**STUDENT’S ENROLMENT NUMBER**

# ITM (SLS) BARODA UNIVERSITY

**SCHOOL OF COMPUTER SCIENCE, ENGINEERING AND TECHNOLOGY (SOCSET) B.TECH CSE/IT/CSE-CSN/CSE-AI/DA EVEN SEMESTER 2023-24 CONTINUOUS EVALUATION TEST (CET)-1**

# SEMESTER: 2nd COURSE-CODE:C2210C3 COURSE-NAME: Computer Graphics DATE:04/02/2024 MARKS: 30 TIME:12:30 PM TO 02:00 PM

Instructions:

* All questions are mandatory. There are no external options.
* Make suitable assumptions, wherever necessary, and state them clearly.
* Use of Non-Programmable Calculator is allowed
* Figures to the right indicate maximum marks.

Q1. Multiple Choice Question: [6]

1. What is the basic unit of Raster scan:
2. Pixel ii) Line iii) Polygon iv) Circle
3. The frequency at which picture is redrawn on the screen is called as:
4. Persistence ii) resolution

iii) refresh rate iv) None of the above

1. In raster scan, Scan line scans the display screen:
2. Horizontally ii) Vertically
3. Diagonally iv) both (i) & (ii)
4. The maximum number of points that can be displayed without overlap on a CRT is referred as :
5. Picture ii) Resolution iii) Persistence iv) Neither (B) and (C)
6. Which is not a common input device for the Computer Graphics:

i) Keyboard ii) Mouse iii) Graphic Tablets iv) Microphones

1. In the Graphic system, an array of pixels in the picture are stored in which of the following locations?  
   a) Frame buffer  
   b) Processor  
   c) Memory  
   d) All of the mentioned

Q2. Answer any Two (out of Four) [6]

1. What is Computer Graphics? Briefly explain the application of Computer Graphics.
2. Differentiate between Raster scan System & Random Scan System
3. Explain RGB Color Model.
4. Draw a line having starting point (1,3) and ending point (8,7) using DDA line drawing algorithm

Q3. Answer any Two (out of Four) [6]

1. Explain the working of CRT.
2. Explain Shadow mask technique for color display
3. Explain flood-filling algorithm using 4-connected approach
4. Using Midpoint Circle Drawing Algorithms draw a circle:

Center point of Circle = (X0, Y0) = (0,0) and Radius of Circle = R = 10.

Q4. Answer any Two (out of Four) [6]

1. Write a Bresenham’s Circle drawing Algorithms.
2. Explain Beam penetration Technique for color display
3. Write a program for Bresenham’s line drawing algorithm.
4. Explain the CMY color model.

Q5. Answer any Two (out of Four) [6]

1. Difference between LED & LCD.
2. Explain boundary fill algorithm using 8-connected approach.
3. Explain Scan line polygon fill Algorithm.
4. Explain DVST display system

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