

**NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY**

**FACULTY OF APPLIED SCIENCES  
DEPARTMENT OF FOREST RESOURCES AND WILDLIFE MANAGEMENT  
BACHELOR OF SCIENCE HONOURS DEGREE  
MAIN EXAMINATION**

**FOREST SURVEYING AND REMOTE SENSING: EFW 4201**

**May 2014 Time Allowed: 3 Hours**

**Total Marks: 100**

**INSTRUCTIONS TO CANDIDATES:**

Answer **QUESTION ONE** and any other **THREE**. Each question carries **25 marks**.

1. Write brief notes on the following terms:
  - (a) Temporal sampling [5 marks]
  - (b) IFOV [5 marks]
  - (c) Atmospheric correction [5 marks]
  - (d) 'Pushbroom scanner' [5 marks]
  - (e) 'Whiskbroom scanner' [5 marks]
2. Based upon your reading and experience with satellite images from the forested areas and natural reserves. Detail how the presence of molecular water affects spectral reflectance patterns for most earth surface materials? In your answer be sure to explicitly address materials such as soil, pasture in summer, and broadleaf vegetation canopies.
3. Detail the substantive differences between Landsat MSS and Landsat TM data and how the differences might affect a typical forest classification of age and species classes.
4. What are the main differences between remote sensing and photogrammetry?
5. (a) Discuss the variables of trees and stands that can be recognised on aerial photographs. [12 marks]  
  
(b). How can Aerial Photographs be used in forest inventories. [13 marks]
6. List and explain the different remote sensing platforms. Mention the advantages and disadvantages of these platforms.

**\*\*\* END OF PAPER \*\*\***