



(Knowledge for Development)

KIBABII UNIVERSITY
UNIVERSITY EXAMINATIONS
2020/2021 ACADEMIC YEAR

FIRST YEAR SECOND SEMESTER
MAIN EXAMINATIONS

FOR THE DEGREE OF BACHELOR OF SCIENCE IN
BIOLOGY AND BIORESOURCE CONSERVATION & MANAGEMENT.

COURSE CODE: SBT 122

COURSE TITLE: GENERAL MICROBIOLOGY

DATE: Wednesday 21st July, 2021.

TIME: 2:00 – 4:00 p.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 3 printed pages. Please Turn Over 

KIBU observes ZERO tolerance to examination cheating

Question one

- a) State the major contributions of Louis Pasteur (5 marks)
- b) State 5 general characteristics of fungi (5 marks)
- c) For each of the following microbial infections, state the causal organism (5 marks)
 - i. Late blight of potato
 - ii. Damping off of tobacco
 - iii. Citrus canker
 - iv. Plague
 - v. Crown gall of apple
- d) Outline how the following antibiotics affect the cell (3 marks)
 - i. Penicillin
 - ii. Rifampicin
 - iii. Sulphonamide
- e) At the start of an experiment there were 10^3 bacterial cells/ml in a culture and after 6 hours it increased to 10^9 cells/ml. Calculate the growth rate and generation time of the culture (5marks)
- f) State Koch's postulates (5 marks)
- g) State two differences between lytic and lysogenic cycles (2 marks)

Question two

Discuss in detail the economic importance of microorganisms in food processing and manufacturing (20 marks)

Question three

In ecology, microorganisms are classified by their type of habitat, or trophic level, energy source and carbon source. Discuss the various categories of microorganisms in each group. (20 marks)

Question four

Classify the types of culture media citing their uses and examples. (20 marks)

Question five

Discuss the methods of sterilization (20 marks)