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Course Code

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

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

- 34 In which of the following case, the uniform scaling will be produced?
- a. Values of scaling factors s_x and s_y are unequal
 b. Values of scaling factors s_x and s_y are unequal
 c. Values of scaling factors s_x and s_y are unequal
 d. 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?
- a. Reflection about the x-axis.
 b. Reflection about the x-axis.
 c. Reflection about the x-axis.
 d. Reflection about the x-axis.
- 36 How many types of reflection
- a. One
 b. One
 c. One
 d. One
- 37 The translation pair (T_x, T_y) is called as ?
- a. left-shift vector
 b. left-shift vector
 c. left-shift vector
 d. left-shift vector
- 38 A two-dimensional rotation is applied to an object by
- a. Repositioning it along with straight line path
 b. Repositioning it along with straight line path
 c. Repositioning it along with straight line path
 d. 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
- a. $\begin{bmatrix} 1 & 0 \\ 0 & -1 \end{bmatrix}$ b. $\begin{bmatrix} 1 & 0 \\ 0 & -1 \end{bmatrix}$ c. $\begin{bmatrix} 1 & 0 \\ 0 & -1 \end{bmatrix}$ d. $\begin{bmatrix} 1 & 0 \\ 0 & -1 \end{bmatrix}$
- 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
- a. Zero matrix b. Zero matrix c. Zero matrix d. Zero matrix
- 44 Which is a type of hidden surface removal
- a. layers b. object c. matrix d. none of these
- 45 Which code is used for Mini Max Algorithm
- a. pseudo b. static c. dynamic d. game changer
- 46 Select the incorrect property of mini max algorithm
- a. cost b. complete c. optimal d. Time space

