



MURANG'A UNIVERSITY OF TECHNOLOGY

SCHOOL OF PURE APPLIED AND HEALTH SCIENCES

DEPARTMENT OF PHYSICAL AND BIOLOGICAL SCIENCES

UNIVERSITY ORDINARY EXAMINATION

2021/2022 ACADEMIC YEAR

SECOND YEAR FIRST SEMESTER EXAMINATION FOR BACHELOR OF
EDUCATION SCIENCE

ABT 200– INTRODUCTION TO BIOCHEMISTRY AND GENETICS

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.

QUESTION ONE (30 MARKS)

- a) Describe Prophase I of meiosis (5 Marks)
- b) Distinguish monosaccharaides from disaccharides. (5 Marks)
- c) Explain Mendel's law of independent assortment. (5 Marks)
- d) Describe the secondary structure of proteins. (5 Marks)
- e) Explain the lock and key hypothesis of enzyme action. (5 Marks)
- f) Briefly discuss the composition and function of starch in plants (5 Marks)

QUESTION TWO (20 MARKS)

- a) Describe sex-linked inheritance. (10 Marks)
- b) Discuss human-sex anomalies. (10 Marks)

QUESTION THREE (20 MARKS)

Discuss:

- a) The general characteristics of deoxyribonucleic acid (DNA) (8 Marks)
- b) The role of RNA in protein synthesis (12 Marks)

QUESTION FOUR (20 MARKS)

- a) Describe the structure and function of the different classes of lipids. (20 Marks)