

Government College of Engineering, Aurangabad

(An Autonomous Institute of Government of Maharashtra)

SE(CSE) Examination

End Semester Examination Nov 2016

CS 245: Computer Graphics

Time: Three Hours

23 NOV 2016

Max Marks:60

“Verify the Course Code and check whether you have got correct question paper”

N.B:-

1. All questions are compulsory
2. Figures to the right indicate full marks
3. Assume suitable data if necessary and state it clearly
4. Use of non-programmable calculator is allowed

Q.1 Attempt the following

12

- A. Describe the architecture of simple Raster scan display with its working.
- B. i. “Computer graphics is emerging as an important field in computer science”. Justify the statement.
ii. List input devices and explain the working of any one in detail.

Q.2 Attempt the following

12

- A. State the steps in Bresenham’s line drawing algorithm. Why is this algorithm preferable to DDA line drawing algorithm?
- B. Discuss flood fill algorithm to fill a polygon. For large polygons the flood fill algorithm may fail, why? What could be method to avoid this?

Q.3 Attempt any 2

12

- A. Find the transformation matrix that transforms the given square ABCD to half its size with centre still remaining at the same position. The co-ordinates of square are A(1,1), B(3,1), C(3,3), D(1,3) and centre at (2,2). Find the final co-ordinates after transformation.
- B. Explain Weiler-Atherton algorithm for polygon clipping. Give suitable example.
- C. Describe Sutherland and Cohen subdivision line clipping algorithm.

Q.4 Attempt any 2

12

- A. Discuss different steps involved in the design of animation sequences.
- B. Describe Hilbert’s curve and Koch curve and give their fractal dimension.
- C. Briefly explain -
 - i. Morphing and its uses.
 - ii. Bezier Curve properties.

Q.5 Attempt any 2

12

- A. Describe different data compressions methods with suitable example.
- B. Define Multimedia. List and explain multimedia elements and multimedia applications.
- C. List and describe different data and file format standards.