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Question Paper Code: 31272

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2017

Seventh Semester

Computer Science and Engineering

01UCS702 - INTERACTIVE COMPUTER GRAPHICS

(Regulation 2013)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. Define persistence, resolution and aspect ratio.
2. Write the working principles of random scan systems.
3. What are homogeneous co-ordinates?
4. What is viewing transformation?
5. What are blobby objects?
6. Mention some surface detection methods.
7. How is the color of an object determined?
8. What are key frame systems?
9. What are the objects of Multimedia?
10. What is meant by VRML?

PART - B (5 x 16 = 80 Marks)

11. (a) (i) Explain about the Bresenham's line drawing algorithm. (8)
(ii) Digitize a line from (10, 12) to (15, 15) on a raster screen using Bresenham's straight line. (8)

Or

- (b) Explain briefly about the working principles of Random scan system and Raster scan system with neat diagram. (16)
12. (a) Explain about translation, scaling and rotation of two dimensional geometric transformations. (16)

Or

- (b) (i) Explain about Cohen-Sutherland Line clipping algorithm. (8)
(ii) Find a transformation matrix for rotating an object about a specified pivot point. (8)
13. (a) (i) Explain in detail about B-Spline curves and surfaces. (8)
(ii) Discuss about how are polygon surfaces represented in 3D. (8)

Or

- (b) Explain about parallel and perspective projections and Also derive their projection matrices. (16)
14. (a) (i) List out the difference between CMY and HSV color models. (6)
(ii) Explain in detail about HLS color model. (10)

Or

- (b) (i) Explain about various approaches for object motion specifications. (8)
(ii) Write short notes on: Morphing. (8)
15. (a) What are multimedia authoring systems? Describe the issues in multimedia authoring systems. (16)

Or

- (b) Explain in detail about the various types of multimedia authoring systems. (16)
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