NATIONAL OPEN UNIVERSITY OF NIGERIA

University Village, Plot 91, Cadastral Zone, Nnamdi Azikiwe Express Way, Jabi, Abuja

Faculty of Science and Technology

Course Title: Introduction to Computer Graphics and. Animation.

3 Credit Unit

Course code: CIT371

Instruction: Answer Question 1 and any other4

1a. What is Computer Graphics all about? (4 marks)
b. List five graphic hard copy devices (5 marks)
c. Find the distance between the points (5, 2) and (7, 3) (4 marks)
d. Proof that $a \circ b = |a||b|\cos\theta$ (5 marks)
e. Using linear systems, list and mathematically define 3 coordinate transformations.(4 marks)
(22 marks)

2a. Explain forward mapping, reverse mapping and state two problems with forward mapping (8 marks)
b. What are the meanings of each of the following forms of continuity:C^0, C^1, C^∞
(4 marks)

3a. What's the equation of a line that passes through points (0, -1) and (2,3)? (8 marks)
b. Draw the RGB colour cube, labelling the corners of the cube and the colour axes.
(4 marks)

4a. What are the application areas of computer graphics? (4 marks)
b. The table below summarizes the properties of the four primary types of printing ink. Fill the missing gap

dye colour	**absorbs**	**reflects**
Cyan	red	
	green	blue and red
yellow		red and green
Black	all	

(8 marks)

5. Write on the history of Computer graphics under the following:
a. the Early ‘70’s (6 marks)
b. the ‘00’s (6 marks)

6a. State 3 industries with their possible curve continuity (6 marks)
b. Explain the process of mapping image coordinates to the viewport (6 marks)

7a. Consider a rectangle whose corners are (1, 1), (3, 1), (3, 2) and (1, 2) describe the transformations which would rotate this rectangle by 90^o around its centre (6 marks)
b. Define aliasing and antialiasing?(6 marks)