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

**SECOND SEMESTER EXAMINATION 2009/2010**

**COURSE CODE: REM322**

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

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

**TIME ALLOWED: 2 HOURS.**

1. Using specific examples, identify and explain the differences between PASSIVE and ACTIVE sensor.
2. Enumerate and discuss the resolution components that is fundamental in selecting image data.
- 3 (a). What is micro-wave altimeter (Radar altimeter)?  
(b) (i) Calculate surface height when  $H_a$  is 50km and the altitude of the satellite is 10,150km.  
(ii) What is the surface height when geoid's height is 70km and the sea surface topography is 40km?
- 4 (a). Explain micro-wave scatterometer and describe the two main types.  
(b). Explain the use of microwave radiometer
5. Identify and discuss the appropriate sensor in remote sensing application to agriculture
6. Using specific examples enumerate and explain the application of remote sensing to general meteorology.