B.Tech. MECHANICAL ENGINEERING (COMPUTER INTEGRATED MANUFACTURING)

ロロユロ己   **Term-End Examination**

December, 2017

BME-005 : COMPUTER INTEGRATED MANUFACTURING

Time : 3 hours   *Maximum Marks : 70*

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

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1. (a) Write at least seven benefits of CIM. Also state the limitations in CIM implementation in India.   7

    (b) Describe briefly about MRP (Material Requirement Planning) by illustrating some industry examples.   7

2. (a) What are the different types of CAM applications ? Describe any one.   7

    (b) Differentiate between On-line/In-process and On-line/Post-process inspection methods.   7

3. (a) Describe the capabilities, limitations and applications of Co-ordinate Measuring Machines (CMM) used in industry. 7

(b) Describe the broad classification of industrial robots and state their applications in industry. 7

4. (a) What are the various types of ASRS ? Briefly explain their features and applications. 7

(b) Describe Automated Guided Vehicles (AGVs) used in industry. What are the various components of AGVs ? Also discuss various types of AGVs used in industry. 7

5. (a) Describe Flexible Manufacturing System. What are the components of FMS ? Also discuss various types of flexibilities. 7

(b) Describe Group Technology. What are its advantages ? Discuss the coding and classification of parts in GT. 7

6. (a) State the steps involved in the procedure of Production Flow Analysis (PFA). 7

(b) Outline the steps that might be involved in a simulation study of an FMS. What are the various packages used in FMS modelling ? 7

7. (a) With the help of a flow diagram, briefly describe the basic steps in developing a process plan. Also discuss Computer Aided Process Planning briefly. 7

   (b) List the different approaches to part feature recognition. What is the acronym of AAG ? 7

8. (a) With the help of a suitable flow diagram, show the components of a sensing system. 7

   (b) Discuss various protocols used in network systems. Describe TCP/IP in detail. 7