

INTERNATIONAL CENTRE FOR APPLIED SCIENCES MAHE, MANIPAL B.Sc. (Applied Sciences) in Engg. End – Semester Theory Examinations – May 2021 IV SEMESTER - AUTOMATED MANUFACTURING SYSTEMS [IMET 243] (Branch: Mechatronics Engineering)

Time: 3 Hours	Date: 19 May 2021	Max. Marks: 50		
✓ Answer ALL the que	estions.			
✓ Missing data, if any,	may be suitably assumed			

- 1A. Describe Adaptive Control (AC) Machining. Where to use the AC and explain the sources of variability of ACO along with an example.07
- **1B.** Explain about the bar codes with an example.
- 2A. Define different types of coding scheme structures along with basic structure of Opitz Classification and Coding System.
 Given the rotational part design below in the figure Q2B, determine the form code in the 05
- **2B** Optiz parts classification and coding system.



Figure Q2B.

03

3. Apply Kings Algorithm on solving the below parts and machine for process flow analysis given in the below table 1.

	A1	A2	A 3	A4	A 5	A 6	A7	A 8	A 9	A 0
S01	1		1	1	1			1	1	
L01				1						
L02	1		1		1			1	1	
D01		1								1
M02		1								
M05						1	1			1
G05	1									
G06										1
Table 1. Dente and Mashing among any a										

 Table 1: Parts and Machine arrangement

4A Write a part program to obtain the model shown below from the workpiece of given size **07** from the figure Q4A.



Figure Q4A.



5A	Classify NC Machine Tools on different parameters and explain them in detail with neat sketches	04
5B	Illustrate the overview and machine structure of a CNC with a neat sketch?	04
5 C	Define Stick slip Phenomenon.	02
