

**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND
TECHNOLOGY
HDC 2121 INTRODUCTORY MICROBIOLOGY
SEPT- DEC EXAMINATION 2013**

Instructions; Answer question one compulsory and any other two questions.

QUESTION ONE

- a) Explain the following terms used in microbiology.
 - i. Prokaryotes. (1mks)
 - ii. Eukaryotes. (1mks)
 - iii. Nutrient agar. (1 mks)
- b) Using a neat well labelled diagram describe the structures found in a typical bacterial cell. (3 mks)
- c) Differentiate between solid and liquid culture medium. (3 mks)
- d) Enumerate the physical agents used in sterilization. (3 mks)
- e) List the general characteristics of viruses. (3 mks)
- f) Describe the morphology of a bacteriophage. (3 mks)
- g) Briefly describe the basic growth requirements of pathogenic fungi in the laboratory. (3 mks)
- h) Enumerate any three agents used in the control of bacteria. (3 mks)
- i) Identify the classification viruses based on their genetic material. (3 mks)
- j) Briefly describe the environmental factors that contribute to survival of microorganisms. (3 mks)

QUESTION TWO

Discuss salient aspects of nutrition, gaseous requirements, temperature requirements and other physical requirements of bacteria growth. (15 mks)

QUESTION THREE

Discuss the methods of sterilization, explaining their advantages. (15 mks)

QUESTION FOUR

Describe the various types of culture media used for cultivation of bacteria in the laboratory. (15 mks)

QUESTION FIVE

Discuss the methods by which viruses can be cultivated. (15 mks)