Reg. No.

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 × 2 = 20 Marks)

1.   List the various stages in the life cycle of a product.

2.   What is the design process ? Mention the steps involved in Shigley's model for the design process.

3.   What are the limitations of Hermite curves ?

4.   What are the advantages and disadvantages of wireframe modelling ?

5.   What are the improvements brought by Gouraud shading compared with other shading techniques ?

6.   Mention the importance of coloring of three dimensional objects in computer graphics.

7.   What is meant by assembly modelling ?

8.   What are the uses of tolerance stack-ups ?

9.   What is the importance of standards in CAD ?

10. Write any three CAD standards for exchange of modelling data.

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PART – B (5 × 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.

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