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**PRESIDENCY UNIVERSITY
BENGALURU**

SET A

**SCHOOL OF ENGINEERING
END TERM EXAMINATION - JAN 2024**

Semester : Semester VII - 2020

Course Code : MEC3036

Course Name : Flexible Manufacturing Systems

Program : B.Tech.

Date : 05-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. Name some of the mathematical models of production performance
(CO1) [Knowledge]
2. Name the basic components of FMS
(CO2) [Knowledge]
3. Name any 5 different material handling equipment used in FMS
(CO3) [Knowledge]
4. List some of the best practices in managing cutting tools.
(CO4) [Knowledge]

PART B

ANSWER ALL THE QUESTIONS

5 X 10M = 50M

5. Discuss the importance of simulation of FMS
(CO5) [Comprehension]
6. Summarize the importance of using computer controlled manufacturing systems in FMS
(CO1) [Comprehension]
7. Explain briefly about part family concept used in identifying similar parts
(CO2) [Comprehension]

8. Discuss the use of material handling equipment in FMS while considering it to be economical
(CO3) [Comprehension]
9. Explain the software system used in FMS
(CO4) [Comprehension]

PART C

ANSWER ALL THE QUESTIONS

2 X 15M = 30M

10. Illustrate with examples the applications of FMS in machining, sheet metal fabrication and prismatic component production
(CO5) [Application]
11. Apply Single cluster linkage analysis method to form cells for the machines A, B, C and D. The components are C1, C2, C3 and C4. The row wise allocation from left to right from the top of the matrix is 1-0-1-0, 0-1-1-0, 1-0-0-1 and 0-0-1-0.

(CO1) [Application]