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**B.E / B.Tech (Full Time) DEGREE END SEMESTER EXAMINATIONS, APRIL/MAY 2014**

**MANUFACTURING ENGINEERING**

VII Semester

**MN 471/MF 9402 FLEXIBLE MANUFACTURING SYSTEMS**

(Regulation 2004/2008)

Time : 3 Hours

Answer ALL Questions

Max. Marks 100

**PART-A (10 x 2 = 20 Marks)**

1. How is FMS defined?
2. What are the benefits of implementing FMS?
3. What are the software source alternatives for FMS?
4. How is FMS software justified?
5. Why is simulation applied for FMS?
6. What is a library of parts?
7. What is visual method of classification in group technology (GT)?
8. What is machine part incident matrix?
9. Why FMS is popular for metal cutting applications?
10. How can expert systems used in FMS?

**Part – B ( 5 x 16 = 80 marks)**

11. i) Discuss any four types of FMS flexibility in detail. (8)  
ii) What is the structure of knowledge based scheduling system? (8)
12. a) Discuss the computer control in a work centre. Explain with a diagram.  
**OR**  
b) Discuss the extrinsic and intrinsic functions for the FMS with a block diagram.
13. a) Discuss the stages in FMS simulation with an example.  
**OR**  
b) What is the typical system design and corresponding database layout for FMS?
14. a) How is similarity coefficient method used to group parts? Give an example.  
**OR**  
b) How is cluster identification algorithm used to group parts? Give an example.
15. a) Discuss FMS application for sheet metal fabrication.  
**OR**  
b) Discuss FMS application for machining aerospace parts.