

BALLARI INSTITUTE OF TECHNOLOGY & MANAGEMENT

(Autonomous Institute under Visvesvaraya Technological University, Belagavi)

USN

| | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|
| | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|

Course Code

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 2 | 1 | A | M | E | 4 | 8 | 2 |
|---|---|---|---|---|---|---|---|

Fourth Semester B.E. Degree Examinations, SEP/ OCT 2023

INTRODUCTION TO COMPUTER GRAPHICS

Duration: 1 hr

Max. Marks: 50

Instructions to the Candidates:

- All questions are compulsory
- Each question carries 1 mark
- Use only black ball point pen
- Darkening two circles for the same question makes the answer invalid
- Damaging/overwriting, using whiteners on the OMR are strictly prohibited.

QN

QUESTIONS

- 1 GUI stands for
 - a. Graphics uniform interaction
 - b. Graphical user interaction
 - c. Graphical user interface
 - d. None of the above
- 2 Graphics can be
 - a. Simulation
 - b. Drawing
 - c. Movies
 - d. All of the above
- 3 CAD stands for
 - a. Computer art design
 - b. Computer-aided design
 - c. Car art design
 - d. None of the above
- 4 The components of Interactive computer graphics are
 - a. A monitor
 - b. Display controller
 - c. Frame buffer
 - d. All of the above
- 5 A user can make any change in the image using
 - a. Interactive computer graphics
 - b. Non-Interactive computer graphics
 - c. Both (a) & (b)
 - d. None of the above
- 6 The higher number of pixels gives us a ____ image
 - a. Better
 - b. Worst
 - c. Smaller
 - d. None of the above
- 7 Which one of the following is the primarily used output device?
 - a. Video monitor
 - b. Scanner
 - c. Speaker
 - d. Printer
- 8 Which one of the following terms is used for the area of the computer captured by an application?
 - a. Display
 - b. Window
 - c. Viewport
 - d. None of the above

- 9 Aspect Ratio can be defined as
- The ratio of the vertical points to horizontal points
 - The ratio of the horizontal to vertical points
 - Both (a) & (b)
 - None of the above
- 10 Which of the following is not the pattern of line
- Dotted line
 - Dashed line
 - Dark line
 - All of the above
- 11 DDA stands for
- Direct differential analyzer
 - Data differential analyzer
 - Direct difference analyzer
 - Digital differential analyzer
- 12 The process of positioning an object along a straight-line path from one coordinate point to another is called
- Translation
 - Reflection
 - Shearing
 - Transformation
- 13 Which one of the following is the most commonly used and basic input device?
- Mouse
 - Printer
 - Scanner
 - Keyboard
- 14 One byte per pixel is equal to
- 254 intensities
 - 258 intensities
 - 256 intensities
 - 260 intensities
- 15 Which of these is the basic type of curve?
- Implicit
 - Explicit
 - Parametric
 - All of the above
- 16 If a line is drawn from (2, 3) to (6, 15) with use of DDA. Find the value of slope.
- 1/3
 - 1/3
 - 1/3
 - 1/3
- 17 From Q16. How many points are plotted
- 4
 - 4
 - 4
 - 4
- 18 From Q16. How many points are not plotted
- 6
 - 6
 - 6
 - 6
- What is the Formulae to calculate next value of 'x' from DDA
- 19
- $x = x + 1/m$
 - $x = x + 1/m$
 - $x = x + 1/m$
 - $x = x + 1/m$
- 20 The process of positioning an object along a straight-line path from one coordinate point to another is
- Translation
 - Translation
 - Translation
 - Translation
- Which of the following equation is used in 2D translation to move a point (x, y) to the new point (x', y')?
- 21
- $x' = x + t_y$ and $y' = y + t_x$
 - $x' = x + t_y$ and $y' = y + t_x$
 - $x' = x + t_y$ and $y' = y + t_x$
 - $x' = x + t_y$ and $y' = y + t_x$
- 22 The process of representing graphics objects as a collection of pixels
- Scan conversion
 - Scan conversion
 - Scan conversion
 - Scan conversion

- 23 What is the main reason behind developing algorithms for scan conversion,
- The generate graphics objects at a faster rate.
 - The generate graphics objects at a faster rate.
 - The generate graphics objects at a faster rate.
 - The generate graphics objects at a faster rate.
- 24 Which of the following statements is not true with respect to the DDA algorithm
- It is an incremental method of scan conversion of line
 - It is an incremental method of scan conversion of line
 - It is an incremental method of scan conversion of line
 - It is an incremental method of scan conversion of line
- 25 Which among the following objects can be scan converted
- Point, Line, Sector, Arc
 - Point, Line, Sector, Arc
 - Point, Line, Sector, Arc
 - Point, Line, Sector, Arc
- 26 Which of the following is a line drawing algorithm
- DDA algorithm
 - DDA algorithm
 - DDA algorithm
 - DDA algorithm
- 27 What is the formula for calculating the slope 'm' of a line?
- $m = dx / dy$
 - $m = dx / dy$
 - $m = dx / dy$
 - $m = dx / dy$
- 28 8. Which of the following properties is followed by the Bresenham's algorithm
- It is an incremental method
 - It is an incremental method
 - It is an incremental method
 - It is an incremental method
- 29 Which of the following are true with respect to the Bresenham's algorithm
- It produces smooth polygons
 - It produces smooth polygons
 - It produces smooth polygons
 - It produces smooth polygons
- 30 Line density should be independent of
- line length and angle
 - line length and angle
 - line length and angle
 - line length and angle
- 31 Which of the following is must be specified to generate a rotation?
- Rotational distance
 - Rotational distance
 - Rotational distance
 - Rotational distance
- 32 A positive value of the rotation angle -
- rotates an object in the clockwise direction
 - rotates an object in the clockwise direction
 - rotates an object in the clockwise direction
 - rotates an object in the clockwise direction
- 33 Which of the following transformation is used for altering the object's size?
- Translation
 - Translation
 - Translation
 - Translation

- 34 In which of the following case, the uniform scaling will be produced?
- Values of scaling factors s_x and s_y are unequal
 - Values of scaling factors s_x and s_y are unequal
 - Values of scaling factors s_x and s_y are unequal
 - Values of scaling factors s_x and s_y are unequal
- 35 The object can be reflected about x-axis with the help of which matrix?
- Reflection about the x-axis.
 - Reflection about the x-axis.
 - Reflection about the x-axis.
 - Reflection about the x-axis.
- 36 How many types of reflection
- One
 - One
 - One
 - One
- 37 The translation pair (T_x, T_y) is called as ?
- left-shift vector
 - left-shift vector
 - left-shift vector
 - left-shift vector
- 38 A two-dimensional rotation is applied to an object by
- Repositioning it along with straight line path
 - Repositioning it along with straight line path
 - Repositioning it along with straight line path
 - Repositioning it along with straight line path
- 39 When a Rotating line AB about origin through a 30° clockwise direction. The matrix R is
- $\begin{bmatrix} .866 & -0.5 \\ .5 & .866 \end{bmatrix}$
 - $\begin{bmatrix} .866 & -0.5 \\ .5 & .866 \end{bmatrix}$
 - $\begin{bmatrix} .866 & -0.5 \\ .5 & .866 \end{bmatrix}$
 - $\begin{bmatrix} .866 & -0.5 \\ .5 & .866 \end{bmatrix}$
- 40 Scaling Matrix Representation of 2D Transformation is
- $\begin{bmatrix} 1 & 0 \\ 0 & -1 \end{bmatrix}$
 - $\begin{bmatrix} 1 & 0 \\ 0 & -1 \end{bmatrix}$
 - $\begin{bmatrix} 1 & 0 \\ 0 & -1 \end{bmatrix}$
 - $\begin{bmatrix} 1 & 0 \\ 0 & -1 \end{bmatrix}$
- 41 When a Rotating line AB about origin through a 45° anticlockwise direction. The matrix R is
- $\begin{bmatrix} .866 & -0.5 \\ .5 & .866 \end{bmatrix}$
 - $\begin{bmatrix} .866 & -0.5 \\ .5 & .866 \end{bmatrix}$
 - $\begin{bmatrix} .866 & -0.5 \\ .5 & .866 \end{bmatrix}$
 - $\begin{bmatrix} .866 & -0.5 \\ .5 & .866 \end{bmatrix}$
- 42 Matrix for rotation is an anticlockwise direction.
- $\begin{bmatrix} \cos\theta & \sin\theta \\ -\sin\theta & \cos\theta \end{bmatrix}$
 - $\begin{bmatrix} \cos\theta & \sin\theta \\ -\sin\theta & \cos\theta \end{bmatrix}$
 - $\begin{bmatrix} \cos\theta & \sin\theta \\ -\sin\theta & \cos\theta \end{bmatrix}$
 - $\begin{bmatrix} \cos\theta & \sin\theta \\ -\sin\theta & \cos\theta \end{bmatrix}$
- 43 Transpose of a column matrix is
- Zero matrix
 - Zero matrix
 - Zero matrix
 - Zero matrix
- 44 Which is a type of hidden surface removal
- layers
 - object
 - matrix
 - none of these
- 45 Which code is used for Mini Max Algorithm
- pseudo
 - static
 - dynamic
 - game changer
- 46 Select the incorrect property of mini max algorithm
- cost
 - complete
 - optimal
 - Time space

- 47 Which one is not the logical input devices
a. string b. locator c. dial d. arithmetic
- 48 Building blocks are entities called as
a. client b. servers c. triggers d. layers
- GLUT determines
- 49 a. redisplay b. input c. output d. error
- 50 Beizer spline curve is developed by
a. pierre b. summit c. maxwell d. david

** ** *