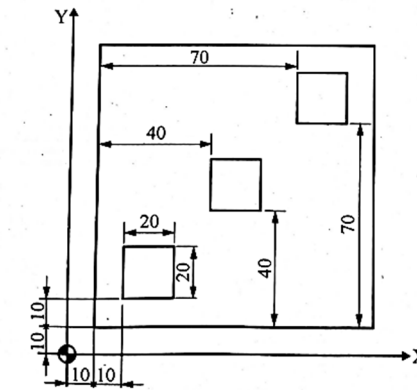


Fig. - 2

- Q.5 Attempt any two: **5**  
 i. What is group technology? How it can be implemented in a manufacturing organisation? **5**  
 ii. Explain material handling requirements in manufacturing **5**  
 iii. Explain Computer Aided Process Planning (CAPP). **5**
- Q.6 Attempt any two: **5**  
 i. Explain basic process used in rapid prototyping. **5**  
 ii. Explain stereolithography process with neat diagram. **5**  
 iii. Explain laminated object manufacturing process with neat diagram. **5**

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## Marking Scheme

### Computer Integrated Manufacturing (T) - ME3CO36 (T)

Q.1	i.	CAD/CAM can be understood as a relation between	1
		c. Design and manufacturing	
	ii.	Computer Aided Manufacturing can be best dictated by	1
		a. Numerical control	
	iii.	DFM means	1
		a. Design for Manufacturing	
	iv.	Concurrent Engineering approach is deployed to	1
		d. All the Above	
	v.	CAPP is	1
		a. Computer aided process planning	
	vi.	Which of the following code will use for circular interpolation clockwise	1
		b. G02	
	vii.	Group Technology is mainly used for	1
		a. Coding of parts	
	viii.	Which of the following code is used for Dwell.	1
		c. G04	
	ix.	From following, the alternative name for RP is _____	1
		(D) All of the above	
	x.	What is the full name of SLS?	1
		c. Selective Laser Sintering	
Q.2	i.	Explain Business forecasting concept.	5
	ii.	Explain the concept Production Variety and Production Volume	5
OR	iii.	Explain CIM Wheel concept by drawing neat diagram.	5
Q.3	i.	Explain Design for Manufacturing. How it can be implemented	5
	ii.	Compare and contrast sequential engineering and concurrent engineering.	5
OR	iii.	Explain the terms CAE, CAM , CAQ	5
Q.4	i.	Explain circular interpolation function in CNC Machines.	2
	ii.	Compare point to point and straight cut control system	3
OR	iii.	Write the Part program to turn the profile of the part as shown in fig.1	5

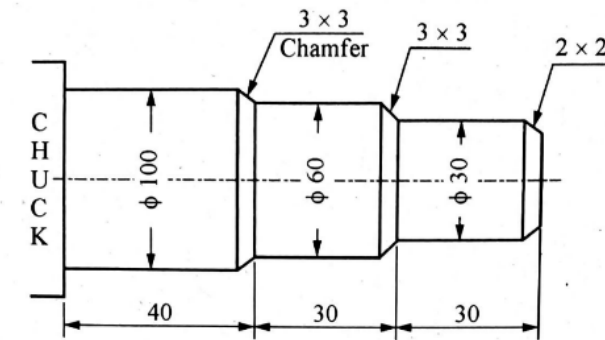


Fig. - 1

- iv. Write the Part program to turn the profile of the part as shown in Fig.2 **5**

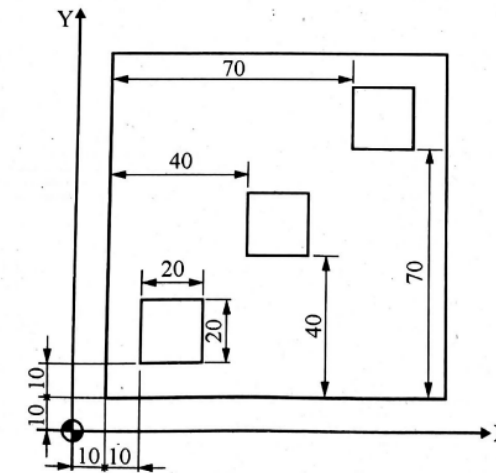


Fig. - 2

- Q.5 i. What is group Technology. How it can be implemented in a manufacturing organisation **5**
- ii. Explain material handling requirements in manufacturing **5**
- OR iii. Explain Computer aided process planning ( CAPP) **5**
- Q.6 i. Explain basic process used in rapid prototyping. **5**
- ii. Explain Stereolithography process with neat diagram **5**
- iii. Explain Laminated object Manufacturing process with neat diagram **5**

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