Name:	Printed Pages: 1
Student University Roll No.:	

School of Engineering
First Sessional Examination, Odd Semester (AS: 2023-24)
B. Tech: CSE Year: III[rd] Year Semester: Fifth

Course Title: Computer Graphics Course Code: BCS3505	M.M.: 30 Time: 1 *hr*

Instructions: Read the question Carefully.

	SECTION 'A' Q.N.1. Attempt all parts of the following:	Course Objective	Marks
a)	What is Computer Graphics?	CO 1	1
b)	Calculate total number of pixel for 3*2 inch image at resolution of 300 pixels per inch.	CO 1	1
c)	Define the term pixel, resolution.	CO 1	1
d)	Rotate an object defined by A(0,0),B(1,0),C(1,1) and D(0,1) by 45° about origin.	CO 2	1
e)	If an image has height of 2 inch and aspect ratio is 1.5,calculate its width.	CO 1	1

	SECTION 'B' Q.N.2. Attempt any two parts of the following:	Course Objective	Marks
a)	What are the basic transformations in Computer Graphics? Describe each of them with their matrix representation.	CO 2	7.5
b)	Write mid-point circle drawing algorithm and predict the pixels in any octant of circle of radius=10 pixels with its center at the origin.	CO 1	7.5
c)	Write DDA line drawing algorithm.	CO 1	7.5
d)	Plot a circle by Bresenham's algorithm whose radius is 3 and center is(0,0)	CO 1	7.5

	SECTION 'C' Q.N.3. Attempt any one part of the following	Course Objective	Marks
a)	Find out the final co-ordinates of a figure bounded by the co-ordinates (1,1),(3,4),(10,3) when rotated about a point (8,8) by 30° in clockwise direction and scaled by two units in x direction and three units in y-direction.	CO 2	10
b)	With the help of block diagram, Explain the architecture of a raster display system.	CO 1	10
c)	Implement the DDA algorithm to draw a line from (0,0) to (8,8).	CO 1	10

Table 1: Mapping between COs and questions
(Number of COs may vary from course to course)

COs	Questions Numbers	Total Marks
CO1	1(a),1(b),1(c),1(e),2(b),2(c),2(d),3(b),3(c)	46.5
CO2	1(d),2(a),3(a)	18.5