Techno India Batanagar Computer Science and Engineering

Model Questions

Subject Name: Computer Graphics

Subject Code: 604 B

Multiple Choice Questions

- In Bresenham's circle generation algorithm, if (x,y) is the current pixel position then the y value of the next pixel position is

 a) Y or y+1
 b) y alone
 c) y+1 or y-1
 d) y or y-1
- 2. Tablet is

a)

- a) logical interactive device b) data generation device
- b) c) physical interactive device d) none of these
- 3. Bresenham's Algorithm seeks to select the optimum raster locations that represent a
 - a) Straight line b) curve line c) polygon d) none of these
- 4. According to simple Area Arid aliasing, pixel is considered asa) a mathematical point b) a finite area c) an infinite area d)none of these
- 5. The reflection matrix of a point P(x,y) about the straight line y = -x is

	b)	c)	d)
-1 0	0 -1	-1 0	-1 0
0 -1	-1 0	-1 0	0 -1

- 6. The DDA algorithm is a faster method for calculating pixel positions than direct use of line equation using y = mx + c, because
 - a) it eliminates floating point addition b) it eliminates floating point multiplication
 - c) it eliminates rounding operation that drift away from true line path d) none of these
- In Bresenham's circle algorithm, if points are generated from 90° to 45° and (x,y) are the Coordinate of last scan converted pixel then the next pixel coordinate is

a)
$$(x+1,y+1)or(x-1,y-1)$$
 b) $(x+1,y)or(x,y+1)$

- c) (x,y+1)or(x+1,y-1) d) (x+1,y)or(x+1,y-1)
- 8. Aliasing means

a) Rendering effect b) Shading effect c) Staircase effect d) Cueing effect

9. 7 re	The technique of technique o	of using a m	inimum nur	nber of int	ensity lev	els to obtain in	creased visual
;	a) Dithering	b)Half ton	ing c)De	epth-Cuein	g d)R	endering	
10. A c b	A raster colour colours simultation ouffer used in th	display pro neously disp ne display p	cessor suppo blayable. Wl rocesser?	orts a resol hat will be	ution of 1 the appro	024 * 800 with ximate size(in	up to 16 million bytes)of the frame
	a)1.2*1	10° b)2.4*10°	c)16*10 [°]	ď	.)10 ⁵	
11.	If blue is repre- a) 001	sented as 00 b)1 the yellow) 010	v is represe c) 101	ented as	d) 110	
12.	A 24-bit plane	colour fram ber of colo	ne butter wit urs.	h three 10-	bit wide o	colour look up	tables can have
	a) 2 ²⁴	b)	2 ⁸	c) 2 ⁴⁸		d) 2 ³⁰	
13.	a) The phos	phorous coa	acts as a ting b) Th	node in CI e glass par	RT. nel c)	The deflectors	d) None of these
14. S	a) 0	e joining the b)	e points (1, 2 1	c) and (3, 4 c) 2) is	1) 3	
15.	In bresenham's value of the ne A) x	s circle gene xt pixel pos b)x	eration algor ition is < - 1	tithms. If (x c)x + 1	x, y) is the d	e current pixel j)x + 2	position then the x-
16. F	Run length cod a) Image sr c) Image co	ing is used t noothening louring.	for b) Ima d) I	ige compre mage dithe	ession ering		
17. W a	Which device is a) Space ball	used to gra b)	sp a 'virtual Data glove	object'?	c) Digitiz	er	d) Touch panels
18. R a) c)	Resolution can l Number of co Number of piz	be defined b mponent kels	b) Number d) Number	of small s of pixels	quare box per unit le	tes ngth	
19. T	The video memo a) Display proc	ory that is u cessor t	sed to hold to bold to	the image () Frame bu	displayed ffer d)	on screen is kn Display file	own as
20.	The maximum a) Refresh rate	number of b) Inte	dots that car rlacing c	n be displa) Screen re	yed witho esolution	ut overlap on C d) None of t	CRT is referred to as hese
21.	Raster means a) Series of pa c) Series of pa	rallel lines rallel mediu	b) S um d) S	eries of pa Series of pa	rallel bloc rallel swe	eks eeps	
22.	Physical Aspec a) Ratio of wie c) Ratio of wie	ct Ratio is te dth of the fr dth of block	ermed as ame to its he to its heigh	eight t	b) Ratio o d) all of t	f width of pixe hese	l to its height
23.	Flood fill algo a) More than	rithm canno one bounda	ot be applied ry colour	l if	b) More	han one interio	or colour

c) Single boundary colo	our	d) Single	e interior colour	
24. In order to avoid Flicker a) Refreshing c) Interfacing	in monitor hav b) Vertica d) horizon	ving low refresh i al refreshing ntal refreshing	ate the techniqu	es used is
25. Colour printer usea) RGB colour modec) HSB colour mode	el el	b) CMYK colou d) LAB colour r	ır model nodel	
26. In circle drawing algorith a) 4-Symmetry b)	nm we use 2-Symmetry	c) 8-Symm	netry d) No S	Symmetry
27. CMY coordinates of a co a) (1.2,2,1.5) b)	blour at (0.2, 1, (2.2,2,2.5)	and 0.5) in the R c) (0.8,0,0.1	GB space are 5) d) (0.1	,0.5,0.25)
28. In raster scanning systema) Top to bottom andc) Bottom to top and	h, the screen is a l right to left l left to right	scanned b) Left to rig d) Bottom to	ht and top to bot top and right to	tom left
29. The term that is not syno a) Calligraphic CRT c) Stroke-writing Cl	nymous with 'y C b) Ra RT d) Ran	vector CRT' is ster CRT ndom-scan CRT		
30. A monitor can display a depth supported by the a a) 7 bits	\$ shades of red, monitor is b) 8 bits	8 shades of blue c) 9 l	and 16 shades o	f green. The colour d) 10 bits
31. For the scan-line polygoa) Ignoredb) Treated as a singlec) Treated as two inted) Treated as one or the	n fill algorithm intersection points wo intersectior	n, each horizontal pint n point, dependin	edge should be g on the adjacen	t vertices
32. Line end point codes of invisible?	4 lines are give	n below. Which	one of the follow	ving is totally
a) 1010, 0110 b)	0000, 0000	c) 1001, 0000	d) 0001, 0	100
33. Under a parallel projection of projection should be a)(1,0,1)	on, the point (2 the vector b(1,0,-1)	c)(0,1,1)	viewed at (3, 3, 0 d)(0)), then the direction),-1,1)
34. If (x,y,w), w= 0, is a po two dimensional system a)(x,y,1) b)(oint in the homo is x,y,0) c)	ogeneous coordir (x/w,y/w)	nate system than d)(x,y, x-y)	its equivalent in the
35. An object is viewed by a vanishing point(s) possia)	using perspectiv ble is	ve transformation c)3	n. The maximum d) Infinite	number of principal
36.In the Cohen Sutherland & 0001 then the line seg window.	line clipping al ment joining th	gorithm, if the co e points P&Q w	odes of the two p ill be	ooint P&Q are 0101 _ the clipping
a) Totally outsic c) Totally inside	le	b) Partia d) None	ally outside e of these	

37. Clipping algorithms are						
a) Two or three dimensional	b) Two dimensional					
c)Three dimensional	d)None of these					
38. When the angle between the projectors and the projection is	the plane of projection is not equal to 90^0 then					
a) Orthographic	b) Isometric					
c) Perspective	d) Oblique					
-	-					
39. Sutherland-Hodgeman algorithm is used for						
a) Line clipping	b) Point clipping					
c) Polygon clipping	a) Hybrid clipping					
40. Clipping algorithms are						
a) Two or three dimensional	b) two dimensional					
c) Remain parallel	d) become circular arcs					
-						
41. after arbitrary 2D transformation, a pair of p	parallel lines					
a) Become intersecting	b) Become coincident					
c) Remain parallel	d) Become circular arcs					
42 The matrix representation of reflection abo	v = -x is					
$1 \ 0 \ 0 \ -1 \ 0 \ 0 \ 0$	1 0 0 -1 0					
a) 0 -1 0 b) 0 1 0 c) 1	0 0 d) -1 0 0					
0 0 1 0 0 1 0	0 1 0 0 1					
43. In view-port clipping of 3D viewing, the re- a) 6 b) 4 c) 5 d	gion code containsnumber of bits.					
44 If $(x \ y \ h)$ h 0 is a point in the homogeneous	eous co-ordinate system then its equivalent in					
the two dimension system is	cous co orannace system men his equivalent m					
a) $(x,y,1)$ b) $(x,y,0)$ c) $(x/h, y/h)$	d) (x,y, x+y)					
45. When projection lines are perpendicular to the	ne view plane then such type of projection is					
a) Parallel b) Perspective c) Ortho	graphic d) Oblique					
46. The orthographic projections have the projections of these projections of these projectors is per-	ctors where					
a) The direction of these projectors is per	nendicular to the image plane					
c) The direction of these projectors is per	pendicular to the view plane					
d) The direction of these projectors is par	allel to the image plane					
47. The viewing transformation is formed by						
a) Translations	b) Translation and scaling					
c) Translation, scaling and reflection	d) Translation, scaling and rotation					
48. The slope of the Bezier curve at start of the	curve of is controlled by					
a) First control point	b) First two control points					
c) First three control points	d) All four control points					
49. Two curves are said to be connected at a po	49. Two curves are said to be connected at a point with first order continuity if					
a) Boin curves simply meet at that point b) The tangents to both the curves at that	noint is equal					
b) The tangents to both the curves at that	point is equal					

c)	The curvatures	to both	the	curves	at	that	point	is	equal
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d) There is a discontinuity of both the curves at that point

50. The best hidden surface removal method(s) used for complex scenes with more than a few thousand surfaces is/are

a) Depth sorting methodc) Depth buffer algorithm	b) Scan line algorithmd) Octree method
51. Z-buffer algorithm is used fora) Frame buffer removalc) Rendering	b) Hidden line removald) Animation
52. A Bezier cubic curve with control point $f(u) = P_i B_i^3(u) B_i^3$ is	bints P_0 , P1, P2 and P_3 is defined by the equation
$a)(1-u)^3$ $b)u^3$ c	$d)3u(1-u)^2$ $d)3u(1-u)$
53. The slope of the Bezier curve at the sa) First control pointc) First three control points	starting of the curve is controlled by b) first two control points d) all four control points
54. Which of the following is not a hiddea) Depth sortc) Z-buffer	en surface removal algorithm? b) painter's algorithm d) none of these
55. The blinding functions of Bezier cura) Splinesc) Lagrangian polynomials	ves are b) Bernstein polynomials d) Newton polynomials
56. Quantization is done bya) Before samplingc) Simultaneously	b) After samplingd) None of these
57. Onion skinning technique used ina) Audio compressionc) Animation	b) Video compressiond) None of these
58. Which one is the Compression Technala) Hoffmanb) DES	tique? c) DFS d) None of these
59. How many channels are specified by a) 16 b) 24	MIDI standards? c) 32 d) none of these
60. In which type of compression l-frame a)JPEG b)MPEG	is used? c)GIF d)none of these
61. How many reception modes are prese a) 4 b) 8	nt in MIDI standards? c) 6 d) none of these
62. The amount of memory in frame buffered a) Bit planeb) plane	er is called c) bit d) none of these
63. Another name of super sampling isa) Post filteringc) anti-aliasing	b) aliasingd) none of these

64. The format for storing digital audio in multimedia applications is a)JPEG b)TIFF c)WAV d)BMP
65. Lossy image simplification is based onoperation. a) DCT b)CCI c)ISO d)DMS
66. The animator creates the illusion of smooth motion bya)onion skinning b)masking c)tweening d)color cycling
67. Entropy encoding is a) run length encoding c)lossy encoding b)lossless encoding d)both(b)&(c)
68. Intensity ratio of Red(R) Green(G)and Blue(B) in Gray axis isa)1:2:1 b)1:1:1 c)2:1:1 d)1:1:2
69. DAC meansa) direct access codingc) direct area clippingb) digitally activated compressiond) digital to analog converter
70. If X_L, X_R, Y_B, Y_T represent the four parameter of x-left, x-right, y-bottom and y-top of the clipping window and (x, y) is a point inside the window then a) $X_L \le x \le X_R$ and $Y_B \le y \le Y_T$ b) $X_L \le x \le X_R$ and $Y_B \ge y \ge Y_T$ c) $X_L \ge x \ge X_R$ and $Y_B \le y \le Y_T$ d) $X_L \ge x \ge X_R$ and $Y_B \ge y \ge Y_T$
71. A line with end point codes as 0000 and 0000 isa)partially invisiblec)trivially visibled)completely invisible
72.A projection in which all three foreshortening factors are kept equal is called asa) Isometric projectionc) Trimetric projectiond) none of these
73.Using odd parity rule ,if the number of polygon edges crossed by a line , from a point is odd ,then
a) P is an exterior pointb)P is interior pointc)P is on the edge pointd)odd parity-rule along is not sufficient to judge
74. if S_x and S_y are scaling factors applied in X and Y directions respectively , on p (x,y),the output point co-ordinates after applying scaling operation is a) $x_1=1/x.S_x$, $y_1=y.S_y$ b) $x_1=x+S_x$, $y_1=y+S_y$ c) $x_1=x.S_x$, $y_1=1/y.S_y$ d) $x_1=x.S_x$, $y_1=y.S_y$
 75. Perspective projection is characterized by the a) View plane alone b) direction of projection and the view plane c) Centre of projection and the view plane d) centre of projection alone
76. Achromatic light isa) Quantity of lightc) Quantity of darknessd) Quantity of shading
 77. The memory area which holds a set intensity values for all the screen points is a) Frame buffer b) refresh RAM c) Video cache d) RAM

78. Bresenham's algorithm seeks to the optimum raster location that represent a a)straight line b)curve line c)polygon d)none of these
79. According to Simple area anti-aliasing ,pixel is considered asa)a mathematical pointb)a finite areac)an infinite aread)none of these
 80. Bresenham's line drawing is superior then DDA because a) It does not require floating point arithmetic b) No round -up is required d) it is easily computable
 81. Minimum memory required for frame buffer when resolution is 800×600 and bit/pixel is 8.
a)512 kb b)1 Mb c)2 Mb d)256 kb
82. Disadvantage of DDA isa) Round of error b) Subtraction error c) Addition error d)(a),(b)
 83. The method super sampling is associated with a) Boundary fills algorithm b) Ground shading c) Antialiasing d) none of these
84. Refreshing on raster scan displays is carried out at the rate ofa) 60 to 80 frames per secb) 40 to 60 frames per secc) 30 to 60 frames per secd) none of these
 85. The maximum number of points that can be displayed without overlap on CRT is referred to as a)Resolution b)Persistence c)Attenuation d)None of these 86. Size of a 640×480 image at 240 pixels per inch is
a) 2 by 2 inches b) $2*2/3$ by 2 inches c) 3 by 2 inches d)none of these
 87. What do you call the path the electron beam taken at the end of each refresh cycle? a) Horizontal retraces b) vertical retrace d) none of these
88. Which is not image file format?a) bmp b)jpg c)tiff d) Both(a)&(b)
 89. Raster scan display means that the screen is scanned a) Top to bottom and right to left b) left to right & top to bottom c) Bottom to top and left to right d) bottom to top and right to left
90. Dragging in computer graphics can be achieved through which of the following transformation?a) translation b)rotation c)scaling d)mirror reflection
91. GIF supports a) 256 colours b) 572 colours c) 1024 colours d) 16 million colours
92. IF the resolution of a number is 320×200 then the aspect ratio is a)8:5b)3:13c)13:4d)all of these
93. In the Bresenham's algorithm, error term initialised to a) 0 b) 1 c)-1/2 d) none of these

94.	In the genera a) All octar b) one octa c) one octa d) one octa	tion of circle b nts nts first and otl nts first and otl nts first and otl	y Bresenham' her by success her by success her by success	s algorithm, it sive reflection vive rotation vive translation	is simple to generate
95.	Mid -point li a) Distance c) Describe	ne and circle d parameter point	rawing algorit b) de d) bo	hm use the sign cision paramete th a&b	n of er
96. /	What will be A (3, 6) and B a)6	the value of ini 8 (4, 9) using B b)5	itial decision presenham's al c)3	parameter if we gorithm? d)none of these	intend to draw a line between
97.	The total num would be	ber of pixel pu	ut 'ON' for the	e line starting at	(1, 1) and ending at (12, 7)
	a) 7	b) 11	c) 12	d) more than	12
98.	Which one is a)(x,y+1)	not the neighb b)(x+1,y+1)	our of a pixel c)(x,y-1)	(x,y) in 4 -conr d)none of these	nected method ?
99.	Parametric eq a)P(t)=P ₀ +(P c) P(t)=P ₀ -(P	uation of straig P1+P0)t P1-P0)t	ght line (where b) $P(t)=P_0+$ d) $P(t)=P_0-$	$e \ 0 \le t \le 1$)is $(P_1+P_0)t$ $(P_1+P_0)t$	
100.	How many n a)2	natrices are req b)3	uired to rotate c)4	an object abou d)5	tt a point (x, y)?
101.	In 2D graphi a) Reflection	cs, the transfor about line v=x	$ \begin{array}{cccc} 0 & 1 \\ mation 1 & 0 \\ 0 & 0 \\ x & b) re \end{array} $	0 0 results in 1 flection about 1	ine v=-x
	c) Reflection	about line y=0) d) se	arching about x	k-axis
102.	If direction of a) Y to X	f rotation is Z a b) Z to X	xis, then direc c) X to Y	ction of position d) Y to	n of positive rotation is X
103.	How many m a) 2	atrices are requ b) 3	uired to reflect c)4	t an object throu d)5	ugh a line $y=mx+c$?
104.	What is persp a) Oblique	bective anomaly b) vanishing	y? g point c)	cavalier d) none of these
105.	In 2D graphic then	cs, if $S_1 \& S_2$ ar	e two scaling	matrix and T_1 d	& T_2 are two translation matrices
	a) $S_1S_2 = S_2S_1$	b) $S_1T_{1=}S_2$	Γ_2 c	c) $T_2S_2=T_1S_1$	$d)S_1T_1=T_2S_1$
106.	Reflection of a) 45	an object is sau b) 90 ⁰	me as rotation c	with angle) 180 ⁰	d) 360 ⁰
107.	What are the a) $X_{max} > X > X$ c) $X_{min} = X$	conditions for p min and $Y_{max} > Y$ = X_{max} and Y_{max}	point clipping $X > Y_{min}$ b $Y_{min} = Y = Y_n$? b) $X_{\min} \le X \le X$ ax d) none c	f_{max} and $Y_{min} \le Y \le Y_{max}$ of these

108. GKS is

a) GEOMETRIC KERNAL SYSTEM c) GRAPHICAL KARNEL SYSTEM

b) GRAPGICAL KARNEL SIFTWARE d) GEOMETRIC KERNEL SOFTWARE

109. The format of storing digital audio in multimedia application is b)TIFF a)JPEG c)WAV d)BMP

110. MIDI is

a) Musical instrument digital interface

b) Multiple instrument digital interface

c) Musical interchangeable digital interface d) Multiple interchangeable digital interface

Answers

1.	С	48.	В	95.	D
2.	С	49.	А	96.	В
3.	А	50.	D	97.	С
4.	В	51.	В	98.	D
5.	В	52.	D	99.	А
6.	В	53.	С	100.	В
7.	D	54.	D	101.	А
8.	С	55.	В	102.	В
9.	В	56.	В	103.	D
10.	В	57.	С	104.	В
11.	D	58.	В	105.	А
12.	А	59.	А	106.	С
13.	D	60.	А	107.	В
14.	В	61.	D	108.	C
15.	С	62.	А	109.	C
16.	В	63.	С	110.	Α
17.	В	64.	С		
18.	D	65.	A		
19.	C ĩ	66.	A		
20.	C	67.	В		
21.	D	68.	В		
22.	A	69.	D		
23.	B	70.	A		
24.	C	/1.	В		
25. 26	В	12.	A		
26. 27	C	/3.	B		
27.		/4. 75	D		
28. 20	B	75. 76			
29. 30	Б	70. 77	A A		
30. 31		77.	A A		
31.		78.	A A		
32. 33	B	79. 80	A C		
33. 34	D C	81			
35 35	C	82	Δ		
36	A	83	C		
30. 37	A	84	A		
38	D	85	A		
39.	C C	86.	B		
40.	Ă	87.	B		
41.	Ċ	88.	Ċ		
42.	D	89.	В		
43.	А	90.	А		
44.	А	91.	А		
45.	С	92.	А		
46.	В	93.	С		
47.	D	94.	В		