



MASENO UNIVERSITY

UNIVERSITY EXAMINATIONS 2015/2016

**THIRD YEAR FIRST SEMESTER EXAMINATION FOR THE DEGREE OF
BACHELOR OF ARTS IN URBAN & REGIONAL PLANNING WITH
INFORMATION TECHNOLOGY**

CITY CAMPUS - REGULAR

PUR 324: REMOTE SENSING

Date: 3rd December, 2015

Time: 9.00 - 11.00 am

INSTRUCTIONS:

- Answer Question ONE and any other TWO Questions



PUR 324 REMOTE SENSING

Instructions: Answer question one and any other two questions

QUESTION ONE (30 MARKS)

- 1 a) Define the following (3 marks)
 - i. Scanning
 - ii. Radiation
 - iii. Photogrammetry
 - b) Explain the main options for transmitting data acquired by a satellite to the surface. (6 marks)
 - c) Discuss the mission elements (6 marks)
 - d) Using a diagram, discuss the seven stages of remote sensing (7 marks)
 - e) Discuss passive and active sensor (4 marks)
 - f) Explain the following scanner concepts (use diagrams) (4 marks)
 - i. Along track scanning
 - ii. Across track scanning
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- 2 a) Using examples discuss the advantages of employing remote sensing technology for data collection (6 marks)
 - b) Explain two types of reflections (4 marks)
 - c) Particles and gases in the atmosphere can affect the incoming light and radiation.
 - i. Define scattering (1 mark)
 - ii. Discuss three types of scattering (6 marks)
 - iii. List the factors affecting scattering (3 marks)
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- 3 a) Explain the visual elements used in visual image interpretation (10 marks)
 - b) Discuss using examples how remote sensing can be used to monitor the rapid urbanization currently being experienced in Kenya (10 marks)

- 4 a) Explain four platforms for remote sensors (8 marks)
b) List and explain the three types of remote sensing (6 marks)
c) With an aid of diagram, discuss polar and geostationary satellite orbits
(6 marks)
- 5 a) Explain the four characteristics of sensors (8 marks)
b) List the four parts of electromagnetic spectrum useful for remote sensing
(4 marks)
c) What is the difference between photographs and satellite images? (2marks)
d) Explain three orbit characteristics (6 marks)
- 6 a) Explain four types of satellites (8 marks)
b) A digital image is a 2-D array of elements. Explain. (2 marks)
c) Discuss the digital image classification (10 marks)