CHUKA **UNIVERSITY**

UNIVERSITY EXAMINATIONS

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

WIEM 441: REMOTE SENSING AND GIS IN CONSERVATION

STREAMS: WIEM Y4S1   TIME: 2 HOURS

DAY/DATE: FRIDAY 06/12/2019   11.30 A.M. – 1.30 P.M.

INSTRUCTIONS:
Answer ALL questions in section A and any TWO questions in section B.
Do not write anything on the question paper.

SECTION A (30 MARKS)

1.   Write short notes on the following concepts

        (a)   Georeference   (2 marks)

        (b)   Universal Transverse Mercator   (2 marks)

        (c)   Electromagnetic spectrum   (2 marks)

2.   Briefly explain the main components of a GIS software system.   (6 marks)

3.   Describe the two main models of spatial data analysis applicable in Geographic data.
                                                                                        (6 marks)

4.   Explain three types of resolution considered when choosing a satellite image. (6 marks)

5.   Describe three common types satellite systems used in Remote Sensing.   (6 marks)

SECTION B (40 MARKS)

6.   You have been appointed the Senior Data Analyst for the Kenya Wildlife Service. Explain how you would apply GIS and Remote Sensing to aid in parks management.
                                                                                        (20 marks)

7.   Describe the steps you would follow when modeling habitat distribution at the Tana River Forest galleries.   (20 marks)

8.   (a)   Explain the main operations you need to perform during digital image processing.
                                                                          (8 marks)
      (b)   Discuss the process followed in electromagnetic remote sensing. (12 marks)