| BME-012 |

B.Tech. MECHANICAL ENGINEERING (COMPUTER INTEGRATED MANUFACTURING)

00258

Term-End Examination

June, 2016

BME-012 : MANUFACTURING SYSTEMS, INTEGRATION AND CONTROL

Time : 3 hours   *Maximum Marks : 70*

*Note : Attempt any **seven** questions. All questions carry equal marks. Use of calculator is allowed.*

1. Discuss the advantages and disadvantages of databases used for manufacturing control systems.   *10*

2. Discuss the advantages and disadvantages of CIM database and multi-objective decision support system.   *10*

3. Describe the following :   *10*

    (i)   Rapid Prototyping Tools

    (ii) Concurrent Engineering

4. What do you mean by Bionic Manufacturing System ? How is a Bionic Manufacturing System used to make the system intelligent ? **10**

5. What do you mean by Holonic Manufacturing System ? Describe the communication protocols used in Holonic Manufacturing System. **10**

6. (a) What are the advantages of an object oriented programming over a conventional programming language ?

   (b) Describe the importance of generic cell control architecture. **5+5**

7. (a) What is Artificial Neural Network (ANN) ? Explain different layers of ANN.

   (b) Discuss the role of IT in decision-making process of supply chain. **5+5**

8. What are the different phases of shop floor control system ? Discuss in brief the framework of shop floor control system. **10**

9. What do you understand by Coordinate Measuring Machines (CMM) ? Describe the applications and advantages of CMM. **10**

10. Write short notes on any *four* of the following : $4 \times 2\frac{1}{2} = 10$

(a) E-Collaboration

(b) Decision Tree

(c) Aggregate Production Planning

(d) Inventory Control

(e) Electronic Data Interchange (EDI)

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