



(Knowledge for Development)

KIBABII UNIVERSITY
UNIVERSITY EXAMINATIONS
2021/2022 ACADEMIC YEAR

FIRSTYEAR SECOND SEMESTER
MAIN EXAMINATIONS

FOR THE DEGREE OF BACHELOR OF
EDUCATION/BIOLOGY/AGRICULTURAL BIOTECHNOLOGY

COURSE CODE: SBL 122

COURSE TITLE: BIOLOGICAL TECHNIQUES

DATE: 11TH MAY 2022

TIME: 2.00 -4.00 PM

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

- Q1 (a) Briefly explain the principles of bright field microscopy. (5 marks)
- (b) Define the following terms
- i. Microscopy
 - ii. sterilization
 - iii. Magnification
 - iv. Fixation
 - v. Numerical aperture (5 marks)
- (c) Compare and contrast digital and film photography. (5 marks)
- (d) State and explain the principles governing the International Code of Zoological Nomenclature (ICZN) 5 marks
- (e) Distinguish between
- i. Agar broth and Agar plate
 - ii. Contaminated and mixed culture
 - iii. Mordant and stain
 - iv. Permanent and temporary slides
 - v. Sterilization and disinfection 5 marks
- (f) Write short notes on Polymerase Chain Reaction (PCR) 5 marks
- Q2 Discuss the essential requirements of a bacterial culture media (20 marks)
- Q3 Describe the most common applications of microtomes. (20 marks)
- Q4 Discuss the importance of herbaria in teaching and research of world flora (20 marks)
- Q5 Explain the processes involved in isolating Deoxy Nucleic acids (DNA) from plant tissues 20 marks