

Reg. No.

Question Paper Code

12081

B.E. / B.Tech. - DEGREE EXAMINATIONS, APRIL / MAY 2023

Fourth Semester

Mechanical and Automation Engineering

20MUPC404 - COMPUTER AIDED DESIGN

(Regulations 2020)

Duration: 3 Hours

Max. Marks: 100

PART - A (10 × 2 = 20 Marks)

Answer ALL Questions

- | | <i>Marks,
K-Level, CO</i> |
|--|-------------------------------|
| 1. Define Sequential Engineering. | 2,K1,CO1 |
| 2. List down the Benefits of CAD. | 2,K1,CO1 |
| 3. Exhibit and specify the equation and curves of Bezier surface. | 2,K2,CO2 |
| 4. Illustrate silhouette edges. | 2,K2,CO3 |
| 5. What is visual realism? | 2,K1,CO3 |
| 6. List various color models. | 2,K1,CO4 |
| 7. Define simulation. | 2,K1,CO5 |
| 8. What is interference checking? | 2,K1,CO5 |
| 9. When SET command is used in GKS? | 2,K1,CO6 |
| 10. Enumerate the two methods of exchanging data among the CAD/CAM system. | 2,K2,CO5 |

PART - B (5 × 13 = 65 Marks)

Answer ALL Questions

11. a) Explain DDA line Algorithm. Also list the advantages and disadvantages of using it. 13,K2,CO1
- OR**
- b) Summarize the process of Implementation in Concurrent Engineering with flowchart. 13,K2,CO1
12. a) What is surface modeling? Discuss the various types of it and state the applications of surface modeling. 13,K2,CO2
- OR**
- b) Brief a B-Spline curve and explain it. Discuss the matrix formulation in cubic B-Spline curves. 13,K2,CO2
13. a) Explain the surface algorithms for surface hidden removal of an object. 13,K2,CO3
- OR**
- b) Discuss in detail about sample hidden line algorithms. 13,K2,CO3

K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze; K5 – Evaluate; K6 – Create

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14. a) Discuss the Frame-Buffer animation and animation techniques with an example. 13,K2,CO4

OR

b) Explain briefly RGB and CMY color model. 13,K2,CO4

15. a) Describe RSS for tolerance analysis with RSS cube. 13,K2,CO5

OR

b) Explain tolerance stack-up with example. 13,K2,CO5

PART - C (1 × 15 = 15 Marks)

16. a) Compare and contrast CGM and CGI. 15,K2,CO6

OR

b) Explain OpenGL with schematic diagram. 15,K2,CO6