SSLC, HSE, DIPLOMA, B.E/B.TECH, M.E/M.TECH, MBA, MCA

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Reg. No. :

Question Paper Code : 70285

M.E./M.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2019
First Semester
CAD/CAM
CC 5101 – COMPETITIVE MANUFACTURING SYSTEMS
(Regulations 2017)

Time : Three Hours   Maximum : 100 Marks

Answer ALL questions

PART – A   (10×2=20 Marks)

1. What are the benefits of flexible fixture ?

2. Write the important reasons for which the manufacturing processes are automated.

3. What is production flow analysis ?

4. What are the three methods followed to create part families in industrial environment ?

5. What are the principal data files that are required for operating a FMS ?

6. Mention the application of simulation software in manufacturing systems.

7. What is meant by lean manufacturing ? Write the benefits of Lean manufacturing.

8. Write a short notes on : Jidoka.

9. What is JIT ?

10. What are the strategies to be considered in a line flow ?

PART – B   (5×13=65 Marks)

11. a) With the aid of a schematic diagram, describe the construction and working of an adaptive control machining system and also discuss about its applications.

       (OR)

    b) With neat sketch, explain the various types of industrial robots and its applications.

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12. a) Enumerate any six major benefits of a well designed OPITZ parts classification and coding system of Group Technology.

(OR)

b) Explain in detail about the various components of FMS with an example.

13. a) i) Describe the method of applying simulation while designing a FMS. (6)

ii) Describe the CAD/CAM features considered while developing a FMS. (7)

(OR)

b) With an example, explain in detail how data flow is carried out in manufacturing data system.

14. a) Enumerate the six big losses considered while implementing Total Productive Maintenance (TPM) in manufacturing industries.

(OR)

b) Describe the method of implementing Poka-Yoke in an automobile manufacturing industry.

15. a) Write a short notes on :
   i) Small lot sizes. (3)
   ii) Work station loads. (4)
   iii) Preventive maintenance. (6)

(OR)

b) With the aid of sketches, explain the working of Kanban system in machine tool manufacturing industry.

PART – C   (1×15=15 Marks)

16. a) i) Explain any six control strategies of supervisory computer control. (8)

ii) Describe the basic components of a numerical control system. (7)

(OR)

b) Explain in detail about the 5S system used in manufacturing industry.

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