



**MASENO UNIVERSITY**  
**UNIVERSITY EXAMINATIONS 2016/2017**

**FIRST YEAR SECOND SEMESTER EXAMINATION FOR DEGREE OF  
BACHELOR OF SCIENCE IN GEOSPATIAL INFORMATION SCIENCE  
WITH INFORMATION TECHNOLOGY**

**CITY CAMPUS**

**PGS 112: REMOTE SENSING I**

Date: 28<sup>th</sup> November, 2016

Time: 2.00 - 5.00pm

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**INSTRUCTIONS:**

- Answer Questions ONE (Compulsory) and any other TWO.
- Use sketches and diagrams whenever necessary.



1. Explain the following in as used in remote sensing
  - Passive and active sensors 6 marks
  - Types of atmospheric scattering 16 marks
  - Radiance and irradiance 8 marks
  - To models of the electromagnetic waves
  
2. Describe the qualities to consider when choosing a remote sensing image analysis 20 marks
  
3. a. Explain the factors that influence the spectral reflectance of the following objects
  - Leaves 4 marks
  - Soil 4 marks
  - Water 4marks
 b. Discuss the orbital characteristics of satellites
  - Polar –orbiting 4 marks
  - Geostationary 4 marks
  
4. Describe the spectral and radiometric characteristics of an aerial camera 20 marks
  
5. Discuss five applications of remote sensing data 20 marks
  
6. Write notes on the following
  - Imaging spectrometer 4 marks
  - Thermal scanners 4 marks
  - Microwave radiometers 4 marks
  - Laser scanner 4 marks
  - Imaging radar 4 marks