Name: **Enrolment No:**	UPES UNIVERSITY WITH A PURPOSE

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

End Semester Examination, July 2020

Course: Computer Graphics Semester: VI

Program: B.Tech(CSE+ OGI) **Time 02 hrs.**
Course Code: CSEG3003 **Max. Marks:**

UPES

Tanupriya Choudhury 104

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Tests, Surveys and Pools Tests

Test Canvas : End Term Examination_9th July_10am_OGI_CG_Theory_Tanupriya Choudhury

This Test has 53 attempts. For information on editing questions, click **More Help** below.

Test Canvas: End Term Examination_9th July_10am_OGI_CG_Theory_Tanupriya Choudhury

The Test Canvas lets you add, edit and reorder questions, as well as review a test. More Help

Question Settings

You can edit, delete or change the point values of test questions on this page. If necessary, test attempts will be regraded after you submit your changes.

Description	End term Examination for Computer Graphics will be scheduled from 9th July 10AM IST sharp. Examination will be for 2 hours. Students are requested to online by 9:45AM IST sharp on 9th July 2020 so that timely they can start and finish the same within 2 hours. Late submissions will not be entertained. Do not try to copy and paste from your question paper. All the best. Thanks,
Instructions	End term Examination for Computer Graphics will be scheduled from 9th July 10AM IST sharp. Examination will be for 2 hours.

Total Questions	55
Total Points	100
Number of Attempts	53

Select: All None Select by Type: - Question Type -

Delete and Regrade | Points | Update and Regrade | Hide Question Details

☐ **1. Multiple Choice: 01.: (CO2) If the pixel is already filled ...** Points: 1

Question	(CO2) If the pixel is already filled with desired color then leaves it otherwise fills it. This is called
Answer	1. Flood fill algorithm
	✓ 2. Boundary fill algorithm
	3. Scan line polygon filling algorithm
	4. None of these

☐ **2. Multiple Choice: 02.: (CO2) The function of scan line polyg...** Points: 2

Question	(CO2) The function of scan line polygon fill algorithm is to _____
Answer	✓ 1. Find intersection point of the boundary of polygon and scan line
	2. Find intersection point of the boundary of polygon and point
	3. Both a & b
	4. None of these

☐ **3. Multiple Choice: 03.: (CO2) The area around the clipping wi...** Points: 1

Question	(CO2) The area around the clipping window is divided into a number of different _____
Answer	1. Pixels 2. Squares ✔ 3. Areas 4. Lines

☐ **4. Multiple Choice: 04.: "(CO3) Reflection of a point about x-...** Points: 2

Question	"(CO3) Reflection of a point about x-axis, followed by a counter-clockwise rotation of 90 degree , is equivalent to reflection about which line?"
Answer	1. x = -y 2. y = - x ✔ 3. x = y 4. x + y = 1

☐ Points: 1

5. Multiple Choice: 05.: (CO2) There are 2 types of polygons. ...

Question	(CO2) There are 2 types of polygons. They are?
Answer	✔ 1. convex and concave 2. square and rectangle 3. hexagon and square 4. Octagon and convex

Points: 2

6. Multiple Choice: 06.: "(CO1) Suppose a pixel (3,4) is given...

Question	"(CO1) Suppose a pixel (3,4) is given in raster surface, then the neighbours of this point are_____."
Answer	1. "(3,3) (4,4) (2,4) (3,5)"
	2. "(2,3) (4,3) (2,5) (4,5)"
	✓ 3. Both A and B
	4. None of these

Points: 2

7. Multiple Choice: 07.: (CO1) Consider a raster system with t...

Question	(CO1) Consider a raster system with the resolution of 1280 x 1024 pixels and the color palette calls for 1024 colors. What is the minimum amount of video RAM that the computer must have to support the above-mentioned resolution and number of colors?
Answer	1. 1.63 GB
	✓ 2. 1.63 MB
	3. 1.63 KB
	4. None of these

Points: 2

8. Multiple Choice: 08.: (CO1) Find out the aspect ratio of th...

Question	(CO1) Find out the aspect ratio of the raster system using 8*10 inches screen and 100 pixel/inch.
Answer	✓ 1. 4 : 5
	2. 4 : 9

	3. 4 : 6
	4. None of them

Points: 2

9. Multiple Choice: 09.: (CO1) Full color frame buffer can pro...

Question	(CO1) Full color frame buffer can produce _____ colors.
Answer	1. 2^8
	2. 2^16
	3. 2^32
	✔ 4. 2^24

Points: 1

10. Multiple Choice: 10.: (CO1) GKS full form _____ // /...**

Question	(CO1) GKS full form _____
Answer	1. GEOMETRIC KERNAL SYSTEM
	2. GRAPGICAL KARNEL SIFTWARE
	3. GEOMETRIC KERNEL SOFTWARE
	✔ 4. GRAPHICAL KERNEL SYSTEM

Points: 2

11. Multiple Choice: 11.: (CO4) Summation of all blending funct...

Question	

	(CO4) Summation of all blending functions in bezier curve is equal to _____.
Answer	1. 0
	✔ 2. 1
	3. 2
	4. 3

☐ **12. Multiple Choice: 12.: (CO 5) In Backface detection, fi...** Points: 1

Question	(CO 5) In Backface detection, find out the option which corresponds to line of sight
Answer	1. V.N<0
	2. V.N>0
	3. V.V=0
	✔ 4. V.N=0

☐ Points: 5

13. Multiple Choice: 13.: "(CO3) Translate the square ABCD whos...

Question	"(CO3) Translate the square ABCD whose co ordinates are A(0,0), B(3,0) , C(3,3) and D(0,3) by 2 units in both directions and then scale it by 1.5 units in x- direction and 0.5 units in y-direction.After the translation the new co ordinates are?
Answer	✔ 1. A (3,1) B (7.5, 1) C (7.5, 2.5) D (3 , 2.5)
	2. A (3,2) B (7.5, 2) C (7, 2.5) D (3 , 2.5)

3. A (3,1)
   B (7.5, 1)
   C (7.5, 2)
   D (3 , 2)

4. None of these

☐ **14. Multiple Choice: 14.: "(CO3) In 2D graphics, if S1 & S2...** Points: 2

Question	"(CO3) In 2D graphics, if S1 & S2 are two scaling matrix and T1 & T2 are two translation matrices then.
Answer	✔ 1. S1S2=S2S1
	2. S1T1=S2T2
	3. T2S2=T1S1
	4. S1T1=T2S1

☐ Points: 1

15. Multiple Choice: 15.: (CO2) The eccentricity of parabola is...

Question	(CO2) The eccentricity of parabola is _____
Answer	1. e>1
	2. e<1
	✔ 3. e=1
	4. None of these

☐ Points: 1

16. Multiple Choice: 16.: "(CO2) The region codes of the two po...

Question	"(CO2) The region codes of the two points are given as 1001 and 0101, then the line is _____"
Answer	1. Partially inside and partially outside
	✓ 2. Completely outside
	3. Completely inside
	4. None of these

Points: 2

17. Multiple Choice: 17.: (CO3) Two successive scaling are ____...

Question	(CO3) Two successive scaling are _____ in nature.
Answer	1. Additive
	✓ 2. Multiplicative
	3. Subtractive
	4. None of these

Points: 1

18. Multiple Choice: 18.: (CO2) In Bresenham's algorithm, while...

Question	(CO2) In Bresenham's algorithm, while generating a circle , it is easy to generate?
Answer	1. One octant first and other by successive rotation
	2. One octant first and other by successive translation
	✓ 3. One octant first and other by successive reflection

	4. All octants

Points: 1

19. Multiple Choice: 19.: (CO1) The ISO standard for computer G...

Question	(CO1) The ISO standard for computer Graphics is ?
Answer	1. Computer graphics standard
	2. Graphics Standard System
	✓ 3. Graphics Kernel System
	4. None of above

Points: 1

20. Multiple Choice: 20.: (CO 2) $x = at^2$; $y = 2at$ is the ...

Question	(CO 2) $x = at^2$; $y = 2at$ is the parametric equation of ?
Answer	✓ 1. Parabola
	2. Circle
	3. Rectangular hyperbola
	4. Ellipse

Points: 3

21. Multiple Choice: 21.: (CO 2) What will be the value of...

Question	(CO 2) What will be the value of initial decision parameter if we intend to draw a line between A (3, 6) and B (4, 9) using Bresenham's algorithm?
Answer	1. 6

	✔ 2. 5
	3. 3
	4. None of these

☐ **22. Multiple Choice: 22.: (CO 5) All the hidden surf...** Points: 1

Question	(CO 5) All the hidden surface algorithms employee image space approach except ?
Answer	1. Depth sort method
	2. Scan line method
	3. Depth buffer method
	✔ 4. Back face removal

☐ **23. Multiple Choice: 23.: (CO 2) Digitize a line from...** Points: 5

Question	(CO 2) Digitize a line from (10,12) to (20,18) on a raster screen using Bresenham straight line algorithm.What will be the value of (Xk and Yk) when the decision parameter will be 2 in step 5.
Answer	✔ 1. (16, 16)
	2. (19 , 18)
	3. (15,15)
	4. (19,17)

☐ **24. Multiple Choice: 24.: (CO 1) ..... used to regulate...** Points: 2

Question	(CO 1) ..... used to regulate the flow of elections in CRT ?
Answer	1. Focusing electrode

2. Electronic Gun and Focusing Electrode

3. Control electrode and Electronic Gun

4. All of the above

☐ **25. Multiple Choice: 25.: (CO 4) The slope of the Bezier c...** Points: 2

Question	(CO 4) The slope of the Bezier curve at start of the curve of is controlled by
Answer	1. First Control Point
	2. First two control points
	3. First three control points
	4. All four control points

☐ **26. Multiple Choice: 26.: (CO 5) Intensity ratio of ...** Points: 3

Question	(CO 5) Intensity ratio of Red(R) Green(G)and Blue(B) in Gray axis is
Answer	A. 1:2:1
	B. 1:1:1
	C. 2:1:1
	D. 1:1:2

☐ **27. Multiple Choice: 27.: (CO 1) Identify the colors produ...** Points: 2

Question	(CO 1) Identify the colors produced in beam penetration method.
Answer	1. Red,Green,Blue,White
	✓ 2. Red,Orange,Yellow,Green
	3. Red,Green,Blue
	4. Green,Red,White,Orange

☐ **28. Multiple Choice: 28.: (CO 2) Two consecutive translati...** Points: 2

Question	(CO 2) Two consecutive translation transformation t1 and t2 are
Answer	✓ 1. Additive
	2. Multiplicative
	3. Subtractive
	4. none of above

☐ **29. True / False: 29.: (CO 4) For N=3, can we create a ...** Points: 1

Question	(CO 4) For N=3, can we create a circle using Beizer curve
Answer	True
	✓ False

☐ Points: 1

30. True / False: 30.: (CO 3) Consecutive reflection ab...

Question	(CO 3) Consecutive reflection about X and Y axis is equivalent to reflection about origin.
Answer	✓ True False

☐ **31. True / False: 31.: (CO 4) The degree of beizer curv...** Points: 1

Question	(CO 4) The degree of beizer curve is independent on the number of control points
Answer	True ✓ False

☐ **32. Multiple Choice: 32.: (CO 3) Which of the following co...** Points: 2

Question	(CO 3) Which of the following co-ordinates are NOT used in 2d viewing transformation?
Answer	1. modelling co-ordinates 2. viewing co-ordinates ✓ 3. vector co-ordinates 4. device co-ordinates

☐ **33. True / False: 33.: (CO 2) Initial decision paramete...** Points: 1

Question	(CO 2) Initial decision parameter for circle generation using midpoint method is 1.25-R, given we are using floating based computations
Answer	✓ True False

☐ **34. Multiple Choice: 34.: (CO 2) For a point to be clipped...** Points: 1

Question	(CO 2) For a point to be clipped, which of the following conditions must be satisfied by the point?
Answer	1. xwmin < x < xwmax

2. xwmin = x = xwmax

✔ 3. xwmin > x > xwmax

4. ywmin = y = ywmax

☐ **35. Multiple Choice: 35.: (CO 5) Scan lines are used to sc...** Points: 2

Question	(CO 5) Scan lines are used to scan from
Answer	✔ A. Top to bottom
	B. Bottom to top
	C. Both a & b
	D. None of these

☐ **36. Multiple Choice: 36.: (CO 5) For which purpose ,one ne...** Points: 2

Question	(CO 5) For which purpose ,one needs to apply natural light effects to visible surface
Answer	1. Fractals
	2. Quad-tree
	✔ 3. Rendering
	4. None of these

☐ **37. True / False: 37.: (CO 3) Sutherland hodgeman polyg...** Points: 1

Question	(CO 3) Sutherland hodgeman polygon clipping doesn't work good with conclave polygons.

Answer	✓ True False

☐ **38. True / False: 38.: (CO 5) In Z Buffer Algorithm we ...** Points: 1

Question	(CO 5) In Z Buffer Algorithm we can compare any number of objects
Answer	✓ True False

☐ **39. True / False: 39.: (CO 5) Flast shading is most eff...** Points: 1

Question	(CO 5) Flast shading is most efficient when light source is infinity
Answer	✓ True False

☐ **40. True / False: 40.: (CO 3) Rotation is commutative i...** Points: 1

Question	(CO 3) Rotation is commutative in nature, is this true for 3D rotation
Answer	True ✓ False

☐ Points: 1

41. Multiple Choice: 41.: (CO 3) The equation for describing su...

Question	(CO 3) The equation for describing surface of 3D plane are
Answer	✓ 1. Ax+ By+ Cz+ D= 0 2. Ax+ By+ Cz = 0 3. Ax+ By+ D= 0 4. Ax+ By+ Cz+ D= 1

☐ **42. Multiple Choice: 42.: (CO 3) Perform the reflection of...** Points: 4

Question	(CO 3) Perform the reflection of unit cube about XY plane and after reflection what will be the co ordinates of the final cube?
Answer	✔ 1. (0,0,-1),(1,0,-1),(1,1,-1),(0,1,-1), (0,0,0), (1,0,0), (1,1,0), (0,1,0)
	2. (0,0,-1),(1,0,-1),(1,1,-1),(0,1,-1), (0,1,0), (1,0,0), (1,1,0), (0,1,0)
	3. (0,0,-1),(1,1,-1),(1,1,-1),(0,1,-1), (0,0,0), (1,0,0), (1,1,0), (0,1,0)
	4. (0,0,-1),(1,0,-1),(1,1,-1),(0,1,-1), (0,0,0), (1,0,0), (1,1,0), (1,1,0)

☐ **43. Multiple Choice: 43.: (CO 1) Which technique of color ...** Points: 1

Question	(CO 1) Which technique of color CRT is used for production of realistic image
Answer	A. Beam penetration
	✔ B. Shadow mask
	C. both a & b
	D. None of above

☐ **44. Multiple Choice: 44.: (CO5) In diffuse reflection, the inte...** Points: 3

Question	(CO5) In diffuse reflection, the intensity is calculated as I=L*(Kd)*cos(theta)where, L is intensity of light source, Kd is diffuse reflection coefficient and theta is the angle between light direction and surface normal. What is the range of theta here?
Answer	1. 0<=theta<=180
	2. 0<theta<180
	3. 0<theta<90

4. 0<=theta<=90

45. Multiple Choice: 45.: (CO5) In diffuse reflection, the inte...

Points: 2

Question	(CO5) In diffuse reflection, the intensity is calculated as I=L*(Kd)*cos(theta)where, L is intensity of light source, Kd is diffuse reflection coefficient and theta is the angle between light direction and surface normal. For theta>90, light source is _____ the object.
Answer	1. Behind
	2. Infront of
	3. Adjacent
	4. None of these

46. Multiple Choice: 46.: (CO 4) In B-Spline Curve, 'B" st...

Points: 1

Question	(CO 4) In B-Spline Curve, 'B" stands for
Answer	1. Binary
	2. Bi-Linear
	3. Basis
	4. Beizer

47. Multiple Choice: 47.: (CO 1) which function in OpenGL ...

Points: 2

Question	(CO 1) which function in OpenGL provides the functionality to give color to individual pixel
Answer	1. glColor3f
	2. glcolorforeground

3. glBGcolor

4. glClearColor

☐ **48. Multiple Choice: 48.: (CO 1) How many K bytes does a f...** Points: 3

Question	(CO 1) How many K bytes does a frame buffer need in a 600*400 pixel?
Answer	1. 39.30 n k bytes
	2. 49.30 n k bytes
	✓ 3. 29.30 n k bytes
	4. 99.30 n k bytes

☐ **49. True / False: 49.: (CO 1) Pixmap stores the colored...** Points: 1

Question	(CO 1) Pixmap stores the colored pixel intensties.
Answer	✓ True
	False

☐ **50. Multiple Choice: 50.: (CO 2) Using Midpoint circle alg...** Points: 2

Question	(CO 2) Using Midpoint circle algorithm plot a circle whose radius is 10 units.What will be the value of decision parameter at the first step.
Answer	A. 9
	✓ B. -9
	C. -7
	D. 6

51. Multiple Choice: 51.: (CO 4) Construct enough poi...

Points: 5

Question	(CO 4) Construct enough points on the beizer curve whose control points are P0(4,2) ,P1(8,8), P2(16,4) to draw an accurate sketch. What is the degree of the curve and what are the co ordinates at U=0.5
Answer	✓ A. Degree of the curve is 2 and co ordinates at U=0.5 are (x,y)= (9,5.5) B. Degree of the curve is 3 and co ordinates at U=0.5 are (x,y)= (9,5) C. Degree of the curve is 2 and co ordinates at U=0.5 are (x,y)= (9.5,5.5) D. Degree of the curve is 1 and co ordinates at U=0.5 are (x,y)= (9,5.5)

52. Multiple Choice: 52.: (CO 2 and Co 3) Use t...

Points: 4

Question	(CO 2 and Co 3) Use the co hen sutherland algorithm to clip line P1(70,20) and P2(100,10) against a window lower left hand corner (50,10) and upper right hand corner (80,40).We have to find intersection of line P1 P2 with the right edge of window i.e Point P3. What will be the value of the co ordinate of P3?
Answer	✓ A. (80,16.66) B. (80,15.66) C. (70,16.66) D. (10,18.66)

53. Multiple Choice: 53.: (CO 4) The convex hull property ...

Points: 1

Question	(CO 4) The convex hull property for a _____ curve ensures that the polynomial smoothly follows the control points.
Answer	✓ 1. Beizer 2. Hermite 3. B Spline

4. None of the above

☐ **54. Multiple Choice: 54.: (CO 4) The degree of the polynom...** Points: 1

Question	(CO 4) The degree of the polynomial defining the curve segment is one less that the number of defining polygon point. Therefore, for 4 control points, the degree of the polynomial is 3, i.e. cubic polynomial.This is the property of which curve?
Answer	1. B Spilne Curve
	2. Hermite Curve
	✓ 3. Beizer Curve
	4. Basis Function Curve

☐ Points: 1

55. Multiple Choice: 55.: (CO5) Illumination models are categor...

Question	(CO5) Illumination models are categorized into:
Answer	✓ 1. Local and global
	2. Static and dynamic
	3. Phong and half way
	4. None of these

Select: All None Select by Type: - Question Type -

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