



MURANG'A UNIVERSITY OF TECHNOLOGY

SCHOOL OF PURE APPLIED AND HEALTH SCIENCES

DEPARTMENT OF PHYSICAL AND BIOLOGICAL SCIENCES

UNIVERSITY ORDINARY EXAMINATION

2020/2021 ACADEMIC YEAR

**FIRST YEAR SECOND SEMESTER EXAMINATION FOR BACHELOR OF
SCIENCE IN**

ABT 101– LABORATORY METHODS IN BIOLOGY

DURATION: 2 HOURS

Instructions to candidates:

1. Answer question One and Any Other Two questions.
2. Mobile phones are not allowed in the examination room.
3. You are not allowed to write on this examination question paper.

SECTION A: ANSWER ALL QUESTIONS IN THIS SECTION

QUESTION ONE (30 MARKS)

- a) Outline any four measures taken to prevent laboratory accidents (4marks)
- b) Explain the purposes of the following procedures:
 - (i) Tissue fixation (4marks)
 - (ii) Sectioning (4marks)
- c) Explain the working principle of immunological techniques. (5marks)
- d) Explain how a spectrophotometer works. (5marks)
- e) Explain care and maintenance of the following instruments.
 - (i) Dissolved oxygen probe (4marks)
 - (ii) PH meter (4marks)

SECTION B – ANSWER ANY TWO QUESTIONS IN THIS SECTION

QUESTION TWO (20 MARKS)

Discuss the benefits and limitations of modified foods.

QUESTION THREE (20 MARKS)

Discuss care and use of a compound microscope.

QUESTION FOUR (20 MARKS)

Compare and contrast southern Blotting and the polymerase Chain Reaction (PCR) techniques
(20marks)