CHUKA   **UNIVERSITY**

UNIVERSITY EXAMINATIONS

FORTH YEAR EXAMINATION FOR THE AWARD OF
BACHELOR OF SCIENCE DEGREE IN WILDLIFE ENTERPRISE AND MANAGEMENT

WIEM 441: REMOTE SENSING AND GIS IN CONSERVATION

STREAM: Bsc. WIEM Y4S1   **TIME: 2 HOURS**

DAY/DATE: THURSDAY 25/03/2021   **8.30 A.M. – 10.30 A.M.**

INSTRUCTIONS:
- **Answer ALL questions in section A and ANY TWO in section B**
- **Do not write on the question paper**

SECTION A (30 MARKS)

1. Write short notes on the following concepts:

    (a) Geodetic datum (2 marks)

    (b) Geographic coordinate system (2 marks)

    (c) Electromagnetic radiation (2 marks)

2. Outline the advantages of the two main models of spatial data analysis applicable in Geographic data (6 marks)

3. Explain three types of sensors employed during remote sensing (6 marks)

4. Describe three common forms of interactions taking place whenever incident energy strikes a target (6 marks)

5. Describe the three projections used in representing the Earth on a flat surface (6 marks)

SECTION B (40 MARKS)

6. Lewa conservancy is looking for GIS expert to join the management team. Describe ways in which you can apply GIS and Remote Sensing in the management of conservancy

(20 marks)

7. (a) Explain the process you would follow when modeling the changes over-time at Thuci River ecosystem

(12 marks)

   (b) Describe systems resolutions you would consider when choosing the satellite to use in 7(a) above   (8 marks)

8. (a) upon acquiring an image, explain the types of image processing you can apply during interpretation and analysis (8 marks)

   (b) Discuss the main components making up the GIS system   (12 marks)