

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

Term-End Examination

June, 2018

00313

**BME-005 : COMPUTER INTEGRATED
MANUFACTURING**

Time : 3 hours

Maximum Marks : 70

Note : Answer any *five* questions. All questions carry equal marks.

1. (a) Briefly describe the elements of Computer Integrated Manufacturing System. What are the potential benefits of CIMS? 7
- (b) What do you mean by inspection accuracy? Explain. Also explain the concept of Automated Inspection. 7
2. (a) Enlist the steps involved in automation of an inspection procedure in an industry. 7
- (b) Name the components of Co-ordinate Measuring Machine (CMM). Also discuss the application of CMM in industry. 7

3. (a) Briefly explain the different types of AGVS control systems. 7
- (b) Define AS/RS. What are its functions ? Also describe the various types of AS/RS. 7
4. (a) List different elements of a CNC system. Briefly discuss their functions. 7
- (b) Enumerate advantages and limitations of CNC system along with examples. 7
5. (a) Briefly explain the different types of flexibility that are exhibited by manufacturing systems. 7
- (b) Describe the advantages of a flexible manufacturing system over conventional manufacturing system. Discuss the various components of an FMS. 7
6. (a) Describe the objectives of codification/coding and classification of parts in cellular manufacturing. 7
- (b) What do you mean by OPITZ System of Coding ? Discuss its advantages. 7

7. (a) Highlight the reasons for the widespread use of simulation techniques in industrial practice. 7
- (b) Describe the steps involved in computer aided process planning. Write a note on "knowledge based process planning". 7
8. (a) Briefly describe the principles of production and inventory control for Computer Integrated Manufacturing System. 7
- (b) What is a sensor ? What are the two types of sensors and how do they differ ? 7
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