UNIVERSITY OF SWAZILAND

DEPARTMENT OF GEOGRAPHY, ENVIRONMENTAL SCIENCE AND PLANNING

FINAL EXAMINATION, APRIL/MAY 2014

B.A, BSc, BASS, B.Ed.

TITLE OF PAPER: INTRODUCTION TO REMOTE SENSING

COURSE NUMBER: GEP 313

TIME ALLOWED: THREE (3) HOURS

INSTRUCTIONS:

1. ANSWER THREE QUESTIONS
2. QUESTION 1 IS COMPULSORY
3. IILUSTRATE YOUR ANSWERS WITH EXAMPLES AND CLEARLY DRAWN DIAGRAMS WHERE APPROPRIATE

ALLOACATION OF MARKS: QUESTION 1 (COMPULSORY) CARRIES 40 MARKS WHILE THE REST CARRY 30 MARKS EACH

THIS PAPER SHOULD NOT BE OPENED UNTIL PERMISSION IS GRANTED BY THE INVIGILATOR

GEP 313: INTRONTRODUCTION TO REMOTE SENSING-APRIL/MAY 2014

SECTION A: COMPULSORY

Question 1

a) Define photogrammetry. (5 marks)

b) Explain the differences between aerial photography and satellite imagery. (20 marks)

c) Compare and contrast between an 'ideal' remote sensing system and a 'real' remote sensing system (15 marks)

[40 marks]

SECTION B: ANSWER ANY TWO QUESTIONS

Question 2

a) Describe the electromagnetic radiation interactions in the atmosphere. (20 marks)

b) Discuss the significance of atmospheric windows in optical remote sensing. (10 marks)

[30 marks]

Question 3

Describe the characteristics of Landsat TM 5 satellite mission, highlighting the common applications of its different spectral bands. **[30 marks]**

Question 4

The use of pictorial elements is important in distinguishing various features on aerial photographs. Explain how pictorial elements are used in aerial photo-interpretation for land cover mapping purposes.

[30 marks]

Question 5

a) Compare and contrast between active sensors and passive sensors in remote sensing. (10 marks)

b) Define
   i) Spatial Resolution (5 marks)
   ii) Temporal Resolution (5 marks)
   iii) Radiometric Resolution (5 marks)
   iv) Spectral Resolution (5 marks)

[30 marks]