

**DEPARTMENT OF GEOGRAPHY**  
**SCHOOL OF NATURAL AND APPLIED SCIENCE**  
**FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA**

**SECOND SEMESTER EXAMINATION 2013/2014**

**COURSE CODE: REM322**

**COURSE TITLE: SYSTEM (III); OTHER MICROWAVE SENSORS.**

**INSTRUCTIONS: ANSWER QUESTION NUMBER ONE AND ANY OTHER THREE.**

**TIME ALLOWED: 2hrs30mn.**

1. Explain the microwave portion of Electro-Magnetic Spectrum (EMS).
2. Use specific microwave sensor for each, explain in details the differences between PASSIVE and ACTIVE micro wave sensors.
3. Mention and explain the four things to be considered before embarking on image analysis and application.
4. (a). Define and explain the micro-wave altimeter?
  - (b). (i) Calculate the sea surface height when the altitude of the satellite from the reference ellipsoid is 2,850km and the distance between the satellite and the sea surface is 2,842km.
  - (ii) Calculate the sea surface height when the sea surface topography is 50km and the geoid height is 90km.
5. With the use of a micro-wave sensors, discuss remote sensing application on settlement.
6. (a). Define micro-wave scatterometer and explain the types.
  - (b). Explain in details the micro-wave Radiometer.