NATIONAL OPEN UNIVERSITY OF NIGERIA
PLOT 91, CADASTRAL ZONE, NNAMDI AZIKIWE EXPRESSWAY, JABI, ABUJA
FACULTY OF SCIENCES
DEPARTMENT OF COMPUTER SCIENCE 1.24
2020_2 EXAMINATIONS

COURSE CODE: CIT371
COURSE TITLE: INTRODUCTION TO COMPUTER GRAPHICS AND ANIMATION
COURSE CREDIT: 3 UNITS
TIME ALLOWED: 2½ HOURS
INSTRUCTION: ANSWER QUESTION 1 AND ANY OTHER FOUR (4) QUESTIONS

Question One

1a) Outline the full procedure to construct a BSP tree. (6mks)

1b. Itemize any four application areas of Computer graphics. (4mks)

1c. In a Cathode Ray Tube (CRT), describe the dot pitch. (3mks)

1d. In a tabular form, summarize the properties of four primary types of printing

ink. (6mks)

1e. Describe a 3D rotation about z axis. (3mks)

Question Two

2a. Discuss briefly Computer Aided Design (CAD). (6mks)

2b. What is Interactive Computer Graphics? (4½mks)
2c. In cathode ray tube, define the term Critical Fusion Frequency (CFF). (1½mks)

Question Three

3a. Explain briefly the meaning of back-to-front ordering in a BSP tree. (3mks)

3b. In visible light, describe the color model. (6mks)

3c. Itemize the two different examples of absolute color spaces that are both based

on the RGB model. (3mks)

Question Four

4a In a tabular form, Identify the three types of cones and their equivalent wave length in nanometer. (3mks)

4b. The perceived color of an object is influenced by the color of the surroundings, itemize them. (3mks)

4c. Discuss briefly the concept, digital image. (6mks)

Question Five

5a. Itemize the four forms of frame buffers. (4mks)

5b. Write briefly on the true-color frame buffer. (5mks)

5c. On a Cartesian coordinate evaluate the distance between the two points (5,2) and (7,3). (3mks)

Question Six

6a. Explain in simple terms, how to solve the problem between the resolution of the texture and sampling frequency. (1mk)

6b. Identify the five pixel operations available in computer graphics.(5mks)

6c. Describe the coordinate transformations for translation, rotation and scaling as linear systems. (6mks)