

58

UNIVERSITY OF SWAZILAND
DEPARTMENT OF GEOGRAPHY, ENVIRONMENTAL SCIENCE AND
PLANNING
SUPPLEMENTARY EXAMINATION, JULY 2016
B.A, BSc, BA.SS, 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. ILLUSTRATE YOUR ANSWERS WITH
EXAMPLES AND CLEARLY DRAWN DIAGRAMS
WHERE APPROPRIATE**

**ALLOCATION 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: INTRODUCTION TO REMOTE SENSING - JULY 2016

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 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]

60

Question 5

- a) Compare and contrast 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]