Reg. No. :

Question Paper Code: 47704

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2018

Seventh Semester

Mechanical Engineering

14UME704- COMPUTER INTEGRATED MANUFACTURING

(Regulation 2014)

Duration: Three hours   Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

1. Scaling objects makes them
   (a) Bigger   (b) Smaller
   (c) It only stretches them   (d) Both Bigger and Smaller

2. The basic geometric building blocks provided in a CAD/CAM package are
   (a) Points, lines, and circles   (b) Rectangles and squares
   (c) Semi circles and squares   (d) Rectangles and semi circles

3. By using CIM to control all phases of manufacturing, firms hope to reap what benefits?
   (a) Lower productivity and quality   (b) Improved quality and increased productivity
   (c) Medium productivity and quality (d) All of the above

4. The linking of computer with a communication system is called
   (a) networking   (b) pairing
   (c) interlocking   (d) assembling

5. The part has dissimilar in geometric shape & size but similar machining operation is known as

    (a) Group Technology   (b) Manufacturing Attributes

    (c) Machine Cell Design   (d) Part Family

6. CAPP integrates and optimizes system performance into

    (a) The inter-organizational flow   (b) The work flow
    (c) The process flow   (d) The inter-material flow

7. The systems that accomplish the production planning, development of master schedule, capacity planning and materials requirement planning is called

    (a) Material flow control   (b) Shop floor control
    (c) Control of process flow   (d) Machine control

8. Which one is type of FMS?
    (a) Flexible machining group   (b) Flexible material group

    (c) Flexible manufacturing group   (d) Flexible process group

9. Cost of product failure, error prevention and appraisals can be classified under

    (a) stocking costs   (b) stock-out costs

    (c) costs of quality   (d) shrinkage costs

10. Lean manufacturing is a (n):
    (a) Fad   (b) Method for reducing labour
    (c) Way to improve customer value   (d) Efficiency improvement technique

PART - B (5 x 2 = 10 Marks)

11. Mention the important applications of CIM in manufacturing control..

12. Define OSI.

13. Define Group Technology (GT).

14. How FMS is classified based on the level of flexibility?

15. What are the characteristics of direct digital control?

PART - C (5 x 16 = 80 Marks)

2

47704

16. (a) Describe the functions of the zoom, pan, redraw/regenerate, and dimensioning commends (16)

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Or

(b) What are commonly used geometrical models? Explain in detail. (16)

17. (a) (i) Explain the nature and role of the elements of CIM system. (8)
(ii) Write a short note on Gate Way. (8)

Or

(b) Describe briefly Manufacturing Automation Protocol (MAP) and Technical and Office Protocol (TOP). (16)

18. (a) Elaborate the different stages in Group Technology (16)

Or

(b) (i) Why we need process planning in CAD/CAM? (6)
(ii) What are the emergences of CAPP? Explain. (10)

19. (a) Write a brief notes on the factory data collection system in Shop floor. (16)

Or

(b) (i) What is the role o flexible manufacturing system in CIM environment? (4)

(ii) What are the types of FMS? Explain in detail. (12)

20. (a) Explain in detail: Material Requirements Planning (MRP). (16)

Or

(b) Write a short note on effective inventory management and inventory transactions

(16)

3

47704