

B.E./B.TECH. Degree Examination, December 2020
Fifth Semester
ME16501 – COMPUTER AIDED DESIGN
(Regulation 2016)

Time: Three hours

Maximum : 80 Marks

Answer **ALL** questions

PART A - (8 X 2 = 16 marks)

1. Computer Graphics is an interactive method. True/False
2. B-spline is Analytical or Synthetic Curve?
3. In the following color model, the Printer is the application of?
 - a. RGB
 - b. CMY
 - c. YIQ
 - d. HSV
4. A display of a volume model that shows all of its edges is called a
 - a. Surface model,
 - b. 3-D Model,
 - c. Wireframe model,
 - d. Solid model.
5. Scale the polygon with coordinates A (2, 5), B (7, 10) and C (10, 2) by two units in x-direction, and two units in y-direction.
6. List the application of Image-space approach.
7. Classify the various tests to determine the visibility.
8. Provide possible GD&T symbols for an angle plate features.

PART B - (4 X16 = 64 marks)

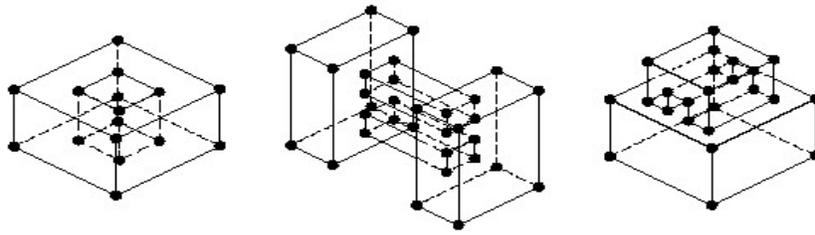
09. (a) Consider the line from (5,5) to (13,9). Apply the bresenham's algorithm to rasterize the line. **(16)**

(OR)

- (b) A triangle has coordinates with A (5, 2), B (3, 5) and C (7, 5). **(16)**
- (i) First rotate the triangle by 30 degree about the origin, and then translate the triangle 2 units in x direction and 2 units in y direction.
 - (ii) Then translate the triangle 2 units in x direction and 2 units in y direction, and then rotate by 30 degree about the origin.
10. (a) Compare Bezier curve and B-spline Curve and explain its applications. **(16)**

(OR)

- (b) Apply Euler's equations for the following objects. (16)



11. (a) Develop the steps for slider-crank mechanism by computer animation process. (16)

(OR)

- (b) Explain any three types of Visibility Techniques with suitable object. Justify which Visibility Technique is better. (16)

12. (a) Distinguish traditional tolerance analysis and worst-case arithmetic method. (16)

(OR)

- (b) (i) Illustrate Data exchange standards. (8)
 (ii) Illustrate the Open Graphics Library (OpenGL). (8)