

2112E008

**BACHELOR OF VOCATION**  
**Automotive Component Manufacturing**  
**Subject: Industry 4.0**  
**Subject Code: LBME-308**  
**Semester: Sixth**  
**December 2021**  
**Theory (External): 35 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 1 mark.
3. Section B comprises 8 essay-type questions out of which students need to do any 5. Each question carries 5 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)**  
(10x1=10 Marks)

- A. What is industry 4.0?
- B. State the benefits of industry 4.0.
- C. What is fourth industrial revolution?
- D. What is 3D printing?
- E. What is lean manufacturing?
- F. What is IoT?
- G. What is software-defined networking (SDN)?
- H. What are the key elements of software-defined networking?
- I. What is AI?
- J. What is intelligent agent?

4. Compare virtual reality and augmented reality systems.
5. Discuss the characteristics and functional blocks of IoT.
6. Differentiate between IoT and M2M
7. Explain the following intelligent agents:
  - a) goal-driven
  - b) utility-driven
8. Write short notes on the following:
  - a) Cloud computing
  - b) Industry 4.0 strategy and implementation

===END OF PAPER===

**SECTION –B (ESSAY TYPE QUESTIONS)**

(5x5=25 Marks)

1. Discuss the key principles of smart factory.
2. Discuss the various challenges and risks associated with industry 4.0
3. Discuss the characteristics and functional blocks of IoT.