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ACHARYA INSTITUTE OF TECHNOLOGY
DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

(Affiliated to Visvesvaraya Technological University, Belagavi, Approved by AICTE, New Delhi and Accredited by NBA & NAAC)
 Acharya Dr. Sarvepalli Radhakrishnan Road, Achitnagar Post, Soladevanahalli,
 Bengaluru - 560107

Computer Graphics and Fundamentals of Image processing
INTERNAL ASSESSMENT-I QUESTION PAPER

[Academic Year: EVEN 2023-24]

Subject Name: Computer Graphics and Fundamentals of Image processing

Subject Code: 21CS63

Branch, Semester & Section: CS&E, VI [Common to all sections]

Date: 30-05-2024

Max Marks: 20M

Timings: 9:40AM-10:40AM (60-Mins)

Note: All questions are compulsory.

Q. No	QUESTION	MARKS	RBT	CO
1	Apply Bresenham Line Drawing algorithm to plot the points in between the line segment with endpoints from (30,32) and (40,45). Give the algorithm and plot the points.	5M	3	CO1
	OR			
2	Apply DDA Line Drawing algorithm to plot the points in between the line segment with endpoints from (35,31) and (45,44). Give the algorithm and plot the points.	5M	3	CO1
3	Apply homogenous transformation to rotate an object wrt to a pivot point. For the triangle A(4,2) B(5,2), C(5,6), rotate it anti-clockwise direction by 90 degree keeping A(4,2) fixed. Draw original and rotated triangle.	5M	3	CO2
	OR			
4	Apply reflection about x-axis and y-axis and x and y axis to the given triangle A (3,4) B(6,4) C(4,8) . Draw the original and transformed triangle.	5M	3	CO2
5	Illustrate an OpenGL algorithm to translate a polygon by 5 units on x and y axis. Also rotate the translated polygon by an angle of 65 degree. Plot the points for drawing original and transformed polygons.	5M	3	CO2
	OR			
6	Illustrate an OpenGL algorithm to draw a polygon at origin, rotate it by 45 degrees on x-axis. Translate the original polygon (without rotation) by 10 units on y axis and scale by a factor of (2,3). Plot the points for drawing original and transformed polygons.	5M	3	CO2
7	Illustrate all the coordinate systems in 2D viewing pipeline and the working of all the phases.	5M	3	CO1
	OR			
8	Illustrate basic operations of CRT with its primary components.	5M	3	CO1

COURSE OUTCOMES :On Completion of the course, the students will be able to:

CO1	Apply Computer Graphics Principles to draw lines and basic geometric primitives
CO2	Illustrate 2D and 3D geometric transformations using OpenGL APIs and related algorithms/techniques.

Signature of the Course Coordinator	Signature of the Module Coordinator	Signature of the Test Coordinator	Signature of the HOD
Mrs. Varalakshmi B D Assistant Professor, CS&E	Mrs. Sneha N P Assistant Professor Department of CS&E	Mrs. Vijayalakshmi S A	Dr. Ajith Padyana Professor & Head Department of CS&E
Mr. Jawahar Jonathan Assistant Professor, CS&E		Mrs. Rajani Kodagali Assistant Professor Department of CS&E	