Program: SE Computer Engineering

Curriculum Scheme: Revised 2016

Examination: Second Year   Semester: IV

Course Code: **CSC404** and Course Name: **Computer Graphics**

Time: 1 hour   Max. Marks: 50

===

Note to the students: - All the Questions are compulsory and carry equal marks.

Q1.	The matrix representation for translation in homogeneous coordinates is
Option A:	P'=T+P
Option B:	P'=S*P
Option C:	P'=R*P
Option D:	P'=T*P
Q2.	We can combine the multiplicative and translational terms for 2D into a single matrix representation by expanding
Option A:	2 by 2 matrix into 4*4 matrix
Option B:	2 by 2 matrix into 3*3
Option C:	3 by 3 matrix into 2 by 2
Option D:	3 by 3 matrix into 4*4
Q3.	Reflection of a point about x-axis, followed by a counter-clockwise rotation of $90°$ is equivalent to reflection about the line _____.
Option A:	X=-Y
Option B:	Y=-X
Option C:	X=Y
Option D:	X+Y=1
Q4.	Two consecutive translations on t1 and t2 are _____ and Two consecutive Scaling on t1 and t2 are _____
Option A:	Additive, Subtractive
Option B:	Subtractive, Additive
Option C:	Multiplicative, Additive
Option D:	Additive, Multiplicative
Q5.	Three types of axonometric projections are _____, _____, _____
Option A:	Serial , Parallel, isometric
Option B:	Parallel, Perspective , Isometric
Option C:	Isometric, diametric, trimetric
Option D:	Parallel, Oblique, Normal
Q6.	The oblique projections are classified as _____ and _____ projections.
Option A:	Cavalier and Cabinet
Option B:	Serial & Parallel

Option C:	Parallel & Perspective
Option D:	Isometric & diametric
Q7.	In the Cohen Sutherland line clipping algorithm, if the codes of the two point P&Q are 0101 & 0001 then the line segment joining the points P&Q will be _____ the clipping window.
Option A:	Totally outside
Option B:	Partially outside
Option C:	Totally inside
Option D:	Partially inside
Q8.	The orthographic projections have the projectors where
Option A:	The direction of these projectors is parallel to the view plane
Option B:	The direction of these projectors is perpendicular to the image plane
Option C:	The direction of these projectors is perpendicular to the view plane
Option D:	The direction of these projectors is parallel to the image plane
Q9.	In computer graphics, pictures or graphics objects are presented as a collection of discrete picture elements called_____ and _____refers to the number of pixels can display within a given area.
Option A:	Pixels , resolution
Option B:	Dots, aspect ratio
Option C:	Co-ordinates, aspect ratio
Option D:	Points, resolution
Q10.	The roll-back of electron beams from one frame to another is referred to as_____ and the roll-back of electron beams from one scanline to another is referred to as _____
Option A:	Vertical retrace , Horizontal retrace
Option B:	Anti-aliasing, Aspect ratio
Option C:	Horizontal retrace , Vertical retrace
Option D:	Aspect ratio, Anti-aliasing
Q11.	Consider the line from (1, 1) to (5, 5). Use the simple DDA algorithm to rasterize this line. Which are the correct sequence of plotted pixels
Option A:	(2,2) (3,3) (4,5)
Option B:	(2,2) (3,4) (4,5)
Option C:	(2,3) (3,3) (4,5)
Option D:	(2,3) (3,4) (4,5)
Q12.	In midpoint method of circle generation, if decision function (Pk) value is negative then decision function for the next iteration is given as _____ otherwise Pk gets updated as _____
Option A:	Pk + 2 Xk+1 + 1 and Pk + 2 Xk+1 + 1 − 2Yk+1
Option B:	Pk + 2 Xk+1 -1 and Pk - 2 Xk+1 + 1 − 2Yk+1

Option C:	Pk + 2 Xk+1 + 1 and Pk + 2 Xk+1 + 1 + 2Yk+1
Option D:	Pk -2 Xk+1 + 1 and Pk + 2 Xk+1 + 1 − 2Yk+1
Q13.	In the Midpoint ellipse generation method, after plotting pixel at (Xk,YK) ,at which of the following location (position) the decision function is applied to decide the next pixel along the elliptical path in region 1?
Option A:	Pixel at (Xk-1, Yk-1/2) level
Option B:	Pixel at (Xk, Yk-1/2) level
Option C:	Pixel at (Xk+1, Yk-1/2) level
Option D:	Pixel at (Xk+1, Yk) level
Q14.	What is the initial value for the decision parameter in the midpoint circle algorithm?
Option A:	5/4-r
Option B:	r-5/4
Option C:	r-4/5
Option D:	4/5-r
Q15.	_____is the example of non-seed fill algorithms.
Option A:	Boundary Fill
Option B:	Flood Fill
Option C:	Bucket Fill
Option D:	Scanline
Q16.	If the circle has to be drawn using a midpoint method with the center (10, 10) and radius 10, then which point will lie on the circle.
Option A:	(18,19)
Option B:	(9,10)
Option C:	(20,30)
Option D:	(12,20)
Q17.	The method which is based on the principle of checking the visibility point at each pixel position on the projection plane are called
Option A:	Object-space methods
Option B:	Image-space methods
Option C:	Object and Image space method
Option D:	Image based method
Q18.	A Bezier curve is a polynomial of degree _____the no of control points used.
Option A:	One more than
Option B:	One less than
Option C:	Two less than
Option D:	Two more than
Q19.	The types of hidden surface algorithms are
Option A:	Z Buffer, Back face removal
Option B:	Cohen Sutherland, Liang Barsky

Option C:	Sutherland Hodgeman
Option D:	Bresenhams
Q20.	Which surface algorithm is based on perspective depth?
Option A:	Depth comparison
Option B:	Z-buffer or depth-buffer algorithm
Option C:	subdivision method
Option D:	back-face removal
Q21.	Which is the shading model, based on one lightning calculation per vertex.
Option A:	Flat Shading
Option B:	Gouraud shading
Option C:	Phong shading
Option D:	Lightning model
Q22.	Shading interpolates linearly and so can make the highlight much bigger, this is the problem with which type of shading?
Option A:	Flat Shading
Option B:	Gouraud shading
Option C:	Phong shading
Option D:	Lightning model
Q23.	A process with the help of which images or picture can be produced in a more realistic way is called
Option A:	Fractals
Option B:	Quad tree
Option C:	Rendering
Option D:	Animation
Q24.	When an object is viewed from different directions and at different distances, the appearance of the object will be different. Such view is called_____
Option A:	oblique projection
Option B:	perspective view
Option C:	axonometric projection
Option D:	isometric projection
Q25.	Given a bezier curve with 4 control points- B0[1 0] , B1[3 3] , B2[6 3] , B3[8 1] Determine value of the coordinate at 't' = 0.5
Option A:	4.5, 2.375
Option B:	5.984 ,2.233
Option C:	8,1
Option D:	1,0