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**BACHELOR OF VOCATION**  
**Robotics and Automation**  
**Subject: Computer Integrated Manufacturing**  
**Subject Code: DBME-302**  
**Semester: Sixth**  
**July 2021**  
**Theory (External): 70 Marks**  
**Time: 03 Hours**

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**Instructions to the Students**

1. This Question paper consists of two Sections. All sections are compulsory.
2. Section A comprises 10 questions of objective type in nature. All questions are compulsory. Each question carries 2 marks.
3. Section B comprises 8 essay type questions out of which students need to do any 5. Each question carries 10 marks.
4. Read the questions carefully and write the answers in the answer sheets provided.
5. Do not write anything on the question paper.
6. Wherever necessary, the diagram drawn should be neat and properly labelled

Roll Number									

**SECTION –A (SHORT/OBJECTIVE TYPE QUESTIONS)**  
**(10x2=20 Marks)**

- A. Explain the Nature and Scope of CIM.
- B. How the part families are made.
- C. What are the basic components of CIM?
- D. Give an example of group technology with automobile industry.
- E. Write down the advantages of FMS.
- F. Describe the implementation of CIM.
- G. Describe Tool Monitoring System with diagram.
- H. How robotics can be used in CIM.
- I. Define CIM.
- J. What are the basic elements of robot.

**SECTION –B (ESSAY TYPE QUESTIONS)**  
**(5x10=50 Marks)**

1. Explain various types of manufacturing system with the help of diagram.
2. (a) Part Families  
(b) Machining Cells
3. What do you understand by CIM? Discuss its benefits.
4. Classify Cellular Manufacturing. Write its merits over flexible manufacturing.
5. What are the basic elements used in automated system. Explain the level of automation.
6. Explain the following terms:  
(a) Integration of robotics in CIM System.  
(b) Flexible Manufacturing System
7. Differentiate between Tool supply system and Tool Monitoring System.
8. Explain the layouts of FMS and Types of FMS.

==END OF PAPER==