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University Examinations 2024/2025

FOURTH YEAR FIRST SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF EDUCATION ARTS

EGE 3400: REMOTE SENSING AND PHOTOGRAPH WORK

DATE: JANUARY 2025 **TIME: 2 HOURS**

INSTRUCTIONS: *Answer question **one** and any other **two** questions*

QUESTION ONE (30 MARKS)

(a) Distinguish between the following terms (6 marks)

(i) Radiometric and spectral resolution

(ii) Active and passive remote sensing

(iii) Geostationary and polar-orbiting satellites

(b) Explain the advantages of photographic cameras (6 marks)

(c) Describe two main types of photographic films (4 marks)

(d) Discuss the interaction between the atmosphere and electromagnetic radiation (8 marks)

(e) Citing examples, discuss the challenges of remote sensing in the study of weather forecasting in Kenya (6 marks)

QUESTION TWO (20 MARKS)

(a) (i) Elucidate on the various forms of remotely collected data (8 marks)

(ii) Kenya has recently established a regional satellite ground. What are some of the benefits the country will have (8 marks)

(iii) Highlight the properties of electromagnetic radiation that are related to wavelength (4 marks)

QUESTION THREE (20 MARKS)

(i) Discuss the significance of visible, infrared, radar and ultraviolet portions of electromagnetic spectrum in remote sensing (8 marks)

(ii) Human ability to identify objects in photographs depends on two key factors. Discuss (4 marks)

(iii) Elucidate the factors that affect the detection and identification of background contrast of satellite image (8 marks)

QUESTION FOUR (20 MARKS)

(i) Explain the application of remote sensing in natural resource management. (8 marks)

(ii) The quality of information extracted from an image is greatly influenced by the resolutions. Elucidate three types of resolution (6 marks)

(iii) Differentiate between multi-scale and multi polarization. (6 marks)

QUESTION FIVE (20 MARKS)

(i) Elucidate the major developments in the history of remote sensing (8 marks)

(ii) Elucidate the major basic components of any remote sensors (8 marks)

(iii) Differentiate between Mie scattering and non-selective scattering (4 marks)