

Computer Graphics

Unit 1 questions :

- (1) Mention applications of computer graphics
- (2) What is imaging system? What are the types of imaging system in computer graphics? Explain any one imaging system.
- (3) Explain synthetic camera model.
- (4) With a neat diagram explain graphics architecture.
- (5) List the programming two dimensional applications.
- (6) With help of a neat diagram explain working of video display device or cathode ray tube.
- (7) What is Raster scan display? Explain how raster scan display works?
- (8) Differentiate between Random scan display and Raster scan display.
- (9) Give OpenGL functions for below:

(a) point functions	(f) viewer specification functions
(b) line functions	(g) geometric primitives
(c) point attribute functions	
(d) line attribute functions	
(e) curve attribute functions	
- (10) Explain DDA line drawing algorithm.
- (11) Draw line from A(0,0) and B(6,3) using DDA line drawing algorithm.
- (12) Write and explain Bresenham's line drawing algorithm.
- (13) Draw a straight line from (1,1) to (5,3) using Bresenham's line drawing algorithm.
- (14) Write and explain Bresenham's circle drawing algorithm.
- (15) Explain flat-panel display.
- (16) What is programmer's interface?
- (17) Write a short note on OpenGL.

Unit I questions

- (18) write a short note on co-ordination system in OpenGL.
- (19) Given a circle radius $R=10$ units. The circle has center $(50, 50)$. Plot 6 points of circle. Draw circle using Bresenham circle drawing algorithm.

Unit II questions

- (1) write a short note on 2D transformation of below topics (giving example)
- (a) Translation
 - (b) Rotation
 - (c) Scaling
 - (d) Reflection
 - (e) Shear
 - (f) Inverse Transformation
- (2) Explain in detail the transformation of 2D rotation
- (3) what is composition of 2D transformation? explain with example.
- (4) Explain below 2D transformation with respect to Homogeneous coordinates
- (a) 2D Translation
 - (b) 2D Rotation
 - (c) 2D Scaling
 - (d) Reflection
 - (e) 2D Shear
 - (f) Inverse Transformation
- (5) what is Raster method for geometric transformations? list the raster functions.
- (6) List and explain OpenGL Raster Transformation
- (7) with the help of neat diagram explain OpenGL Geometric transformation.
- (a) Translation
 - (b) Rotation
 - (c) Scaling

Unit II Question

- ① Write a short note on commutativity of transformation matrices.
- ② List and explain OpenGL Geometric Transformation functions (2D Geometric Transformation) [include PUSH & POP]
- ③ Explain 2D viewing pipeline.
- ④ Write a short note on Aspect ratio & Viewport
- ⑤ Explain the mapping of window to viewport transformation.
- ⑥ Explain View functions in OpenGL.

Unit III questions

- ① What is Clipping? Explain with a neat diagram different types of clipping types.
- ② Explain Cohen-Guthland Clipping algorithm with example (write algorithm also).
- ③ Explain Sutherland-Hodgman polygons. (write algorithm & example both)
- ④ Explain 3D transformations with respect to homogeneous co-ordinates
- ① Translation ② 3D Shearing ③ 3D reflection
 - ⑤ Rotation ④ 3D scaling
- ⑤ Explain Affine Transformation
- ⑥ What is concatenation of Transformation? Explain with example.

Unit III question

- ⑦ Explain general 3D rotation with neat diagram.
- ⑧ List and explain 3D transformations in OpenGL:
- ① Translate
 - ② Push matrix
 - ③ Rotate
 - ④ Pop matrix
 - ⑤ Scale