NATIONAL OPEN UNIVERSITY OF NIGERIA
14-16 AHMADU BELLO WAY, VICTORIA ISLAND LAGOS
MARCH/APRIL 2016 EXAMINATION

SCHOOL OF SCIENCE AND TECHNOLOGY

COURSE CODE: **CIT771**
COURSE TITLE: **ADVANCED COMPUTER GRAPHICS AND ANIMATION**

TIME ALLOWED: **3 Hours**
INSTRUCTION: Answer any five (5) questions.

1. (a.) What are transformations used for in computer graphics? (3 Marks)
   (b.) Outline, with an example each, the three basic classes of transformations. (9 marks)
   (c.) What are homogeneous coordinates? (2 Marks)

2. (a.)What is a Vector? (3 Marks)
   (b.) State two major difference between a point and a vector (6 Marks)
   (c.) Outline the Basic ray casting algorithm (5 Marks)

3. (a.) Briefly discuss the following (9 marks)
   Additive colour
   Subtractive colour
   Alpha Compositing
   (b.) explain the following property of light: refraction (5 Marks)

4. (a.) Enumerate the major factors which during illumination determine the colour of a (b.) Illustrate a graphic system using a detailed block diagram (8 marks)

5. (a.) Define what you understand by BRDF. (4 Marks)

   (b.) Explain the two properties of BRDFs. (6 Marks)
   (c.) State two additional physically based BRDFs properties. (4 Marks)

6. (a.) Explain what is meant by motion capture. (4 marks)
   (b.) State five advantages and five disadvantages of motion capture. (10 marks)

7. (a.) Briefly explain colour concepts. (6 Marks)
   (b.) Given a point cloud, polygon, or sampled parametric curve, enumerate four purposes