SRI VIDYA COLLEGE OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF MECHANICAL ENGINEERING

ME6501COMPUTER AIDED DESIGNQUESTION BANK

UNIT – IV

Part A

1. Derive the equation that converts hsl coordinates into rgb coordinates

2. Apply the area oriented

3. Develop an algorithm that can enable the user to create and manipulate boundary model by using set operations.

4. Create the boundary model of the solid fillet. (nov 08)

5. It is desired to develop bounded primitives for a two- dimensional solid modeler based on the csg scheme. Plate (rectangular plate and triplate) and disc 6primitives are to be developed. Find the mathematical definitions of these primitives. (feb 08)

7. Describe the various methods and operations required in each approach for the connecting rod. (feb 08)

8.What do you mean by geometric modeling?

9.Enumerate various solid-modeling techniques and compare them.(feb 07, ,mar 06,nov 06)

10. How do you represent a bracket with various primitives and sweep operations.

11 sketch with appropriate dimensions and explain the limitation. (nov 07)

12. Find the length of the common perpendicular to two screw lines

13. Find the center and major and minor radii of an ellipse

14. Find the intersection of two tangent lines at two known points on an ellipse

15. Find the radius and center of tangent to a line, passing through a point and with a given radius

16. Find the radius and center of tangent to a given circle and a given line with a given radius

17. Find the radius and center of tangent to two lines and passing through a point

18. Find the radius and center of passing through two points and tangent to a line

19. Find tangent to an ellipse at any given point on its circumference

20. Find tangent to an ellipse from a point outside the ellipse

Part B

1. Describe the Mass properties on CAD/CAM systems

2. Describe the assembly modelling with assembly tree and planning

3. Describe the different types of mating conditions

4. Describe bottom up assembly approach with example

5. Describe Top down assembly with example

6. Describe the Need of tolerance analysis with Representation

7. Describe WCS arithmetic method

8. DescribeWrost case statistical method

9. Describe themontecarlo simulation

10.Give an example of how the centralized integrated database concept can help with the what-if situations that arise during the

11.Design process. (nov 08,jun 09)

12.Describe various commonly used primitives for solid modeling and explain the Boolean operations.