UNIVERSITY EXAMINATION

COURSE CODE HCD 2121: INTRODUCTION TO BASIC MICROBIOLOGY.

Answer ALL questions in Section A and ANY TWO questions in Section B

Section A. Answer all questions in this section (30 marks).

1. List any three morphological features that are common to both eukaryotic and prokaryotic cells (**3 marks**).

2. With examples, describe three kinds of staining techniques that are used in microbiology. (**3 marks**).

3. Protozoa are commonly found in our environment either as free living, commensals or parasites of animals. Parasitic protozoans can be divided into 6 phyla, with specific examples name any three phyla of protozoa that contain parasitic protozoa of humans (**3 marks**).

4. List three beneficial and three harmful effects of microorganism to humans (**3 marks**).

5. Define the term arbovirus: Name any two arboviruses that commonly afflict people in Kenya. (**3 marks**).

6. In microscopy samples must be prepared appropriately before examination, state the functions of the following preparation processes (**a) staining (b) fixing (c)** use of a **mordant (3 marks).**

7. Name the two domains that form the prokaryotic microorganisms. Define the main difference that is used to distinguish the two domains **(3 marks).**

8. List any six beneficial effects of Algae to man **(3 marks).**

9. Name three characteristics that are used to distinguish viruses from other microorganisms **(3 marks).**

10. Describe the three procedures that are used in the laboratory to culture animal viruses. (**3 marks**).

SECTION B. ANSWER ANY TWO QUESTION 30 MARKS.

1. Using bacteria cells as examples draw a sketch of a typical microorganism growth curve. Explain each step that has been shown in the growth curve**. (15 marks)**

2. Describe any three protozoan diseases that commonly infect humans. For each disease state the causal agent, mode of transmission, treatment and control**. (15 marks)**

3. Describe the principals that are involved in the control of microorganisms using the following physical method:
   a. **Low temperatures or (refrigeration and freezing)**
   b. Application of salt or sugar
   c. Boiling (**15 marks**).

4. With regard to microbial growth requirements: write short notes on the following:
   a. **Selective media**,
   b. **Transport media**
   c. **Differential media**. (**15 marks)**