FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA
SCHOOL OF SCIENCE AND SCIENCE EDUCATION
DEPARTMENT OF GEOGRAPHY

FIRST SEMESTER 2011/2012 SESSION UNDERGRADUATE EXAMINATION

COURSE CODE: REM 311 (2 units)
COURSE TITLE: Principles and Development of Remote Sensing
INSTRUCTIONS: Answer any four (4) questions of your choice. Credit will be given for the use of specific examples and appropriate diagrams.

TIME ALLOWED: 2 ½ Hours

1. a). Assuming that 3MHz is the lowest frequency which will pass through the ionosphere, calculate the wavelength of the radiation. **(9MKS)**
   b). Briefly explain the relationship between wave length, frequency and energy of an Electromagnetic Radiation. **(6MKS)**

2. Discuss the different redirection of electromagnetic radiation that takes place due to suspended particles in the atmosphere and how they affect the acquisition of satellite imagery. **(15 MKS)**
3. a). Explain the properties of an electromagnetic radiation. **(7MKS)**
   b). state the plank's law and its implication in Remote Sensing.**(8MKS)**
4. Describe the layers of the atmosphere and state which has an effect on Radio wave propagation. **(15 MKS)**
5. Give an account of the benefits and challenges of the Nigerian communication satellite. **(15 MKS)**
6. With the aid of a well labeled diagram, describe the electromagnetic spectrum. **(15 MKS)**