

**B.Tech. MECHANICAL ENGINEERING
(COMPUTER INTEGRATED
MANUFACTURING)**

00265

Term-End Examination

June, 2015

**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) Briefly discuss the main components of a manufacturing system. 5
- (b) What is Just-In-Time (JIT) production system ? 5

2. (a) What is the role of Quality Function Deployment (QFD) in product design ? 5
- (b) Describe the main internal architecture units of Real-time Control System (RCS). 5

3. Discuss about multi objective decision support system. What are the main components of a Decision Support System (DSS) ? 10
4. Discuss in brief various types of enablers used for achieving agile manufacturing paradigms. 10
5. (a) What do you mean by next generation manufacturing systems ? Explain. 5
(b) Describe the communication protocols used in holonic manufacturing systems. 5
6. (a) What are the components of a generic flexible cell ? 5
(b) Discuss about the main objectives of short-term scheduling and control. 5
7. Discuss the role of IT in decision-making process of supply chain. 10
8. Discuss the framework of shop-floor control system. 10
9. (a) Differentiate between variable and attribute type control charts. 5
(b) What is Flexible Routing Adaptive Control System (FRACS) ? 5

10. Write short notes on any *two* topics out of the following : $2 \times 5 = 10$

- (a) Priority Rules for Scheduling
 - (b) Decision Tree
 - (c) E-commerce
 - (d) Automated Guided Vehicle (AGV)
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