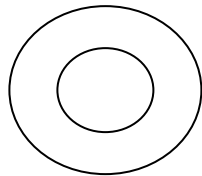


Time: 3 Hours

Max Marks: 100

- |   |   |     |
|---|---|-----|
| 1 | Draw a Bus with RED color using two dimensional primitives like Circle, Ellipse, Rectangle, Polygon, Arc and Sector.  | 100 |
| 2 | Perform the basic two dimensional transformations like translation, rotation, scaling of a polygon.   | 100 |
| 3 | Draw an equilateral triangle with sides 3 cm. Scale the triangle with sides 6cm and 12 cm respectively with the centre point as the fixed point. Display the three triangles in different colors. | 100 |
| 4 | Draw a rectangle with length and width of ratio 10: 5. Rotate the rectangle with the fixed point as the top right corner at 90 degree.  | 100 |
| 5 | Draw a circle with radius 5 cm. Translate the circle and display it in red color. Then double the size of circle and display it in blue color.  | 100 |
| 6 | Draw a building and reposition the building along a straight line path  | 100 |
| 7 | Write a program that uses a single circle to display the following pattern using simple 2D transformation sequence.   | 100 |



- |   |   |   |    |
|---|---|---|----|
| 8 | a | Draw a three dimensional object cone and do the scaling operation using mouse events.     | 70 |
|   | b | Perform the various kinds of transformations of an image.                                 | 30 |
| 9 | a | Draw a three dimensional object cube and do the rotation operation using keyboard events. | 70 |
|   | b | Perform the following operations for an image taken                                       | 30 |
|   |   | i) Blur   |    |
|   |   | ii) Light and shadow  |    |
|   |   | iii) Noise  |    |
|   |   | iv) Combine   |    |

10	a	Draw a three dimensional object sphere and perform the translation operation using keyboard event.	70
	b	Animate a sailing boat	30
11	a	Draw a three dimensional object cube and perform translation and scaling transformations	70
	b	Create a .GIF image with textual animation for the following theme Computer System	30
12	a	Draw a three dimensional object sphere and perform translation and rotation operations.	70
	b	Create a gif file for Road animation.	30
13	a	Draw a three dimensional object cone and perform rotation and scaling operations	70
	b	Animate a flying bird and flying kite.	30
14	a	Draw a three dimensional object teapot and perform the composite transformations.	70
	b	Animate a bee flying to a flower	30
15	a	Remove the hidden surface of a three dimensional object using object space method.	70
	b	Do the image enhancements with an image generated.	30
16	a	Remove the hidden surface of a three dimensional object using image space method.	70
	b	Convert the image from color to grayscale and vice versa	30
17	a	Show the visible surface of a three dimensional object using depth buffer method.	70
	b	Optimize the image and show the reduced size.	30
18	a	Show the visible surface of a solid cone using any one of the object space method.	70
	b	Create a .GIF image with textual animation for the following theme Ornaments	30
19	a	Remove the hidden surface of a three dimensional object using z buffer method.	70
	b	Create a .GIF image with textual animation for the following theme.Banyan tree	30
20	a	Remove the hidden surface of a three dimensional object.	70
	b	Create a .GIF image with textual animation for the following theme Solar system	30