

**BACHELOR OF TECHNOLOGY IN
MECHANICAL ENGINEERING
(COMPUTER INTEGRATED
MANUFACTURING)**

Term-End Examination

December, 2012

**BME-012 : MANUFACTURING SYSTEMS,
INTEGRATION AND CONTROL**

Time : 3 hours

Maximum Marks : 70

Note : Attempt any five of the following. Assume any missing data suitably.

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1. (a) What is automation ? What are three basic elements of automation ? Discuss all the three elements. 7
 - (b) What do you mean by re-configurable manufacturing system ? Discuss its advantages over other manufacturing system. 7
 2. (a) Discuss the matrix form of Quality function Development. 5
 - (b) Explain the need of computer simulation and modelling techniques in context of enterprise integration. 4

- (c) Briefly discuss integration architectures with neat sketch. 5
3. (a) Discuss the concepts of Agility. What are the variables of Agile Manufacturing System ? Explain them. 7
- (b) What do you mean by next generation manufacturing system ? Briefly describe an architecture of next generation manufacturing system. 7
4. (a) What are the advantages of an object oriented programming over a conventional programming language ? Discuss the various components of a generic flexible cell. 7
- (b) Describe the basic concepts of agent based manufacturing system. What are the key issues in developing intelligent based manufacturing system ? 7
5. (a) Explain the terms: inferencing, inference engine, and control strategy. 5
- (b) Differentiate the terms forward and backward chaining. 5
- (c) What is backtracking ? 4

6. (a) Define supply chain management. How is it different from logistics management ? 7
- (b) Discuss the role of IT in decision making process of supply chain. 7
7. (a) What are the different phases of shop floor control system ? Discuss in brief the framework of shop floor control system. 5
- (b) Differentiate control charts for variables and control charts for attributes. 5
- (c) Differentiate on line and off line inspections. Give examples. 4
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