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Question Paper Code	12295
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B.E. / B.Tech - DEGREE EXAMINATIONS, NOV / DEC 2023

Sixth Semester

Mechanical Engineering

20MEEL706 - COMPUTER INTEGRATED MANUFACTURING SYSTEMS

(Regulations 2020)

Duration: 3 Hours

Max. Marks: 100

PART - A (10 × 2 = 20 Marks)

Answer ALL Questions

- | | <i>Marks,
K-Level, CO</i> |
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| 1. Specify the components of a manufacturing system. | <i>2,K2,CO1</i> |
| 2. Define Scaling. | <i>2,K1,CO1</i> |
| 3. What are the important properties of Bezier curves? | <i>2,K1,CO2</i> |
| 4. List the main elements of NC Machine tools. | <i>2,K1,CO2</i> |
| 5. Define group technology. | <i>2,K1,CO3</i> |
| 6. Distinguish the steps involved in production flow analysis. | <i>2,K1,CO3</i> |
| 7. List the components of FMS. | <i>2,K1,CO4</i> |
| 8. List out the benefits of Computer Aided Process Planning. | <i>2,K1,CO4</i> |
| 9. What are the major components of a common PLC? | <i>2,K2,CO5</i> |
| 10. Define additive manufacturing. | <i>2,K1,CO5</i> |

PART - B (5 × 16 = 80 Marks)

Answer any Five questions

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| 11. Briefly explain the manufacturing support systems. | <i>16,K2,CO1</i> |
| 12. Explain the challenges faced while implementing CIM environment. | <i>16,K2,CO1</i> |
| 13. Write short notes on the following
(a) CNC turning centers (b) CNC Milling centers | <i>16,K2,CO2</i> |
| 14. Describe the functions of Geometric Modelling. | <i>16,K2,CO2</i> |
| 15. What are canned cycles? Discuss how a canned cycle is useful in writing a part programme. | <i>16,K2,CO3</i> |
| 16. Explain retrieval and generative CAPP systems. | <i>16,K2,CO4</i> |
| 17. Explain in details about FMS workstations. | <i>16,K2,CO4</i> |
| 18. Discuss in detail about Robot control systems. | <i>16,K2,CO5</i> |