Technical University of Mombasa

Faculty of Applied and Health Sciences

DEPARTMENT OF ENVIRONMENT AND HEALTH SCIENCES

CERTIFICATE IN COMMUNITY HEALTH AND HIV MANAGEMENT
(CCH 13S)

AAB 1105: GENERAL MICROBIOLOGY

SEMESTER: EXAMINATIONS

SERIES: DECEMBER 2013

TIME: 2 HOURS

INSTRUCTIONS:

You should have the following for this paper

- *Answer booklet*

This paper consists of ***FIVE*** questions.
Answer Question **ONE (compulsory)** and any other **TWO** questions
*This paper consists of **2 PRINTED** pages*

Question ONE

a) Define the following terms:
   (i) Disinfectant **(1 mark)**
   (ii) Antibiotic **(1 mark)**
   (iii) Bacteriostatic agent **(1 mark)**
   (iv) Antiseptic **(1 mark)**
   (v) Micro-organism **(1 mark)**

b) (i) Explain the meaning of the term 'Risk Group' in microbiology **(1 mark)**
   (ii) Give FOUR risk groups of organisms by the W.H.O giving an example in each case. **(4 marks)**

c) (i) Explain how viruses are classified **(2 marks)**
   (ii) Highlight the major similarities and differences in the characteristics of gram positive and gram negative bacteria and how it influences the cells behavior, detection and treatment **(3 marks)**

d) Differentiate between the following:
   (i) Primary and secondary pathogen **(2 marks)**
   (ii) Commensal and pathogen **(2 marks)**
   (iii) Endotoxin and exotoxin **(2 marks)**
   (iv) Protoplast and spheroplast **(2 marks)**
   (v) Capsule and capsid **(2 marks)**

e) Give the difference between viruses and bacteria **(5 marks)**

Question TWO

a) Explain how to prove that an autoclave is sterilizing completely **(7 marks)**
b) Explain how chemical agents work in disinfection giving ONE example in each case **(8 marks)**

Question THREE

a) Draw a well labelled diagram of a bacterial cell **(10 marks)**
b) Highlight how nutrients enter the bacterial cell wall **(5 marks)**

Question FOUR

a) Giving an examples for each, list the routes of transmission of micro organisms **(7 marks)**

b) Give reason why each of the following ingredients are unco-operated in MacConkey agar medium **(8 marks)**

(i) Lactose

(ii) Neutral red

(iii) Sodium taurocholate

(iv) Agar

Question FIVE

Describe the methods that should be followed when collecting water for bacteriological analysis from various water supplies.

(15 marks)