



MAASAI MARA UNIVERSITY

**REGULAR UNIVERSITY EXAMINATIONS
2018/2019 ACADEMIC YEAR
THIRD YEAR FIRST SEMESTER**

**SCHOOL OF TOURISM AND NATURAL
RESOURCE MANAGEMENT
BA GEOGRAPHY**

COURSE CODE: GEO 3127

COURSE TITLE: PHOTOGRAMMETRY

DATE: DECEMBER 10, 2018 TIME: 8:30 A.M. – 10:30 A.M.

INSTRUCTIONS TO CANDIDATES

Answer **ALL** questions in section **A** and any other **THREE** in section **B**.

This paper consists of 2 printed pages. Please turn over

SECTION A (25 MARKS)

1. State two advantages and two disadvantages of vertical aerial photographs **(4 marks)**
2. Briefly explain two reasons for overlap in aerial photography **(2 marks)**
4. Name the two types of stereoscopes commonly used in stereoscopic photography. Write the advantages of each of the stereoscopes you have mentioned **(2 marks)**
5. Explain any three advantages that an aerial photograph offers over ground based observations **(3 marks)**
6. With clear points and illustration where possible, explain the different methods of scale determination? **(5 marks)**
7. Explain why flight planning is necessary in aerial photography? **(5 marks)**
8. Distinguish between parallax and stereoscopy. State the importance of each **(4 marks)**

SECTION B (45 MARKS)

9. (i) Briefly explain how is an aerial photograph taken? **(5 marks)**
(ii) Explain how the stereoscope can be used to interpret the geology of a given region using tone and relief variation features **(10 marks)**
10. Discuss any five importance features usually recorded in aerial Photographs **(10 marks)**
During an aerial photogrammetric session in Maasai Mara university, photographs of the university water tank near the Student's Centre were taken from different points of observation. The flying height was 4,600 ft with a differential parallax of 0.6 in and an average photo base length of 4.4 in. Calculate the height of the water tank using stereoscopic parallax **(5 marks)**
11. (a) The ground distance between two points on a topographic map is 1180 m. The distance between the same points on the aerial photo is 9.43 cm. Find scale of photo and length of fence line that measure 4.29 m on the photograph. **(5 marks)**
(b) Describe different criteria used to classify aerial photographs depending upon the tilt and film **(10 marks)**
12. (i) Discuss at least three (3) factors affecting flight mission **(5 marks)**
(ii) Write short notes on the following as used in aerial photography **(10 marks)**
 - (a) Neat model
 - (b) Overlap
 - (c) Scale
 - (d) Fiducial marks
 - (e) Relief displacement and tilt

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