Printed Pages: 01 **Sub Code: MTME 201**

Paper Id: 240212 **Roll No.** | | | | | | | | | | |

M TECH

(SEM-II) THEORY EXAMINATION 2018-19

COMPUTER INTEGRATED MANUFACTURING (CIM)

Time: 3 Hours ***Total Marks: 70***

Note: Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. Attempt *all* questions in brief. 2 x 7 = 14

a. What do you mean by Interpolators?
b. How is Manual part programming different from APT programming?
c. Discuss some applications of Robotics.
d. Define Group technology.
e. List some important advantages of implementing FMS.
f. Describe CIM data transmission methods.
g. Define concurrent engineering.

SECTION B

2. Attempt any *three* of the following: 7 x 3 = 21

a. Describe salient features of CNC systems along with a block diagram.
b. Differentiate between Absolute and Incremental co-ordinate systems.
c. With neat sketches, explain the four basic configurations of industrial robots.
d. What do you mean by planning for FMS?
e. Explain the importance of CIM. Also write the reasons for implementing CIM.

SECTION C

3. Attempt any *one* part of the following: 7 x 1 = 7

(a) Explain briefly the working of a CNC machine tool. How are CNC machines classified?

(b) Write short notes on the following:
(i) Quick change tooling system
(ii) ATC mechanism

4. Attempt any *one* part of the following: 7 x 1 = 7

(a) Discuss the structure of Manual part programming in detail.
(b) Explain briefly the Heidenhain and Sinumeric control system.

5. Attempt any *one* part of the following: 7 x 1 = 7

(a) Explain different application categories of automated guided vehicle systems.
(b) Explain briefly the various types of Automatic storage/retrieval systems.

6. Attempt any *one* part of the following: 7 x 1 = 7

(a) What do you understand by "Classification and Coding" for Group technology? Explain.
(b) Give the reasons for adopting Group technology. Also state its area of application.

7. Attempt any *one* part of the following: 7 x 1 = 7

(a) Discuss briefly "Generic CIM architecture". Also list some of the technologies of CIM.
(b) Discuss in detail the advance modeling techniques employed for CIM.