NATIONAL OPEN UNIVERSITY OF NIGERIA
14-16 AHMADU BELLO WAY, VICTORIA ISLAND LAGOS
SCHOOL OF SCIENCE AND TECHNOLOGY
MARCH/APRIL 2015 EXAMINATION

Course code: **CIT 371**
Course Title: **Introduction to Computer Graphics and Animation**
Time: **3 Hours**

Instruction: Answer any Five (5) questions.

1.
   a) What is a computer graphics system (2 marks)
   b) List the four major areas in which he applications of computer graphics are classified (4 marks)
   c) Using a well labelled block diagram discuss geometric pipeline (8 marks)

2.
   a) What is raster graphics (2 marks)
   b) Define the term “Light” and explain the following properties of light: reflection and refraction (8 Marks)
   c) Using diagrams only, illustrate Perspective Projection and orthographic projection (4 marks)

3.
   a) In computer graphics what is high dynamic range imaging (HDRI) (2 Marks)
   b) Briefly explain the Cognitive processes hypothesis (4 marks)
   c) Illustrate a graphic system using a detailed block diagram (8 marks)

4.
   a) Define Keyframing. Discuss two advantages and disadvantages of Keyframing (5 marks)
   b) Briefly discuss the following (9 marks)
      Additive colour
      Subtractive colour
      Alpha Compositing

5.

a) Define a Graphic Processing Unit (GPU) (2 marks)
b) List and discuss the **classes** and **properties** of Bi-directional Reflection Distribution Function (BRDF) (12 marks)

6.

a) Discuss the Cognitive process Hypothesis (4 Marks)
b) Discuss any five advantages and five disadvantages of motion capture (10 Marks)

7.

a) Using a well labelled block diagram discuss geometric pipeline (8 marks)
b) In order to calculate surface radiance at an intersection point, one of the cached photon maps is used. Highlight the steps involved (6 marks)