

2112E019

**BACHELOR OF VOCATION**  
**Automotive Mechatronics (Captive)**  
**Subject: Computer Integrated Manufacturing**  
**Subject Code: CBME-304**  
**Semester: Fifth**  
**December 2021**  
**Theory (External): 70 Marks**  
**Time: 03 Hours**

**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. Define automation.
- B. Define Production system.
- C. Write difference between Mechanization and Automation.
- D. Define Computer Added Manufacturing (CAM)
- E. Write the advantages of Robots.
- F. Define 'Part family' and 'Cell'.
- G. Cellular manufacturing is suitable for
  - (a) A single product in large volume
  - (b) One off production of several varieties
  - (c) Products with similar features made in batches
  - (d) Large variety of products in large volumes.
- H. What is hard or fixed automation.
- I. Define batch production systems.
- J. Define attended material movement.

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

- 1. (a) Write the types of manufacturing systems and explain them.  
(b) Define the concepts and benefits of computer integrated manufacturing.
- 2. Write about the various types of flexible manufacturing systems. Discuss the component of FME.
- 3. Write a brief note on "An Automated factory". List its benefits.
- 4. Explain How computer is used for
  - (a) Production Scheduling
  - (b) Inventory Management.
- 5. Write short notes on
  - (a) Tool monitoring system.
  - (b) Levels of Automations
- 6. Discuss the various generations of Robots. Discuss the various power drives of Robots.
- 7. Define industry 4.0. Write the benefits to implement the concept of industry 4.0.
- 8. Write short notes on
  - (a) Lean manufacturing.
  - (b) Agile manufacturing

===END OF PAPER===