

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

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

WIEM 415: ENGINEERING FOR WILDLIFE

STREAMS: WIEM Y4S1

TIME: 2 HOURS

DAY/DATE: FRIDAY 8/12/2017

8.30 A.M - 10.30 A.M.

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**INSTRUCTIONS:**

- Answer ALL Questions in Section A and any other TWO Questions in Section B
- Do not write on the question paper

**SECTION A: [30 MARKS]**

**QUESTION ONE**

Describe the characteristics that soil has for it to be considered for engineering purposes.

[5 Marks]

**QUESTION TWO**

Draw a grain size distribution curve and show the distribution of well graded soil and poorly graded soil in the graph.

[4 Marks]

**QUESTION THREE**

With the aid of a well labeled graph, explain how shear strength of the soil will change with the changes in moisture content.

[5 Marks]

**QUESTION FOUR**

Explain the factors that physical planners and infrastructural engineers should consider when planning and developing wildlife areas in Kenya.

[5 Marks]

**QUESTION FIVE**

(a) Describe two types of roofs that can be placed in building in wildlife areas.

[2 Marks]

(b) State five points to note when building roofing trusses.

[5 Marks]

**QUESTION SIX**

State and explain FIVE factors to consider when repairing motor vehicles in the bush. [5 Marks]

**SECTION B [40 MARKS]**

**QUESTION SEVEN**

(a) Discuss the importance of radio communication in protected area situation. [10 Marks]

(b) Discuss the following terms used in radio communication. [10 Marks]

- (i) High Frequency (HF) signals.
- (ii) Very High Frequency (VHF) signals.
- (iii) Transmitter
- (iv) Receiver
- (v) Transceiver

**QUESTION EIGHT**

Discuss the likely negative impacts of infrastructures on protected areas and suggest possible solutions. [20 Marks]

**QUESTION NINE**

Discuss the factors to be considered when driving in the bush and wilderness areas with varied challenges. [20 Marks]

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