No. of Printed Pages : 3 **BME-012**

B.Tech. MECHANICAL ENGINEERING (COMPUTER INTEGRATED MANUFACTURING)

Term-End Examination, 2019

BME-012 : MANUFACTURING SYSTEMS, INTEGRATION AND CONTROL

Time : 3 Hours] **[Maximum Marks : 70**

Note : Attempt any **seven** questions. All questions carry equal marks.

1. (a) What are the various elements used to represent the manufacturing control system ? Draw and discuss the control loop of any manufacturing system. [5]

   (b) What do you understand by manufacturing database ? How are these classified ? Explain any one of these in detail. [5]

2. (a) Discuss the applications of Quality Function Deployment (QFD). [5]

   (b) Explain the need of computer simulation and modelling techniques for enterprise integration. [5]

3. (a) What are the advantages of an object oriented programming over a conventional programming? Write the various components of a generic flexible cell. [5]

(b) Describe the concept of agent based manufacturing system. What are the key issues in developing intelligent agent based manufacturing system ? [5]

4. (a) Describe supply chain management in brief. How is it different from logistics management. [5]

(b) Discuss the role of IT in decision making process of supply chain. [5]

5. What is MRP ? What are the files associated with it ? Discuss use of these files in any manufacturing system. [10]

6. (a) Describe Co-ordinate Measuring Machine (CMM) in brief. Discuss its advantages. [5]

(b) What are the key issues in developing intelligent agent based manufacturing system ? [5]

7. Define quality. How are control charts helpful in maintaining quality in manufacturing process ? List out different types of control charts. [10]

8. (a) What is meant by Bionic Manufacturing System? How is a bionic manufacturing system used to make the system intelligent ? [5]

   (b) Discuss the main objectives of short-term scheduling and control. [5]

9. Write short notes on **any two** of the following : [5x2=10]

   (a) Mass Customization

   (b) Agile Manufacturing System

   (c) ERP

   (d) Automation in manufacturing

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