



THE MOMBASA POLYTECHNIC UNIVERSITY COLLEGE

(A Constituent College of Jkuat)

Faculty of Applied & Health Sciences

DEPARTMENT OF PURE AND APPLIED SCIENCES

CERTIFICATE IN SCIENCE LABORATORY TECHNOLOGY (09J)

END OF SEMESTER EXAMINATIONS

AAB 1201: BIOLOGICAL TECHNIQUES II (THEORY)

SERIES: AUGUST/SEPTEMBER 2011

TIME: 3 HOURS

Instructions to Candidates:

You should have the following for this examination

- *Answer booklet*

Answer all questions in **SECTION A** and any **TWO** in **SECTION B**

This paper consists of **THREE** printed pages

SECTION A

(Answer all questions in this section)

1. Distinguish between magnification and Resolution (4 marks)
2. Explain any **FOUR** precautions that can be taken when using a microscope (4 marks)
3. Differentiate between:
 - a) Cell organelle
 - b) Cell inclusion
4. Define the following terms:
 - a) Osmosis (2 marks)
 - b) Active transport (2 marks)
5. List down **FOUR** properties of enzymes (4 marks)
6. Name **FOUR** methods of sterilization (4 marks)
7. Name **FOUR** components of blueed (4 marks)
8. Name **FOUR** laboratory animals (4 marks)
9. (a) What is euthanasia? (2 marks)
(b) Name **TWO** ways of disposing carcasses (2 marks)
10. Give **ONE** use of the following: (4 marks)
 - a) Dessicator
 - b) Wire loop
 - c) Lysol
 - d) Laboratory coat
11. (a) What is poisoning as used in herbarium? (2 marks)
(b) Name **TWO** repellants used to chase away insect pests in herbarium work (2 marks)
12. Give **FOUR** uses of a museum (4 marks)
13. Define the following:
 - a) Flora
 - b) Habitat
 - c) Ecology
 - d) Fauna
14. (a) Name **TWO** methods of collecting plants and animal specimens (2 marks)
(b) Give **TWO** methods of specimen preservation (2 marks)
15. Name **FOUR** ecological sampling equipment (4 marks)

SECTION B

(Answer any **TWO** questions from this section)

16. (a) Draw and label a light microscope (10 marks)
- (b) Explain how you can test the following
- (i) An oil (5 marks)
 - (ii) Sucrose (5 marks)
17. Discuss the care and maintenance of a microscope (20 marks)
18. What information should accompany a herbarium notebook? (20 marks)
19. Describe the process of calibrating a microscope (20 marks)