Total No. of Questions : 4]

SEAT No. :

PB-204

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[6269]-423

T.E. (Robotics & Automation) (Insem)

FLEXIBLE MANUFACTURING SYSTEMS

(2019 Pattern) (Semester - II) (311510(A))

Time : 1Hour] *[Max. Marks : 30*

Instructions to Candidates:

1) ***Solve Q1 or Q2, and Q3 or Q4.***
2) ***Figures to the right indicates full marks.***
3) ***Neat Diagram must be drawn wherever necessary.***
4) ***Assume suitable data, if necessary.***
5) ***Use of Logarithmic Table, Slide rule is Electronic pocket calculator is allowed.***

Q1) a) What are the major elements of FMS? State the applications of FMS. **[7]**

b) What is Flexibility? Discuss various flexibilities associated with manufacturing. **[8]**

OR

Q2) a) Discuss the role of AGV in industries. **[7]**

b) Draw the typical FMS layout of showing the major features of sheet metal fabrication industry and discuss the development of FMS. **[8]**

Q3) a) What are part families? Describe the process of forming part families with suitable example. **[7]**

b) Why production flow analysis is required in implementation of GT? Explain data collection and sortation of process routing steps in product flow analysis. **[8]**

OR

Q4) a) Difference between cellular manufacturing and flexible manufacturing. **[7]**

b) Explain Rank Order Clustering technique for grouping parts and machines in GT concept of cellular manufacturing. **[8]**

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