

Question Paper Code: 57559

B.E./B. Tech. DEGREE EXAMINATION, MAY/JUNE 2016

Fifth Semester

Mechanical Engineering

ME 6501 - COMPUTER AIDED DESIGN

(Common to Manufacturing Engineering)

(Regulations 2013)

Time: Three Hours

Maximum: 100 Marks

Answer ALL questions. $PART - A (10 \times 2 = 20 Marks)$

- List the various stages in the life cycle of a product. 1.
- What is the design process? Mention the steps involved in Shigley's model for the 2. design process.
- What are the limitations of Hermite curves? 3.
- What are the advantages and disadvantages of wireframe modelling? 4.
- What are the improvements brought by Gouraud shading compared with other shading techniques?
- Mention the importance of coloring of three dimensional objects in computer graphics.
- What is meant by assembly modelling? 7.
- What are the uses of tolerance stack-ups?
- What is the importance of standards in CAD?
- 10. Write any three CAD standards for exchange of modelling data.

57559

$PART - B (5 \times 16 = 80 Marks)$

11. (a) Write short notes on : (i) Design process (ii) CAD system architecture

OR

- (b) What is meant by concurrent engineering? Describe the various schemes for concurrent engineering.
- 12. (a) What are Bezier curves? Discuss its important properties.

OR

- (b) What do you understand by boundary representation (B-rep) technique of solid modelling? Explain briefly the data structure of B-rep solid model.
- 13. (a) Explain the following color models used in computer graphics:

(i) RGB (ii) CMY

OR

- (b) Write short notes on the following hidden surface algorithms: (i) Back-face removal (ii) Z-buffer algorithm
- 14. (a) Briefly explain the elements of a mechanism analysis.

OR

- (b) Write short note on: Statistical tolerance analysis.
- 15. (a) Briefly explain any one of the known graphic standards.

OR

(b) Write short note on : Drawing Exchange Format (DXF) standard.

57559