NATIONAL OPEN UNIVERSITY OF NIGERIA
University Village, Plot 91, Cadastral Zone, NnamdiAzikiwe Express Way, Jabi, Abuja
FACULTY OF SCIENCES
JULY 2017 EXAMINATION

Course Code: CIT 371
Course Unit: 3
Course Title: Introduction to Computer Graphics and Animation
Instruction: Answer Question One and Any Four Other Questions
Time allowed: 21/2

1a. List and explain any three application areas of computer graphics.
9 marks
b. Write a short note on graphicssoftware
4 marks
c. Consider the two matrices A= $\begin{bmatrix} 4 & 3 \\ 3 & 7 \end{bmatrix}$ and B=$\begin{bmatrix} 5 & 7 \\ 2 & 1 \end{bmatrix}$
Calculate the following
i. 2A ii.A+B iii.AB
9 marks

2a. Draw the diagrammatic representation of the following vector operations.
i. Vector Addition ii. Vector Subtraction
6 marks
b. What are key frames?
3 marks
c. Define the term rendering.
3 marks

3a. What is a texture? 2 marks
b. Draw an illustrative diagram of a Cathode Ray Tube.
8 marks
c. Define Kinematics. 2 marks

4a. Enumerate two uses of transformations.
4 marks
b. Define the term translation
2 marks
c. Draw a well labeled diagram of the RGB Color Cube
6 marks

5a. What is a graphics rendering pipeline?
2 marks

b. Find the distance between the points whose coordinates are

i. (5,2) and (7,3)
ii. (-3,1) and (5,2)
iii. (1,1) and (2,0)
iv. (-3,-1) and (-5,-2)

10 marks

6a. Add the vectors $a = [u, v]^T$ and $b = [s, t]^T$

b. calculate the dot product of the vectors a = [3, 7, 12] and b = [2, 4, 10]

c. Write a short note on Anti-Aliasing