NAVRACHANA UNIVERSITY
a UGC recognized University

School: School of Engineering and Technology
Program/s: B.Tech(CSE)
Year: 2nd **Semester:** 4th
Examination: End Semester Examination
Examination year: May – 2023

Course Code: CS240 **Course Name:** Computer Graphics
Date: 19/05/2023 **Total Marks:** 40
Time: 10:00 am to 12:00 am **Total Pages:** 03

Instructions:

→ Write each answer on a new page.
→ Use of a calculator is permitted

Q. No.	Details	Marks	CO	BTLO
	Attempt All the Questions(1 marks each)	40		
Q.1	_____ is very important in creating animated images on the screen A. Image transformation B. Morphing C. Clipping D. None of these		CO2	BTLO2
Q.2	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		CO3	BTLO3
Q.3	According to the Cohen-Sutherland algorithm, where the line lies, if the 4-bit code of both ends is 0000, and also the logical OR gives 0000? A. Half outside half inside B. Completely inside C. Completely outside D. None of the above		CO4	BTLO4
Q.4	Which of the following device is used for the 3D positioning of an object? A. Trackball B. Mouse C. Spaceball D. All of the above		CO5	BTLO5
Q.5	Which of the algorithm is used to color a pixel if it is not colored and leaves it if it is already filled? A. Boundary fill algorithm B. Scan line polygon fill algorithm		CO1	BTLO1

	C. Flood fill algorithm D. All of the above			
Q.6	Which is a common device for painting or selecting the object's co-ordinate positions? A. Digitizer B. Touch panel C. Image scanner D. Keyboard		CO2	BTLO2
Q.7	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		CO3	BTLO3
Q.8	Plasma panel is also called as - A. Non-emissive display B. Liquid crystal display C. Gas discharge display D. None of the above		CO4	BTLO4
Q.9	Shadow mask method is used in - A. Raster scan system B. Random scan system C. Both (a) & (b) D. None of the above		CO5	BTLO5
Q.10	In which of the following case, the uniform scaling will be produced? A. Values of scaling factors sx and sy are unequal. B. Values of scaling factors sx and sy are equal. C. Both of the above D. None of the above		CO5	BTLO5
Q.11	Which of the following uses the Beam penetration method? A. Raster scan system B. Random scan system C. Both (a) & (b) D. None of the above		CO2	BTLO5
Q.12	The Cohen-Sutherland algorithm divides the two-dimensional space in how many regions? A. 4 B. 8 C. 9		CO2	BTLO3

	D. 23		
Q.13	Graphics can be - A. Simulation B. Drawing C. Movies, photographs D. All of the above	C03	BTL03
Q.14	A ploygon in which the line segment joining any two points within the polygon lies completely inside the polygon, is called _____ polygon. A. Convex B. Concave C. Closed D. Complete	C03	BTL03
Q.15	The video device with reduced volume, power consumption and weight is - A. CRT B. Flat-panel display C. Portable display D. None of the above	C02	BTL02
Q.16	Aspect Ratio can be defined as - A. The ratio of the vertical points to horizontal points B. of pixels C. Both (a) & (b) D. None of the above	C02	BTL02
Q.17	Which of the following algorithm is used to fill the interior of a polygon? A. Boundary fill algorithm B. Scan line polygon fill algorithm C. Flood fill algorithm D. All of the above	C04	BTL01
Q.18	A positive value of the rotation angle - A. rotates an object in the clockwise direction B. rotates an object in the counter-clockwise direction C. Both of the above D. None of the above	C04	BTL01
Q.19	The phase of determining the appropriate pixels for representing images or graphics object is called as -	C04	BTL01

A. Translation
B. Transformation
C. Rasterization
D. Scaling

Q.20	Sutherland Hodgeman algorithm is applied on … a) line segment b) concave polygon c) smooth curves d) convex polygon	CO5	BTL02
Q.21	The process of repositioning an object along a circular path is called - A. Translation B. Rotation C. Scaling D. None of the above	CO5	BTL04
Q.22	Clipping in computer graphics is primarily used for - A. zooming B. copying C. removing objects and lines D. All of the above	CO5	BTL04
Q.23	In 3D Graphics, which of the following statements about perspective and parallel projection is/are true? P: In a perspective projection, the farthest an object is from the center of projection, the smaller it appears. Q: Parallel projection is equivalent to a perspective projection where the viewer is standing infinitely far away R: Perspective projections do not preserve straight lines. 1. P and R only 2. P, Q and R 3. Q and R only 4. P and Q only	CO2	BTL04
Q.24	Which one of the following is the primarily used output device? 1. Video monitor 2. Scanner 3. Speaker	CO1	BTL04

	4. Printer			
Q.25	An inkjet printer places _____ of ink onto paper to print an image A. Small droplets B. large droplets C. Both a & b D. None of these		CO1	BTLO4
Q.26	How many phosphor color dots at each pixel position in a shadow mask CRT? A. 1 B. 7 C. 2 D. 3		CO1	BTLO4
Q.27	A technique by which the vertical and /or horizontal scan frequency of video signal can be changed for different purpose and applications is called A. Scan conversion B. Polygon filling C. Two dimensional graphics D. Anti-aliasing		CO2	BTLO4
Q.28	Select the set of colors produced in the beam-penetration method of the color CRT A. Red, Green, Blue B. Cyan, Magenta, Blue C. Red, Green, Orange, Yellow D. Green, Black, Orange		CO4	BTLO4
Q.29	Polygon filling algorithms those fill interior-defined regions are called _____ algorithms. A. flood fill B. boundary fill C. scan line D. edge fill		CO6	BTLO4
Q.30	Consider a rectangular window whose lower left corner is at (-3, 1) and upper right corner is at (2, 6). What is the 4-bit area code for the endpoint of the line PQ having co-ordinates (-4,2) and (-1, 8)? 1. P → 0001, Q → 0001 2. P → 1010, Q → 1001 3. P → 0001, Q → 1000 4. P → 0000, Q → 0110		CO6	BTLO4
Q.31	Which of the following color will generate with the intersection of three primary RGB colors? 1. Green 2. Dark red		CO6	BTLO

	3. Dark blue 4. White			
Q.32	In which of the following CRT methods, there is an occurrence of convergence problem? 1. Shadow mask method 2. Beam penetration 3. Both of the above 4. None of the above			
Q.33	With respect to CRT, the horizontal retrace is defined as : 1. The path an electron beam takes when returning to the left side of the CRT. 2. The path an electron beam takes when returning to the right side of the CRT. 3. The technique of turning the electron beam off while retracing. 4. The technique of turning the electron beam on/off while retracing		CO4	BTL04
Q.34	Which is NOT an input device? 1. Touchscreen 2. Keyboard 3. Mouse 4. Plotter		CO4	BTL04
Q.35	From the given list of options, which one is the accurate and efficient line-generating algorithm? 1. Midpoint algorithm 2. DDA algorithm 3. Bresenham's Line algorithm 4. None of the above		CO3	BTL05
Q.36	What are the RGB co-ordinates of a color at (0.25, 0.65, 0) in CMY space? 1. (0.75, 0.35, 1) 2. (0.65, 0.25, 0) 3. (0.75, 0.25, 1) 4. (0.85, 0.25, 0)		CO3	BTL05
Q.37	A plotter is capable of 1. Printing a map 2. Printing a similar images 3. Both a & b 4. None of these		CO3	BTL05
Q.38	Which of the following printers are non-impact printers? 1. Laser Printer and Drum Printer 2. Bubble Jet Printer and Daisy Wheel Printer 3. Inkjet Printers and Dot Matrix Printers		CO4	BTL01

	4. Laser Printers and Inkjet Printers		

Q.39	Geometric transformation include
	   a) transition
	   b) drawing
	   c) scaling
	   d) none of the above
		CO4	BTLO1

Q.40	RGB color model is used for -
	
	   a) Painting
	   b) Sketching
	   c) Printing
	   d) Computer display
		CO5	BTLO1