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

SCHOOL OF SCIENCE AND TECHNOLOGY

COURSE CODE: **CIT371**
COURSE TITLE: **Introduction to Computer Graphics and Animation**

Time: **3 Hours**
Instruction: Answer any Five (5) questions.

1. (a.) In computer graphics what is high dynamic range imaging (HDRI) (2 Marks)
   (b.) Given a point cloud, polygon, or sampled parametric curve, enumerate four purposes for which transformations can be used (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.) What is light? (2 Marks)
   (b.) Explain what is meant by motion capture. (4 marks)
   (c.) Illustrate a graphic system using a detailed block diagram (8 marks)

4.
   a) Explain the following colour models (14 Marks)
      RGB colour model
      YIQ colour model
      CYMK colour model
      HSV and HSL colour model

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)