DECEMBER 2015 **P/ID 16171/PIE12**

Time : Three hours Maximum : 100 marks

PART A — (6 × 5 = 30 marks)

Answer any SIX questions each in 200 words.

1. Name any four output primitives? How are they used?

2. What are area fill attributes? Character attributes? Explain.

3. How composite 2D transformations are formed?

4. Name few physical input devices and their working principles.

5. What are 3D display methods? How they are implemented?

6. Describe 3D viewing and projection?

7. How hidden surfaces are defined? and back face?

8. Describe spline representation and the uses of Bezier curves.

PART B — (7 × 10 = 70 marks)

Answer any SEVEN questions, each in 500 words.

9. Explain raster scan and random scan systems? Discuss the working principles.

10. How lines are drawn using DDA and Bresenham's algorithms, between (1, 1) to (10, 7) coordinates. Obtain the intermediate points by both the algorithms.

11. Explain the three basic transformations, translation, rotation and scaling, with suitable examples.

12. Describe line clipping and polygon clipping algorithms.

13. How input devices are logically classified and write the interactive input methods?

14. How parallel and perspective projections are done? What are the applications?

15. Explain algorithms for hidden surface removal and hidden line removals.

16. Describe how 3D objects are represented? Illustrate.

17. Write short notes on :
    (a) Depth cueing
    (b) Interactive picture construction.

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