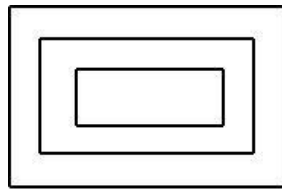


Time: 3 Hours

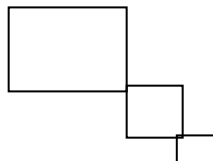
Maximum Marks: 100

- 1 Write a program that uses a single rectangle to display the following pattern using simple or composite 2D transformation sequence. 100



Pattern using Rectangle

- 2 i Write a program to move a person having balloons. Use primitives such as line, arc, circle and ellipse 70
- ii Create a .GIF image with textual animation for the following theme: Flower 30  
and its parts
- 3 i Draw a smiley face and reposition the face along a circular path. Display the face in different color. 50
- ii Create a .GIF image with textual animation for the following theme: Parts 50  
of the human body
- 4 Write a program that applies any specified sequence of 2D transformations to display an object. The program is to be designed so that a user selects the transformation sequence and associated parameters. Display the original object and the transformed object in different color or different pattern 100
- 5 i Draw a car and reposition the car along a straight line path. Display the parts of the car in different colors. 70
- ii Convert the color image to grayscale. Select any one of the object which is present in the grayscale image and color it. 30
- 6 Write a program that uses square as a basic primitive and use 2D transformation sequence on it to display the following figure: 100



- 7 a Write a program to move a fish. Use primitives such as line, circle and ellipse. 70
- b Create a .GIF image with textual animation for the following theme: 30
- Parts of the car
- 8 a Write a program that uses square as a basic primitive and reposition the square along a straight line path. Display the square in red color. 70
- b Perform the following image filtering operations: 30
- Sharpen
  - Motion Blur
  - Mosaic distort
- 9 Write a program that applies the following 3D transformation on the Cone: 100
- i) Two successive rotation
- ii) Two successive scaling
- 10 a Write a program to display red sphere and rotate the red sphere by clicking the right mouse button. 70
- b Select any one of the object from the color image and convert it to grayscale. 30
- 11 Write a program that applies the following 3D transformation on the sphere: 100
- i) Two successive translation
- ii) Two successive scaling
- 12 Write a program to translate any 3D object using the following key press event: 100
- L Key to move the object to its left
- R Key to move the object to its right
- T Key to move the object to top
- B Key to move the object to bottom
- 13 Write a program to perform the following transformation on any 3D object: 100
- i) Zoom in by pressing the left mouse button
- ii) Zoom out by pressing the right mouse button
- 14 Write a program to display two spheres in red and blue in certain distance apart. Rotate the red sphere by clicking the right mouse and rotate the blue sphere by clicking the left mouse.( 100

15	Write a program to perform composite transformation on sphere in any sequence. The program is to be designed so that a user selects the transformation sequence and associated parameters.	100
16	Write program to display the cone in accordance with the following selection:  <div style="margin-left: 40px;">Press 1 to display single cone with maximum size 'm'</div> <div style="margin-left: 40px;">Press 2 to display two cone apart with size 'm/2' each</div>	100
17	a Write a program to demonstrate the hidden surface removal technique using any one the image space method.	70
	b Create a logo for a company XYZ using image manipulation tools.	30
18	a Find out the visible surface for the solid sphere using any one the object space method.	70
	b Select an image and optimize the image and check the image size after optimization.	30
19	a Write a program to demonstrate the hidden surface removal technique using any one the object space method.	70
	b Perform the following image filtering operations:	30
	<ul style="list-style-type: none"> <li>• Gaussian Blur</li> <li>• Ripple Distort</li> <li>• Render</li> <li>• Noise</li> </ul>	
20	a Find out the visible surface for the solid cone using any one the image space method.	70
	b Use layers and create a complete computer system using image manipulation tools.	30