

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

00463

Term-End Examination

December, 2018

**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 is meant by Automation in manufacturing ? With a neat diagram, describe the elements of an automated system. 5

- (b) What is re-configurable manufacturing system ? Discuss its advantages over other manufacturing systems. 5

2. (a) What is Flexible Routing Adaptive Control System (FRACS) ? Explain. 5
- (b) With suitable examples, differentiate between variable and attribute type control charts. 5
3. (a) Discuss next generation manufacturing systems. 5
- (b) Describe the communication protocols used in holonic manufacturing systems. 5
4. Discuss the role of Information Technology (IT) in managing a supply chain. 10
5. (a) What is production planning and control ? How does the control function work in any production system ? 5
- (b) What are the three phases of shop floor control system ? Explain any two of them in brief. 5
6. What do you understand by agile manufacturing ? List out the enablers of agile manufacturing system. Explain any two of them. 10
7. Describe the concept of Six-Sigma in quality control. Explain the step by step process of Six-Sigma implementation in a service industry. 10

8. List out the different types of agents in system architecture. Discuss the functions of communication agents. 10
9. Write short notes on any *two* of the following : $2 \times 5 = 10$
- (a) Just-In-Time
 - (b) E-Commerce
 - (c) Automated Guided Vehicle
 - (d) Decision Tree
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