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Question Paper Code: 47202

B.E./B.Tech. DEGREE EXAMINATION, MAY 2018

Seventh Semester

Computer Science and Engineering

14UCS702 - INTERACTIVE COMPUTER GRAPHICS

(Regulation 2014)

Duration: Three hours

Maximum: 100 Marks

PART A - (10 x 1 = 10 Marks)

(Answer all Questions)

- Describe how pictures are stored in Raster scan system.
 - Intensity value
 - Line commands
 - Pixel commands
 - Image Resolution
- _____ is an example of filling object interiors using the odd-even rule to locate
 - Scan-line fill algorithm
 - Parallel line fill algorithm
 - Frame-buffer fill algorithm
 - Mid-point fill algorithm
- A composite transformation matrix can be made by determining the _____ of matrix of the individual transformation.
 - Sum
 - Reflection
 - Difference
 - Product
- The region against which an object is clipped is called a _____.
 - Clip Window
 - Boundary
 - Enclosing rectangle
 - Clip square

5. The matrix formulation for rotation in homogeneous coordinates is
- (a) $P' = T + P$ (b) $P' = S * P$ (c) $P' = R * P$ (d) $P' = dx + dy$
6. we can take a view of an object from different directions and different distances
- (a) Projection (b) Rotation (c) Translation (d) Scaling
7. _____ uses color descriptions that have a more intuitive appeal to a user.
- (a) RGB color Model (b) CMY Color Model
- (c) YIQ Color Model (d) HSV Color Model
8. It is the process, which is applicable to animation objects defined by a sequence of points, and that change shape from frame to frame.
- (a) Lighting (b) Tweening (c) Chromocity (d) Dithering
9. Which of the following is video editing tool?
- (a) Adobe Premiere (b) Adobe Illustrator (c) Cool Edit (d) Cubase
10. The GIF standard is limited to _____ color images only.
- (a) 32-bit (b) 24-bit (c) 16-bit (d) 8-bit

PART – B (5 x 2= 10Marks)

11. What is emissive display? Give examples.
12. Define – View Up Vector.
13. Differentiate interpolation and approximation splines.
14. Mention the various characteristics of a light
15. What are the features of PNG files?

PART – C (5 x 16= 80Marks)

16. (a) (i) Explain the architecture of a raster-graphics system with a Display processor.

(16)

Or

(b) (i) Write the Bresenham's line drawing algorithm. (8)

(ii) Apply the Bresenham's line drawing algorithm to indicate raster locations from screen coordinate (20, 10) to the coordinate (30, 18). (8)

17. (a) Describe the two dimensional basic transformations. (16)

Or

(b) Explain the two dimensional translation and scaling with an example. (16)

18. (a) What are quadric surfaces? Explain. (16)

Or

(b) Differentiate parallel and perspective projections and derive their projection matrices. (16)

19. (a) Discuss the HLS and RGB color models in detail. (16)

Or

(b) What are the steps involved in the design of animation sequence? Explain. (16)

20. (a) (i) Explain the various common authoring metaphors. (8)

(ii) Briefly outline some effects for presenting multimedia (8)

Or

(b) Explain the various multimedia file formats in detail (16)

