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**Question Paper Code : 72149**

B.E./B.Tech. DEGREE EXAMINATION, APRIL/MAY 2017.

Fifth/Seventh Semester

Mechanical Engineering

ME 6501 – COMPUTER AIDED DESIGN

(Common to Manufacturing Engineering/Mechatronics Engineering)

(Regulations 2013)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — ( $10 \times 2 = 20$  marks)

1. State any two benefits of CAD.
2. What is Concurrent Engineering?
3. Define Quadratic Bezier curve.
4. What is the significance of CSG?
5. Name the Hidden line removal algorithms.
6. What is powder shading?
7. What is Top-down assembly modeling?
8. List the advantages of Tolerance Analysis.
9. Define Graphics Kernel System (GKS).
10. What is open graphics library?

PART B — ( $5 \times 16 = 80$  marks)

11. (a) Compare and contrast sequential and Concurrent Engineering with suitable examples. (16)

Or

- (b) Explain with block diagram, the CAD process with suitable examples. (16)

12. (a) Explain different types of Geometric modeling with suitable examples. (16)

Or

- (b) Explain the various curve generation techniques with suitable examples. (16)

13. (a) Discuss any two hidden surface removal algorithms with suitable examples. (16)

Or

- (b) Explain the Hidden-Solid removal Ray-Tracing algorithm with suitable examples. (16)

14. (a) Explain assembly modeling in CAD and its types with suitable examples. (16)

Or

- (b) Discuss the four types of geometric tolerances with suitable examples. (16)

15. (a) Explain the IGES structure and methodology with suitable examples. (16)

Or

- (b) Write note on :

(i) Data exchange standards

(ii) Communication standards.

(2 × 8)