PRESIDENCY UNIVERSITY
BENGALURU

SET A

SCHOOL OF ENGINEERING
END TERM EXAMINATION - JAN 2024

Semester : Semester VII - 2020
Course Code : MEC3034
Course Name : Computer Integrated Manufacturing
Program : B.Tech.

Date : 04-JAN-2024
Time : 9:30AM - 12:30 PM
Max Marks : 100
Weightage : 50%

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   **4 X 5M = 20M**

1. List out the minimum five benefits of implementing a Computer integrated manufacturing in any organization.

    (CO1) [Knowledge]

2. List out the features of Computer Numerical Control (CNC) machine

    (CO2) [Knowledge]

3. What are the advantages of ball screw?

    (CO3) [Knowledge]

4. What is adaptive control(AC) machining? What are the functions of AC system

    (CO4) [Knowledge]

PART B

ANSWER ALL THE QUESTIONS   **5 X 10M = 50M**

5. Computer integrated manufacturing(CIM) contains different elements and role of each element is different. Explain any 5 important elements of CIM

    (CO1) [Comprehension]

6. CNC machine are used to produce components with greater accuracy. Explain the working principle of CNC machine with block diagram

    (CO2) [Comprehension]

7. Anti-friction slide ways reduce friction and can take high load capacity. Explain recirculating ball screw and nut with simple schematic diagram.

(CO3) [Comprehension]

8. Shop floor control system utilizes data as well as data processing files to maintain and communicate information on shop orders and work centers. Explain the different phases of shop floor control system

(CO4) [Comprehension]

9. Computer aided process plan (CAPP) approach search for existing or similar process plans of similar part families using codes, retrieves and then edit according to new process sequence. Describe the approach of CAPP in developing new process plan with simple flow chart.

(CO5) [Comprehension]

PART C

ANSWER ALL THE QUESTIONS   2 X 15M = 30M

10. Capacity planning determines the production capacity needed by an organization to meet the changing demands for its products. Explain the classification of capacity planning based on time zone and based on amount of resource employed

(CO4) [Application]

11. An approach used in product development in which the function of design engineering, manufacturing engineering and other function are integrated to reduce the elapsed time required to bring a new product to market. Describe the concept of concurrent engineering with flow diagram.

(CO5) [Application]