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**Question Paper Code: 12015**

M.E. DEGREE EXAMINATION, OCTOBER 2014.

First Semester

CAD / CAM

01PCD104 - COMPETITIVE MANUFACTURING SYSTEMS

(Regulation 2013)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions.

PART A - (10 x 2 = 20 Marks)

1. Mention two applications where sensor is vital.
2. List down the limitations of numerical control.
3. Define cell manufacturing.
4. What do you mean by supervisory computer?
5. List the different simulation software.
6. What do you mean by MUDA?
7. What are the different types of layouts?
8. What do you understand by lean culture?
9. What is meant by preventive maintenance?
10. What do you understand by small lot sizes in JIT?

PART - B (5 x 14 = 70 Marks)

11. (a) (i) Explain the benefits and limitations of automating the manufacturing process in this competitive environment. (8)

- (ii) Explain the various principles to be considered in material handling and movement. (6)

Or

- (b) (i) Explain the factors considered in the design of assembly, disassembly and service. (8)
- (ii) Explain how numerical control of manufacturing is useful in industrial automation. (6)

12. (a) (i) Explain how classification and coding helps in group technology with neat sketch of a part family. (10)
- (ii) List the benefits of flexible manufacturing systems. (4)

Or

- (b) (i) Explain the importance of planning, scheduling and control of FMS. (10)
- (ii) Explain the factors considered in machine cell design. (4)
13. (a) (i) Describe the CAD/CAM features considered while developing a FMS. (8)
- (ii) Explain how you select a software for simulation application. (6)

Or

- (b) (i) Explain how you plan a data flow of CAD / CAM systems. (6)
- (ii) Explain the different applications where simulation can be applied. (8)
14. (a) Explain the following:
- (i) 5S concept (7)
- (ii) Total productive maintenance. (7)

Or

- (b) Write short notes on the following:
- (i) Poka-Yoke (7)
- (ii) Hoshin planning system. (7)
15. (a) (i) Explain the characteristics and benefits of JIT. (10)
- (ii) Explain the pull method in JIT. (4)

Or

(b) Write short notes on the following:

- (i) kanban system (7)
- (i) Implementation issues in lean manufacturing. (7)

PART - C (1 x 10 = 10 Marks)

16. (a) “Quality circle activity increases worker involvement in production” - comment your views. (10)

Or

(b) “Robots increases production with quality” - explain with example. (10)

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