



MASENO UNIVERSITY
UNIVERSITY EXAMINATIONS 2013/2014

**THIRD YEAR SECOND SEMESTER EXAMINATIONS FOR THE
DEGREE OF BACHELOR OF ARTS IN GEOGRAPHY WITH
INFORMATION TECHNOLOGY
(CITY CAMPUS – DAY)**

PUR 324: REMOTE SENSING

Date: 25th July, 2014

Time: 9.00 – 11.00 a.m.

INSTRUCTIONS:

- Answer Question ONE and any other TWO questions.



PUR 324: REMOTE SENSING

DATE: AUGUST 2014

TIME ALLOWED: 3 HOURS

INSTRUCTIONS: ANSWER QUESTION ONE AND ANY OTHER TWO QUESTIONS

- Q1.** a) Explain the principle of forward and lateral overlap as used in aerial Photography [5 marks]
- b) Using a neat sketch describe the major parts of the electromagnetic spectrum that enables the invisible images become visible [10 marks]
- c) Differentiate between passive and active sensors [10 marks]
- d) Explain the meaning of spectral reflectance of objects on the earth's surface [5 marks]
- Q2.** Discuss the electromagnetic energy interaction in the atmosphere [20 marks]
- Q3.** a) Discuss the properties of remote sensing [10 marks]
- b) Explain the sources of geometric distortion in remotely sensing images [10 marks]
- Q4.** An air platform vehicle with a sensor whose focal length lens is 120 mm was used to take near vertical photographs from a flying height of 2780m above sea level. If the terrain is flat located at an elevation of 380m.
- (a) Compute the scale of the photograph and give your answer in representative fraction [10 marks]
- (b) A rectangular field recorded on the photo measures 7.45cm long and 3.33 cm wide; determine its area [10 marks]
- Q5.** Using diagrams describe the two ways used by multispectral scanning systems to record remotely sensed image data [20 marks]
- Q6.** a) Using an illustration discuss the process that light detection and ranging sensors, employ to determine terrain elevation [10 marks]
- b) Describe process and systems used to acquire both image and non image data sets in remote sensing [10 marks]