PAPER ID-411245

Roll No:

MTECH
(SEM II) THEORY EXAMINATION 2023-24
COMPUTER INTEGRATED MANUFACTURING (CIM)

TIME: 3 HRS   **M.MARKS: 70**

Note: Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. **Attempt *all* questions in brief.**   2*7 = 14

a.	Describe AUTOMATION
b.	Discuss the advantages of DNCs over NC machines
c.	What do you mean by INCREMENTAL programming
d.	Explain different types of robot programming Languages
e.	Explain briefly automatic tool changer
f.	Compare between point to point and straight cut control system.
g.	Explain opitz method of coding in group technology.

SECTION B

2. **Attempt any *three* of the following:**   7*3 = 21

a.	Briefly illustrate and explain USA principle of Automation
b.	What do you mean by MACRO Statement? Also write down its advantages in programming CNC machines
c.	Explain Group Technology and Computer Aided Process Planning
d.	Compare between fixed, programmable and flexible automation.
e.	Explain the axis and motion nomenclature of CNC machine.

SECTION C

3. **Attempt any *one* part of the following:**   7*1 = 7

a.	Illustrate and Explain Ten Strategies for Automation and Process Improvement
b.	Explain different LEVELS of automation

4. **Attempt any *one* part of the following:**   7*1 = 7

a.	Illustrate and Examine the parameters in detail and neat sketches which are responsible or eliminating and reducing the activities of operator in CNC system
b.	Justify the statement: "Actuators are the muscles of robots. Robots find applications not only in the industry"

5. **Attempt any *one* part of the following:**   7*1 = 7

a.	Why production flow analysis is required in implementation of GT? Explain data collection and sortation of process routing steps in product flow analysis
b.	What are the various layout configurations of FMS? Explain with suitable applications

6. **Attempt any *one* part of the following:**   7*1 = 7

a.	Explain working of Automated storage and retrieval system(AS/RS) with suitable examples
b.	Differentiate between MRP and MRP-II using suitable examples.

7. **Attempt any *one* part of the following:**   7*1 = 7

a.	Explain with a neat sketch working of SCARA robot
b.	Compare between tool length compensation and tool radius compensation.