CHUKA UNIVERSITY

UNIVERSITY EXAMINATIONS

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

WIEM 415: ENGINEERING FOR WILDLIFE

STREAMS: BSC WIEM Y4S1 **TIME: 2 HOURS**

DAY/DATE: MONDAY 16/12/2024 **8.30 A.M – 10.30 A.M.**

INSTRUCTIONS:

- Answer **ALL** questions in Section A and **any other TWO** in Section B.
- Do not write anything on the question paper.

SECTION A (30 MARKS)

1. a) Briefly describe the importance of studying soil in an engineering for wildlife class (4 Marks)

   b) Briefly explain factors that influence the characteristics of soil (2 Marks)
2. Define the following terms;
   i) Soil is a multiphase material (2 Marks)
   ii) Strain (2 Marks)
   iii) Soil is non-conservative (2 Marks)
3. a) Describe why the location of settlement and headquarters is considered important within a protected area. (3 Marks)

   b) Briefly explain recommended design and management of roofing styles, and colour use in wildlife protected areas (3 Marks)
4. a) Briefly describe the likely impacts of improperly constructed roads in wildlife protected areas (3 Marks).

   b) State and briefly explain THREE key steps in road construction in protected areas (3 Marks)
5. a) Highlight the necessity of fences in wildlife protected areas (3 Marks)

   b) Describe THREE dangers caused by fences to wildlife in wildlife conservation areas (3 Marks)

SECTION B (40 MARKS)

6. You are a conservation area manager in one of the conservation areas in Kenya and you want to develop some roads, picnic sites, and housing within the conservation area. Using specific examples, discuss key ecological principles you need to consider when giving out terms of reference to the developer. (20 Marks)

7. Discuss vehicle care and maintenance in wildlife protected area to serve its intended purposes successfully (20 Marks)

8. Using examples, discuss the advantages and disadvantages of the modern technological infrastructural innovations in enhancing the communication, security, surveillance and research data collection in wildlife protected areas of Africa. (20 Marks)
