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Question Paper Code: 47202

B.E./B.Tech. DEGREE EXAMINATION, APRIL 2019

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)

- Aspect ratio is
 - The ratio of image's width to its height
 - The ratio of window to viewport height
 - The ratio of image's intensity levels
 - The ratio of image's height to its width
- _____ 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
- To change the position of a circle or ellipse we translate
 - Center coordinates
 - Center coordinates and redraw the figure in new location
 - Outline coordinates
 - All the above
- The region against which an object is clipped is called a _____.
 - Clip Window
 - Boundary
 - Enclosing rectangle
 - Clip square
- The matrix formulation for rotation in homogeneous coordinates is
 - $P' = T + P$
 - $P' = S * P$
 - $P' = R * P$
 - $P' = dx + dy$

6. The region code of a point within the window is
- (a) 1111 (b) 0000 (c) 1000 (d) 0001
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. _____ refers to any type of application or presentation that involves more than one type of media, such as text, graphics, video, animation, and sound.
- (a) An executable file (b) Desktop publishing (c) Multimedia (d) Hypertext
10. The text color in a presentation should contrast with the _____ color
- (a) CPU (b) Frame (c) Stack (d) background

PART – B (5 x 2= 10Marks)

11. Write in detail about Raster Scan System..
12. Define – View Up Vector.
13. Differentiate interpolation and approximation splines.
14. What is environmental mapping?
15. What are the features of PNG files?

PART – C (5 x 16= 80Marks)

16. (a) (i) Discuss about Raster Scan System. (8)
(ii) Discuss in detail about color CRT Monitor (8)
- 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) State the general procedure for applying translation, rotation and scaling parameter to reposition and resize two-dimensional objects. (16)

Or

(b) Explain in detail about Cohen-Sutherland line Clipping Algorithm? (16)

18. (a) Explain in detail about the Spline Representations. (16)

Or

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

19. (a) Consider the application of an illumination model to the rendering of standard graphics objects those formed into polygon surfaces. Explain. (16)

Or

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

20. (a) (i) Discuss about the Virtual Reality Modelling Language (VRML) (8)

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

Or

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

