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KIRIRI WOMENS' UNIVERSITY OF SCIENCE AND TECHNOLOGY
UNIVERSITY EXAMINATION, 2022/2023 ACADEMIC YEAR
THIRD YEAR, SECOND SEMESTER EXAMINATION
FOR THE BACHELOR OF SCIENCE IN COMPUTER SCIENCE

KCS 310 – COMPUTER GRAPHICS

Date: 13th December, 2022
Time: 2:30pm – 4:30pm

INSTRUCTIONS TO CANDIDATES

ANSWER QUESTION ONE (COMPULSORY) AND ANY OTHER TWO QUESTIONS

QUESTION ONE (30 MARKS)

a) Two viewing techniques are available for viewing three-dimensional objects, discuss them (6 Marks)
b) State the four different Types of Clipping (4 Marks)
c) Explain the two methods of dithering (4 Marks)
d) There are multiple ways to represent curves in two dimensions, discuss the implicit showing how its represented mathematically. (6 Marks)
e) There are three basic classes of transformations, giving examples for each, highlight them (6 Marks)
f) Define the following terms:
   i) Animation (2 Marks)
   ii) Projection (2 Marks)

QUESTION TWO (20 MARKS)

a) With the aid of a diagram, discuss the 3D Geometry (6 Marks)
b) List five types of transformations (5 Marks)
c) Describe the types of transformation (4 Marks)
d) Write down in length the steps for window to viewport transformation. (5 Marks)

QUESTION THREE (20 MARKS)

a) Elucidate the different types of projections available (9 Marks)
b) With the aid of a diagram, summarize the components of a CRT (11 Marks)

QUESTION FOUR (20 MARKS)

a) Differentiate between Object space and Image space methods as types of hidden surface detection algorithms (5 Marks)
b) Discuss the three Properties of Video Monitor. (9 Marks)
c) Compare and contrast a Random scan and raster scan as used in computer graphics (6 Marks)

QUESTION FIVE (20 MARKS)

a) There are two kinds of computer graphics, vividly discuss them. (6 Marks)
b) Explain the two types of projection using illustrations (8 Marks)
c) Illustrate Bresenham's Circle Algorithm (6 Marks)