01210

BACHELOR OF TECHNOLOGY IN MECHANICAL ENGINEERING (COMPUTER INTEGRATED MANUFACTURING)

Term-End Examination

December, 2010

BME-005 : COMPUTER INTEGRATED MANUFACTURING

Time : 3 hours *Maximum Marks : 70*

Note : *Attempt any five questions.*

1. (a) Describe the need for CIM and discuss the main elements of CIM system. **7+7**

   (b) What are the different types of CAM application ? Discus each type in detail.

2. (a) What do you mean by automated inspection? Enlist the steps involved in automation of inspection procedure in an industry. **7+7**

   (b) Briefly describe the various design principles for coordinate measuring machines.

3. (a) What is an automated guided vehicle system ? Briefly describe any two types of AGV systems used in CIM environment. **7+7**

(b) What are the various types of AS/RS ? Briefly explain their features and applications.

4. (a) Write the elements of any CNS system. Also write functions of each element. 7+7

(b) What is distributed numerical control ? How is it different from direct numerical control ? Explain.

5. (a) Discuss the need for flexibility in manufacturing in present manufacturing scenario. 7+7

(b) What are the elements of FMS ? What are the benefits of FMS ? Explain.

6. (a) Define group Technology. Discuss the principle and advantages of Group Technology. 7+7

(b) What is generative process planning ? Compare varient and generative process planning methodologies.

7. (a) Why is Master Production Schedule (MPS) important ? What is the significance of Bill of Materials (BOM) ? 7+7

(b) What are the recent developments in the enterprise integration that have reduced the leadtime and enhanced the quality of manufacturing of a product ? Explain.

8. (a) What are the different trends in manufacturing ? Describe in detail any two of them. 7+7

(b) What are the different social and economic factors, which promotes the development of automated factory ?