No. of Printed Pages : 2

BME-023

01122

BACHELOR OF TECHNOLOGY IN MECHANICAL ENGINEERING (COMPUTER INTEGRATED MANUFACTURING)

Term-End Examination

December, 2012

BME-023 : ADVANCED MANUFACTURING TECHNOLOGY

Time : 3 Hours *Maximum Marks : 70*

Note : *All Questions carry* ***equal*** *marks. Answer* ***any seven*** *Questions.*

1. What are the different processes of near net shape manufacturing ? Briefly describe the methods of near net shape manufacturing. **10**

2. (a) What is MEMS (Micro-Electro Mechanical Systems)? What are its application? **5**

   (b) What do you mean by micromilling and micro-drilling ? Write two industrial application of micro-drilling operations. **5**

3. What do you mean by hybrid control? Why hybrid control is needed in manufacturing environment. **10**

4. What are the essential techniques used by companies for implementing concurrent engineering projects ? Explain. 10

5. Briefly describe the principles of DFMA (Design For Manufacturing and Assembly). Explain the steps involved in DFMA process. 10

6. Define Rapid Prototyping. What are advantages and disadvantages of prototyping ? What are the application of rapid prototyping? 10

7. Describe direct shell production casting process. Enumerate the advantages and disadvantages of direct shell production casting. 10

8. How does reverse engineering differ from other types of engineering? Differentiate between the contact technique and non-contact technique for data capture. 10

9. What do you understand about e-manufacturing ? Explain the benefits of e-manufacturing systems. 10

10. What are the building blocks of QFD (Quality Function Deployment) ? Explain in detail. 10