

CHUKA

UNIVERSITY



UNIVERSITY EXAMINATIONS

EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF ARTS

GEOG 334: PHOTOGRAMMETRY

STREAMS: B.A

TIME: 2 HOURS

DAY/DATE: WEDNESDAY 20/12/2021

11.30 A.M. – 1.30 P.M.

INSTRUCTIONS

- Answer question one and any other two questions
- Illustrations should be used where appropriate

- Differentiate between terrestrial photogrammetry and aerial photogrammetry. (10 marks)
 - Contrast between map and a photo (5 marks)
 - Discuss FIVE causes of distortions in aerial photos. (15 marks)
- Describe the NINE procedures followed when generating topographic maps from aerial photographs. (20 marks)
- Calculate the scale of an aerial photograph for a mountain located 600 meters give the camera focal length of 152.20 mm with an aeroplane flying at height of 6200 meters. (5 marks)
 - State FIVE features found in an aerial photograph film. (5 marks)
 - The following parameters are given for a set of two aerial photograph as:

left photo	right photo
$X_a = 54.61 \text{ mm}$	$X'_a = 60.25 \text{ mm}$
$X_b = 90.47 \text{ mm}$	$X'_b = 120.42 \text{ mm}$

Using the above information;

- i) Calculate the parallax of point A. (3marks)
- ii) Calculate the parallax of point B (3 marks)
- iii) Calculate the difference in the two parallax (4 marks)

4. a) State FIVE factors to consider when planning a flight mission. (5 marks)

b) An area with a length 16km and width of 8Km was to be photographed. The longitude overlap was 60% and a lateral overlap of 30% was accepted photo scale 1:2500.

Calculate

- i) Number of photographs in each flight line (4 marks)
- ii) Number of flight lines needed. (4 marks)
- iii) Total number of photographs to cover the entire area. (3 marks)
- iv) Exposure intervals given airplane ground speed of 250km/hr. (3 marks)
- v) Sketch the flight mission showing the strips and overlaps. (1 mark)

5. Write explanatory notes on the following:

- i) Exposure station (4 marks)
- ii) Oblique photograph (4 marks)
- iii) Camera axis (4 marks)
- iv) Focal length (4 marks)
- v) Nadir point (4 marks)

.....