

C 80817

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Name:

Reg. No:

**SIXTH SEMESTER B.TECH. (ENGINEERING) (09 SCHEME)
DEGREE EXAMINATION, APRIL 2018**

CS/PTCS 09 605—COMPUTER GRAPHICS

Time : Three Hours



Part A

Short answer questions (one / two sentences).

1. What are the primary components of an electron gun in a CRT ?
2. What is the use of clipping ?
3. Differentiate parallel projection from perspective projection.
4. What do you mean by temporal aliasing ?
5. What are the advantages of B spline over Bezier curve ?

(5 × 2 = 10 marks)

Part B

*Answer any four questions.
Analytical / Problem solving questions.*

6. Explain about 3D object representations.
7. How do you create shaded objects and draw shadows ? Explain.
8. Explain two dimensional translation and scaling with an example.
9. Obtain a transformation matrix for rotating an object about a specified pivot point.
10. Determine the blending function for uniform periodic Bspline curve for $n = 4$, $d = 4$.
11. Explain about the other transformations, reflection and shear.

(4 × 5 = 20 marks)

Part C

*Answer all questions.
Descriptive / Analytical / Problem solving questions.*

12. (a) Explain about Bresenham's circle generating algorithm.

Or

- (b) Write about Cohen-Sutherland's line clipping algorithm.

13. (a) Explain the basic concept of Midpoint ellipse drawing algorithm. Derive the decision parameter for the algorithm and write down the algorithm steps.

Or

Turn over

- (b) Explain a method to rotate an object about an axis that is not parallel to the co-ordinate axis with neat block diagram and derive the transformation matrix for the same.

14. (a) Explain the two dimensional viewing transformation pipelines.

Or

- (b) What are the functions available for 3D transformation functions ?

15. (a) Compare and contrast between RGB and CMY color models.

Or

- (b) Discuss about the methods for drawing 3D objects and scenes.

(4 × 10 = 40 marks)