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KIRIRI WOMEN'S UNIVERSITY OF SCIENCE AND TECHNOLOGY
UNIVERSITY EXAMINATIONS, 2023/2024 ACADEMIC YEAR
END OF SEMESTER EXAMINATIONS
FOR THE DEGREE IN BACHELOR OF EDUCATION(ARTS)
KGE 2308-AIRPHOTO INTERPRETATION & RESEARCH METHODS

Date: 19th April 2023
Time: 8.30am-10.30am

INSTRUCTIONS:

Answer **Question ONE** and any other **TWO** Questions

Use sketch maps and diagrams wherever they serve to illustrate an answer

QUESTION ONE (30 MARKS)

- a) Explain the term air-photo interpretation. (2 marks)
- b) Distinguish between objective and hypothesis. (4 marks)
- c) The following is a title of a tourism development project: "Perception and Community-Based Management Initiatives of Wildlife Experience in Kenya."
- d) Derive **three** objectives from this title. (3 marks)
- e) State **four** qualities of a good research objective. (4 marks)
- f) Describe the focal length. (3 marks)
- g) Highlight any **four** flight parameters. (4 marks)
- h) Identify **two** forms in which photography may be presented or used. (2 marks)
- i) i) A photo mission is planned to cover an area with terrain altitude measuring 1080 metres a.m.s.l., while the altimeter reading is to be maintained at 6080 metres a.m.s.l. Given that the focal length (f) of the narrow lens camera to be used is 50cm, compute the photo scale. (6 marks)
- ii) Comment on the scale obtained in (i) above. (2 marks)

QUESTION TWO(20 MARKS)

- a) Differentiate between the principal point, nadir and the isocentre. (6 marks)
- b) Explain **three** photo interpretation elements used in diagnostic assessment of aerial photographs (6 marks)
- c) State **four** factors that determine the sample size. (4 marks)
- d) Describe **two** sampling methods used in research. (4 marks)

QUESTION THREE(20 MARKS)

- a) Distinguish between vertical and oblique aerial photos. (4 marks)
- b) Discuss **three** advantages of aerial photography. (6 marks)

- c) Evaluate the **two** essential overlaps in a photo mission. (4 marks)
- d) Examine **two** factors that may cause scale distortions during a photo mission. (4 marks)
- e) Name **two** platforms on which sensors/cameras maybe carried. (2 marks)

QUESTION FOUR(20 MARKS)

- a) Distance AB on an aerial photo measures 15cm while the corresponding distance on a 1:50,000topographical map measures 30cm. Using the given data, calculate the photo scale.
(6 marks)
- b) State **two** methods used to reduce the effects of aircraft vibrations during a photo mission. (2 marks)
- c) Elucidate **three** problems with three dimensional viewing of air photos. (6 marks)
- d) Explain the following terms as used in air photography:
 - i) Fiducial marks (3 marks)
 - ii) Stereoscopy (3 marks)

QUESTION FIVE(20 MARKS)

- a) Study the air-photos provided and use them to answer the following questions
 - i. Name **three** stereo pairs using their frame numbers. (3 marks)
 - ii. Apart from the frame number, identify **two** other marginal information (2 marks)
 - iii. Using the Nakuru National Park air-photo, identify **two** land uses. (2 marks)
 - iv. What is the focal length of the Lake Nakuru National park photo? (2 marks)
- b) Examine the procedures involved in geographical fieldwork. (6 marks)
- c) State **five** factors to be considered in a flight mission for air photography. (5 marks)