BRAINWARE UNIVERSITY

Term End Examination 2022
Programme – BCA-2019/BCA-2020
Course Name – Computer Graphics
Course Code - BCAD502A
(Semester V)

Full Marks : 60   **Time : 2:30 Hours**

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A

(Multiple Choice Type Question)   1 x 15=15

1. *Choose the correct alternative from the following :*

(i)   Match keys allows user to enter frequently used operations in a single key stroke?

   a) Function keys   b) Cursor control keys
   c) Trackball   d) Control keys

(ii) Name of The device that which is used to position the screen cursor is

   a) Mouse   b) Joystick
   c) Data glove   d) Both a and c

(iii) Read the device that is constructed with the series of sensors that detects hand and finger motion?

   a) Digitizers   b) Data glove
   c) Joystick   d) Track ball

(iv) Express The Cartesian slope-intercept equation for a straight line is

   a) $y = m.x + b$ b) $y = b.x + m$
   c) $y = x.x + m$ d) $y = b + m.m$

(v)   Explain line DDA algorithm is

   a) Digital difference analyzer   b) Direct differential analyzer
   c) Digital differential analyzer   d) Data differential analyzer

(vi) Express disadvantage of lineDDA is

   a) Time consuming   b) Faster
   c) Neither a nor b   d) None of the mentioned

(vii) Choose _____ is the rigid body transformation that moves object without deformation.

   a) Translation   b) Scaling
   c) Rotation   d) Shearing

(viii) Analyze The transformation that is used to alter the size of an object is

   a) Scaling   b) Rotation
   c) Translation   d) Reflection

(ix) Judge If the scaling factors values sx and sy < 1 then

   a) It reduces the size of object   b) It increases the size of object

c) It stunts the shape of an object   d) None

(x) Classify The Cohen-Sutherland algorithm divides the region into _____ number of spaces.

  a) 8   b) 6
  c) 7   d) 9

(xi) Select What is the name of the small integer which holds a bit for the result of every plane test

  a) setcode   b) outcode
  c) incode   d) Bitcode

(xii) Focus Which of the following co-ordinates are NOT used in the 2d viewing transformation?

  a) modelling co-ordinates   b) viewing co-ordinates
  c) vector co-ordinates   d) device co-ordinates

(xiii) Score A view is selected by specifying a sub-area of the _____ picture area.

  a) half   b) Full
  c) total   d) quarter

(xiv) Mange If we used Left->Right->Up->Bottom, the final output will be the vertex list outputted by the _____ edge.

  a) left edge   b) right edge
  c) top edge   d) bottom edge

(xv) Select _____ is a rigid body transformation that moves objects without deformation.

  a) Rotation(N)   b) Scaling
  c) Translation   d) All of the mentioned

Group-B
(Short Answer Type Questions)   3 x 5=15

2. Write the disadvantages of DDA algorithm?   (3)
3. Difference between DDA and Bresenham's line drawing algorithm.   (3)
4. What does it mean by RGB?   (3)
5. Explain resolutions in brief.   (3)
6. Discuss refresh buffer/frame buffer.   (3)

OR

  Describe pixel with example.   (3)

Group-C
(Long Answer Type Questions)   5 x 6=30

7. Show Using Bresenhams line drawing algorithm digitize the line with endpoints (20, 10) and (30, 18) (5)
8. Develop Given a circle radius r = 10, you demonstrate the midpolnt circle algorithm (5)
9. Explain Cohen Sutherland Line Clipping Algorithm (5)
10. Survey-WINDOW-TO-VIEWPORT COORDINATE TRANSFORMATION With Equation (5)
11. Write Painter Algorithm (5)
12. Describe Computer Graphics Components (5)

OR

  Define Bresenhams line drawing algorithm. (5)

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