



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