



# Daffodil International University

Department of Computer Science and Engineering

Faculty of Science & Information Technology

Midterm Examination, Fall 2024

Course Code: CSE421, Course Title: Computer Graphics

Level: 4

Term: 1

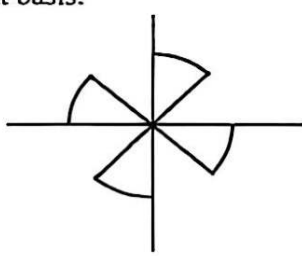
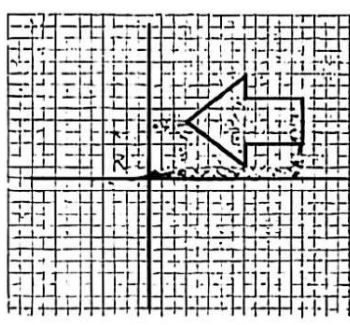
Teacher: All

Time: 01:30 Hours

Marks: 25

Answer ALL Questions

*[The figures in the right margin indicate the full marks and corresponding course outcomes. All portions of each question must be answered sequentially.]*

|                                                                                                                   |                                                                                                                                                                                                                                                          |     |     |
|-------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----|
| 1.                                                                                                                | (a) Describe the working principle of DVST with a diagram.                                                                                                                                                                                               | [3] | CO1 |
|                                                                                                                   | (b) How do computer graphics benefit the education sector?                                                                                                                                                                                               | [2] |     |
| 2.                                                                                                                | Mr Bresenham is trying to improve the DDA line drawing algorithm. For this reason, he derive some parameters for the line-improving DDA algorithm. Now you are Mr. Bresenham and derive the equations for the parameters, including the first parameter. | [5] | CO2 |
| 3.                                                                                                                | Mr. Ashik wants to create a fan like the following figure 01. The diameter is twice the radius which is 28. So please help Mr. Ashik to apply the circle Algorithm for preparing this fan in an urgent basis.                                            | [8] | CO2 |
|  <p>Figure-01</p>              |                                                                                                                                                                                                                                                          |     |     |
| 4.                                                                                                                | Discover the new points and plot of figure-02                                                                                                                                                                                                            | [7] | CO2 |
|  <p>Figure: 02</p>             |                                                                                                                                                                                                                                                          |     |     |
| i.                                                                                                                | Reflect the object in respect of y axis.                                                                                                                                                                                                                 |     |     |
| ii.                                                                                                               | Rotate the following figure 02, *° degree in y-axis direction                                                                                                                                                                                            |     |     |
| <p>Instruction: *° is the last two digits of your ID (If your ID is 241-15-10834, then the degree will be 34)</p> |                                                                                                                                                                                                                                                          |     |     |