

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

Term-End Examination

December, 2011

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

Time : 3 hours

Maximum Marks : 70

Note : Attempt any seven questions of the following. Use of calculator is allowed. Assume any missing data.

1. What is automation ? Discuss its role in manufacturing. Also discuss about three elements of automation. **10**

2. What is MRP ? What are the files associated with it ? Explain any one file and its uses in any manufacturing system. **10**

3. What is Quality Function Deployment (QFD) ? Where it is actually used in manufacturing chain ? Describe in detail about Quality Function Deployment (QFD) matrix. **10**

4. Describe the concept of integration of manufacturing system. Explain the role of Information flow and data integration in achieving system integration. 10
5. What do you mean by Fractal Manufacturing System ? Describe the basic entities of agent - based fractal manufacturing enterprise. 10
6. Explain supply chain management (SCM). How it is different from Logistics ? Discuss business processes in SCM framework. 10
7. Explain the following with their application in manufacturing. 10
- (a) ERP
 - (b) e-commerce.
8. (a) What do you understand about shop floor control ? What are the phases of shop floor control systems ? Explain any one method used in manufacturing shop. 5+5
- (b) Explain the following.
 - (i) Gantt Chart.
 - (ii) Process Design.

9. (a) Describe in brief the following. 5+5
- (i) QC Inspection
 - (ii) QC Testing
- (b) What do you understand by control charts ? What are the different types of control charts ? Explain in details X-chart and R-chart.
10. (a) What is coordinate measuring machine ? 5+5
List out all the components of CMM's. What are the advantages of CMM's ?
- (b) What do you understand by six sigma method of QC ? Describe the five basic steps of six sigma.
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