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UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, July 2020

Course: Software Quality Management   Semester: VI
Program: B.Tech (CSE+ECOMRA)   Time   : 02 hrs.

Course Code: CSEG3014   Max. Marks: 100

MC	(CO2) If the pixel is already filled with desired color then leaves it otherwise fills it. This is called	Flood fill algorithm	Incorrect	Boundary fill algorithm	Correct	Scan line polygon filling algorithm	Incorrect	None of these	Incorrect
MC	(CO2) The function of scan line polygon fill algorithm is to _____	Find intersection point of the boundary of polygon and scan line	correct	Find intersection point of the boundary of polygon and point	Incorrect	Both a & b	Incorrect	None of these	Incorrect
MC	(CO2) Some common form of clipping include	Curve clipping	Incorrect	Point clipping	Incorrect	Polygon clipping	Incorrect	All of these	Correct
MC	(CO3) Reflection of a point about x-axis, followed by a counter-clockwise rotation of 90 degree , is equivalent to	x = -y	Incorrect	y = - x	Incorrect	x = y	Correct	x + y = 1	Incorrect

	reflection about which line?								
MC	(CO2) There are 2 types of polygons. They are?	convex and concave	Correct	square and rectangle	Incorrect	hexagon and square	Incorrect	Octagon and convex	Incorrect
FIB	(CO1) Full form of GPU is _____? Note: 1st letter of each word should be in capital and remaining will be in small.	Graphics Processing Unit							
MC	(CO1) Suppose a pixel (3,4) is given in raster surface, then the neighbours of this point are_____.	(3,3)(4,4)(2,4)(3,5)	Incorrect	(2,3)(4,3)(2,5)(4,5)	Incorrect	Both A and B	Correct	None of these	Incorrect
MC	(CO1) Find the refresh rate of a 512*512 frame buffer, if the access time for each pixel is 200 nanoseconds	19 frames/sec	Correct	29 frames/sec	Incorrect	18 frames/sec	Incorrect	39 frames/sec	Incorrect
MC	(CO1) Compute : Size of 800*600 images at 240 pixels per inch	22 by 2	Incorrect	31 by 2	Incorrect	21 by 2	correct	19 by 2	Incorrect
MC	(CO1) 3) Compute the resolution of 2*2 inch image that has 512*512 pixels.	256 pixels per inch	Correct	356 pixels per inch	Incorrect	156 pixels per inch	Incorrect	265 pixels per inch	Incorrect
MC	(CO1) The Cartesian slope-intercept equation for a straight line is	y = m.x + b	Correct	y = b.x + m	Incorrect	y = x.x + m	Incorrect	y = b + m.m	Incorrect
MC	(CO1) On raster system, lines are plotted with	Lines	Incorrect	Dots	Incorrect	Pixels	Correct	None of the mentioned	Incorrect

MC	(CO1) Expansion of line DDA algorithm is	Digital difference analyzer	Incorrect	Direct differential analyzer	Incorrect	Digital differential analyzer	Correct	Data differential analyzer	Incorrect
MC	(CO2) Summation of all blending functions in bezier curve is equal to _____.	0	Incorrect	1	Correct	2	Incorrect	3	Incorrect
MC	(CO3) What is the centroid of the unit cube?	(0.5,0.5,0)	Incorrect	(0.5,0.5,0.5)	Correct	(0,0.5,0.5)	Incorrect	(0.5,0,0.5)	Incorrect
MC	(CO3) In a rotation, by how much angle is the object rotated?	45 degree	Incorrect	90 degree	Incorrect	180 degree	correct	360 degree	Incorrect
MC	(CO3) Apply 2-D reflection over a triangle ABC with vertices A(5, 1), B(8, 3), and C(10, 1) about a straight line PQ. Line PQ can be formed by applying rotation over a straight line y=-x through an angle of 75 degrees in anticlockwise direction. Find out the resultant coordinate of B and C after transformations.	((8+3√3),(8√3-3)) and ((10+√3),(10√3-1))	Incorrect	((8+3√3)/2,(8√3-3)/2) and ((10+√3)/2,(10√3-1)/2)	Correct	((10+√3),(10√3-1)) and ((8+3√3),(8√3-3))	Incorrect	((10+√3)/2,(10√3-1)/2) and ((8+3√3)/2,(8√3-3)/2)	Incorrect

MC	(CO2) The co-ordinates of four control points related to curve are given by P1(2,2,0), P2(2,3,0), P3(3,3,0), P4(3,2,0). Find the co-ordinate pixel of curve for t=0 and t=1.	t=0 [x=2, y=2, z=0], and t=1 [x=3, y=2, z=0]	Correct	t=0 [x=3, y=2, z=0], and t=1 [x=1, y=2, z=0]	Incorrect	t=0 [x=2, y=2, z=0], and t=1 [x=3, y=2, z=1]	Incorrect	t=0 [x=2, y=2, z=2], and t=1 [x=3, y=2, z=3]	Incorrect
MC	(CO2) The bezier curve passing through the control points P0(40,40), P1(10,40), P2(60,60), P3(60,0). Find the co-ordinate pixel of curve at t=0.2 and t=0.4.	Q[0.2]= [30.56, 50.2] , Q[0.4]= [34.08, 42.2]	Incorrect	Q[0.2]= [30.56, 50.2] , Q[0.4]= [33.08, 42.2]	Incorrect	Q[0.2]= [30.56, 41.6] , Q[0.4]= [34.08, 43.2]	correct	Q[0.2]= [31.56, 50.2] , Q[0.4]= [34.08, 42.2]	Incorrect
MC	(CO3) Magnify the triangle with vertices A(0,0), B(1,1) and C(5,2) to twice its size while keeping C(5,2) fixed.	(1,1), (2,2), (5,2)	Incorrect	(0,0), (2,2), (5,2)	Correct	(0,0), (1,1), (5,2)	Incorrect	None of these	Incorrect
MC	(CO4) In a clipping algorithm of Cohen Sutherland using region	codes of the end point are same	Incorrect	logical AND of the end point code is not 0000	Incorrect	logical AND of the end point code is 0000	Incorrect	A and B	correct

	codes, a line is already clipped if the?							
MC	(CO4) Which of the following clipping algorithm follows the Divide and Conquer strategy?	4-bit algorithm	Incorrect	Midpoint algorithm	correct	Cyrus break algorithm	Incorrect	Cohen-Sutherland algorithm	Incorrect
MC	(CO5) A line with endpoints codes as 0000 and 0100 is?	Partially invisible	Correct	Completely visible	Incorrect	Completely invisible	Incorrect	Trivially invisible	Incorrect
MC	(CO5) The process of selecting and viewing the picture with different views is called__?	Windowing	Correct	Clipping	Incorrect	Projecting	Incorrect	Both A and B	Incorrect
MC	(CO2) The eccentricity of parabola is _____	e>1	Incorrect	e<1	Incorrect	e=1	Correct	None of these	Incorrect
MC	(CO2) B-Spline curve is made up of (n+1) control points and the order of the curve is K, where range of K is?	2<K<n+1	Incorrect	2<=K<=n+1	Correct	2>K>n+1	Incorrect	2>=K>=n+1	Incorrect
FIB	(CO2) B-Spline curve has n=6 and k=3, how many segments will be there in given B-Spline curve? Note: Answer should be written as a number not in words.	5							
MC	(CO2) In circle drawing using bresenham algorithm, R=10 is	6	Incorrect	5	Incorrect	7	Correct	8	Incorrect

	given, how many pixel points will be claculated to draw the circle in one octant?									
MC	(CO2) In DDA algorithm, the value of x and y will be incremented by _____ if slope<1.	x=x+1, y=y+1	Incorrect	x=x+1/m, y=y+1	Incorrect	x=x+1, y=y+m	Correct	x=x+1/m, y=y+m	Incorrect
MC	(CO2) The region codes of the two points are given as 1001 and 0101, then the line is _____	Partially inside and partially outside	Incorrect	Completely outside	Correct	Completely inside	Incorrect	None of these	Incorrect
MC	(CO2) The starting point of the line is (5,8) and the ending point is (9,11). How many intermediate points will be calculated using bresenham line drawing algorithm?	5	Incorrect	4	Incorrect	2	Incorrect	3	Correct
MC	(CO3) Two successive scaling are _____ in nature.	Additive	Incorrect	Multiplicative	Correct	Subtractive	Incorrect	None of these	Incorrect
MC	(CO4) Sometimes it may require undoing the applied transformation, in such a case which of the following transformation will be used?	Shear transforma	Incorrect	transla	Incorrect	reflection	Incorrect	inverse transformation	Correct

MC	(CO4) In which transformation, the shape of an object can be modified in any of direction depending upon the value assigned to them	Reflection	Incorrect	Shearing	Correct	Scaling	Incorrect	None of these	Incorrect
MC	(CO3) A circle, if scaled only in one direction becomes a/an?	Hyperbola	Incorrect	Ellipse	Correct	Parabola	Incorrect	Remains a circle	Incorrect
MC	(CO4) Back face detection algorithm works on _____ approach?	Object space	Correct	Image space	Incorrect	Both A and B	Incorrect	None of these	Incorrect
MC	(CO3) In 3D, rotation through an arbitrary line that does not passes through an origin requires _____ number of rotations.	7	Incorrect	5	Correct	3	Incorrect	None of these	Incorrect
MC	(CO4) The method which is based on the principle of checking the visibility point at each pixel position on the projection plane are called	Object space methods	Incorrect	Image space methods	Correct	Both A and B	Incorrect	None of these	Incorrect
MC	(CO5) How many types of shading techniques are present?	2	Incorrect	3	Correct	4	Incorrect	5	Incorrect
MC	(CO5) Flat shading suffers from an effect called_____	Mocha effect	Incorrect	Mach band effect	Correct	Both A and B	Incorrect	None of these	Incorrect

MC	(CO3) If we want to rotate an arbitrary axis to coincide with any principal axis in 3D, how many rotations will be performed?	3	Incorrect	1	Incorrect	2	Correct	4	Incorrect
MC	(CO4) Area sub-division algorithm is also known as _____	Quad tree method	correct	Octree method	Incorrect	Bothe A and B	Incorrect	None of these	Incorrect
MC	(CO5) Illumination models are categorized into:	Local and global	correct	Static and dynamic	Incorrect	Phong and half way	Incorrect	None of these	Incorrect
FIB	(CO5) Z-Buffer method uses: Note: 1st letter of each word should be in capital and remaining will be in small. If two answer separate them with comma and one space	Depth Buffer, Refresh Buffer							
MC	(CO5) In z-buffer method the value of Z is:	Z= -(Ax+By-D)/C	Incorrect	Z= -(Ax-By+D)/C	Incorrect	Z= -(Ax-By-D)/C	Incorrect	Z= -(Ax+By+D)/C	Correct
MC	(CO3) The most basic transformation that are applied in three-dimensional planes are:	Translation	Incorrect	Scaling	Incorrect	Rotation	Incorrect	All of these	Correct
MC	(CO3) Rotation around front to back is called?	Roll	correct	Pitch	Incorrect	Yaw	Incorrect	None of these	Incorrect
MC	(CO3) Transformation of object to the origin is called?	Coordinate transformation	Incorrect	Geometric transformation	Correct	Both A and B	Incorrect	None of these	Incorrect

MC	(CO3) How many transformations are required in 3D if the object has to rotate about an axis that is parallel to any principle axis?	5	Incorrect	7	Incorrect	3	Correct	None of these	Incorrect
MC	(CO3) Transform the given position vector [3 2 1 1] by the following sequence of operations: i) Translate by (-1,-1,-1) in x, y, z respectively. Ii) Rotate by 30 degree about x-axis and 45 degree about y-axis. Find out the transformed coordinates.	[1.768, 0.866,-1.061,0]	Incorrect	[1.768, 0.866,-1.061,1]	Correct	[0.768, 0.866,-1.061,1]	Incorrect	[0.768, 0.866,-1.061,0]	Incorrect