PAPER ID-310222

Subject Code: KME051

Roll No: | | | | | | | | | | | | | |

BTECH
(SEM V) THEORY EXAMINATION 2023-24
COMPUTER INTEGRATED MANUFACTURING

TIME: 3 HRS **M.MARKS: 100**

Note: 1. Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. Attempt *all* questions in brief. **2 x 10 = 20**

Q no.	Question	Marks	CO
a.	Discuss characteristics of fixed Automation.	2	1
b.	Differentiate between analytic surfaces and synthetic surfaces.	2	1
c.	What do you mean by Surface of revolution?	2	2
d.	Explain the term Tabulated cylinder.	2	2
e.	Differentiate between G01 and G02 codes.	2	3
f.	Discuss the purpose of MACRO statement.	2	3
g.	What do you mean by quadric surfaces?	2	4
h.	Describe the meaning of manipulator.	2	4
i.	Define the term slicing.	2	5
j.	Define the meaning of TEACH PENDANT.	2	5

SECTION B

2. Attempt any *three* of the following:

Q no.	Question	Marks	CO
a.	Explain the concept of Automation Migration Strategy.	10	1
b.	Translate the polygon with co-ordinates A(2,5),B(7,10) and C(10,2) by 3 units in x direction and 4 units in y direction.	10	2
c.	Explain the classification and coding system in Group Technology.	10	3
d.	Compare SCARA Robot configuration with other configurations	10	4
e.	Explain the variant type of computer aided process planning.	10	5

SECTION C

3. Attempt any *one* part of the following:

Q no.	Question	Marks	CO
a.	Classify & explain different levels of Automation.	10	1
b.	Explain advantages and disadvantages of implementing Computer Integrated Manufacturing.	10	1

4. Attempt any *one* part of the following:

Q no.	Question	Marks	CO
a.	Illustrate the following terms related to surface modelling (a) BLOBBY OBJECTS (b) HALF SPACES	10	2
b.	Explain difference between DDA & Bresenham line drawing algorithm.	10	2

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5. Attempt any *one* part of the following:

Q no.	Question	Marks	CO
a.	Discuss in detail with neat sketches difference between CNC & DNC system.	10	3
b.	Differentiate between linear and circular interpolation. Also differentiate between absolute and incremental programming.	10	3

6. Attempt any *one* part of the following:

Q no.	Question	Marks	CO
a.	Illustrate and explain role of group technology and Just in time (JIT) in Flexible manufacturing system (FMS).	10	4
b.	Examine different methods of robot programming.	10	4

7. Attempt any *one* part of the following:

Q no.	Question	Marks	CO
a.	Explain with a neat sketch the working of Automated storage and retrieval system (AS/RS).	10	5
b.	Explain with a neat sketch the working principle of fused deposition modelling process.	10	5