



INSTITUTE OF ENGINEERING
AND TECHNOLOGY

JK Lakshmipat University Jaipur

INSTITUTE OF ENGINEERING AND TECHNOLOGY

B. Tech. in Mechanical Engineering.

3rd Year (5th Semester)

Term-III Examination, Dec, 2022

Course No. : ME1212
Course Title : Computer Integrated Manufacturing(CIM)
Nature of Exam : On Campus
Weightage : 30%
Max Marks : 60
Duration : 3 Hrs

No. of Pages = 03

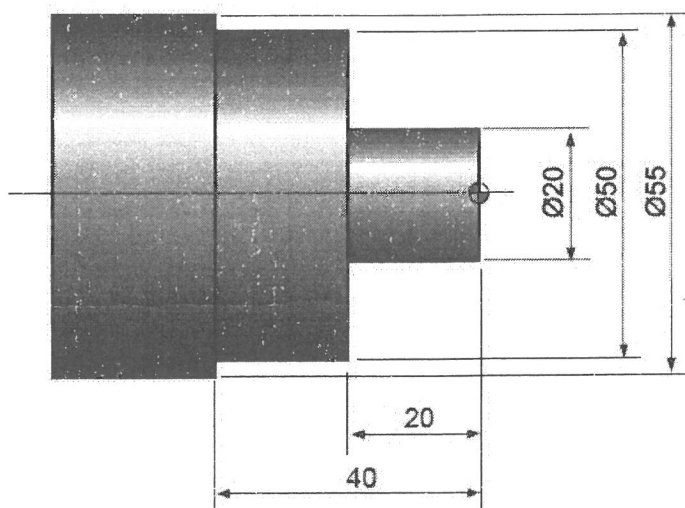
No. of Questions = 06

Roll No: _____

Note:

1. Draw neat diagrams using pencil (if required).
2. All questions are compulsory and carry equal marks.
3. Assume data as and when required
4. Write only Roll No in Question Paper

- 1 In a gear manufacturing industry, identify the process planning activities. MM 10 CO 1, CO 2
Select the process parameters for setting machines, tooling's etc. and summarize the factors influencing process selection.
- 2 Write manual part program of a given figures for Fanuc/Siemen's lathe. Consider 5 mm extra stock material in diameter. MM 10 CO 1



- 3 Select and describe a suitable part coding system of Group Technology for generating the codes for shoes in shoes manufacturing Industries. MM 10 CO 3

Chart for Digits (1-5) for Rotational parts in the Opitz System

Digit 1										
Part class										
0	$L/D \leq 0.5$	Rotational parts					Nonrotational parts			
1	$0.5 < L/D < 3$									
2	$L/D \geq 3$									
3										
4										
5										
6										
7										
8										
9										
Digit 2										
External shape, external shape elements										
0	Smooth, no shape elements	Stepped to one end		or smooth	Stepped to both ends		Functional cone			
1	No shape elements									
2	Thread									
3	Functional groove									
4	No shape elements									
5	Thread									
6	Functional groove									
7	Functional cone									
8	Operating thread									
9	All others									
Digit 3										
Internal shape, internal shape elements										
0	No hole, no breakthrough	Smooth or stepped to one end			Stepped to both ends		Functional cone			
1	No shape elements									
2	Thread									
3	Functional groove									
4	No shape elements									
5	Thread									
6	Functional groove									
7	Functional cone									
8	Operating thread									
9	All others									
Digit 4										
Plane-surface machining										
0	No surface machining									
1	Surface plane and/or curved in one direction, external									
2	External plane surface related by graduation around a circle									
3	External groove and/or slot									
4	External spline (polygon)									
5	External plane surface and/or slot, external spline									
6	Internal plane surface and/or slot									
7	Internal spline (polygon)									
8	Internal and external polygon, groove and/or slot									
9	All others									
Digit 5										
Auxiliary holes and gear teeth										
0	No auxiliary hole	No gear teeth					With gear teeth			
1	Axial, not on pitch circle diameter									
2	Axial on pitch circle diameter									
3	Radial, not on pitch circle diameter									
4	Axial and/or radial and/or other direction									
5	Axial and/or radial on PCD and/or other directions									
6	Spur gear teeth									
7	Bevel gear teeth									
8	Other gear teeth									
9	All others									

