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Question Paper Code: 47704

B.E. / B.Tech. DEGREE EXAMINATION, MAY 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. The system environment in a mainframe computer consists of
 - (a) central processing
 - (b) storage devices
 - (c) printers and plotters
 - (d) both central processing and storage devices
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. In ring network communication the individual stations are connected in a
 - (a) Discontinuous ring
 - (b) Copper ring
 - (c) Continuous ring
 - (d) Polymer ring

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. The correct sequence of operations in production planning and control is
 - (a) Routing-Scheduling-Dispatching-Follow up
 - (b) Scheduling-Routing- Dispatching-Follow up
 - (c) Dispatching-Routing-Scheduling- Follow up
 - (d) Routing-Scheduling-Follow up-Dispatching

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. Differentiate clockwise and counter clockwise rotation matrix.
12. Define OSI.
13. Define Group Technology (GT).
14. How FMS is classified based on the level of flexibility?

15. What is meant by material requirements planning?

PART - C (5 x 16 = 80 Marks)

16. (a) Explain CIM. What are the components of CIM? Discuss with neat chart (16)

Or

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

17. (a) Explain the nature and role of the elements of CIM system. (16)

Or

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

18.(a) What are the three general methods for solving part families grouping? Describe in detail. (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) Describe the concept of a production monitoring system. (16)

Or

(b) What are the scopes of MRP in manufacturing? Explain in detail. (16)

