

Roll No



**PRESIDENCY UNIVERSITY  
BENGALURU**

**SCHOOL OF ENGINEERING  
MID TERM EXAMINATION - APR 2023**

**Semester :** Semester VI - 2020

**Course Code :** MEC3036

**Course Name :** Sem VI - MEC3036 - Flexible Manufacturing System

**Program :** MEC

**Date :** 17-APR-2023

**Time :** 11:30AM - 1PM

**Max Marks :** 60

**Weightage :** 30%

**Instructions:**

- (i) Read all questions carefully and answer accordingly.
- (ii) Question paper consists of 3 parts.
- (iii) Scientific and non-programmable calculator are permitted.
- (iv) Do not write any information on the question paper other than Roll Number.

**PART A**

**ANSWER ALL THE QUESTIONS**

**(5 X 2 = 10M)**

1. write the cycle time expression in production operation  
(CO1) [Knowledge]
2. What is Incremental Positioning  
(CO1) [Knowledge]
3. Write the four qualifying test in FMS  
(CO2) [Knowledge]
4. List the Problems in Implementing GT  
(CO2) [Knowledge]
5. What is Fixed Automation  
(CO1) [Knowledge]

**PART B**

**ANSWER ALL THE QUESTIONS**

**(3 X 10 = 30M)**

6. Write a note on Machine Control Unit (MCU) in CNC  
(CO1) [Comprehension]
7. With a neat sketch Explain any two FMS Layouts  
(CO2) [Comprehension]
8. Write a note on NC Coordinate system  
(CO1) [Comprehension]

**PART C**

**ANSWER THE FOLLOWING QUESTION**

**(1 X 20 = 20M)**

9. a) write the NC part programing for the following Machine Part (15M)

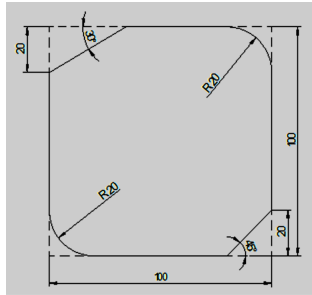


Fig 1

- b) A certain part is produced in a batch size of 100 units. The batch must be routed through five operations to complete the processing of the parts. Average setup time is 3 hr operation, and average operation time is 6 min (0.1 hr). Average non operation time due to handling, delays, inspections etc, is 7hrs for each operation. Determine how many days it will take to complete the batch, assuming the plant runs one 8 hrs shift day (5M)

(CO2) [Application]