(*Knowledge for Development*)

KIBABII UNIVERSITY

UNIVERSITY EXAMINATIONS 2017/2018 ACADEMIC YEAR

SECOND YEAR 1ST SEMESTER MAIN EXAMINATIONS

FOR THE DEGREE OF BACHELOR OF SCIENCE BIOLOGY

COURSE CODE: SBT 212
COURSE TITLE: PRINCIPLES OF BACTERIOLOGY

DATE: *15th January 2018* **TIME:** *9:00 – 11:00 a.m.*

INSTRUCTIONS TO CANDIDATES
Answer Question one (1) and any other two (2) Questions. Question one is compulsory and carries 30 marks, the other Questions carry 20 marks each.

TIME: 2 Hours

This paper consists of 2 printed pages. Please Turn Over

QUESTION ONE

a) Classify bacteria based on the arrangement of flagella on it cell surface. (4 Marks)

b) State four functions of a bacterial cell wall. (4 Marks)

c) Write short notes on the following:-

i. Fastidious bacteria (2 Marks)

ii. Pure culture (2 Marks)

d) Highlight four essential components of a nutrient media for bacterial growth. (4 Marks)

e) Define the term continuous culture. (2 Marks)

f) Briefly explain four methods that can be used to transport microbial specimens to the laboratory. (4 Marks)

g) Fill correctly in the blank spaces provided.

	Causative agent	**Disease**	
i.	_____	Typhoid	(1 Mark)
ii.	_____	Syphilis	(1 Mark)

h) Citing an example, distinguish between simple stain and differential stain. (4 Marks)

i) State two types of radiations used for sterilisation purposes. (2 Marks)

QUESTION TWO

a) Explain the physical and chemical means of sterilization in bacteriology. (10 Marks)

b) Describe the growth requirements of a bacterium. (10 Marks)

QUESTION THREE

a) Discuss the classification of culture medium based on their purpose. (10 Marks)

b) Describe the structural composition of the bacterial cell membrane. (6 Marks)

c) List four roles of the cell membrane. (4 Marks)

QUESTION FOUR

a) Describe one human bacterial disease, pointing at causative agent, signs and symptoms and prevention and control. (10 Marks)

b) Describe the diversity in the structural composition of the bacterial cell wall. (10 Marks)

QUESTION FIVE

a) Explain the four main phases of a bacterial growth curve using a viable count. (10 Marks)

b) Describe the various inoculation techniques used on a solid medium. (10 Marks)