



MURANG'A UNIVERSITY OF TECHNOLOGY

SCHOOL OF PURE, APPLIED AND HEALTH SCIENCES

DEPARTMENT OF HEALTH SCIENCES

UNIVERSITY ORDINARY EXAMINATION

2023/2024 ACADEMIC YEAR

FIRST YEAR SECOND SEMESTER EXAMINATION FOR BACHELOR

OF SCIENCE IN MEDICAL LABORATORY SCIENCE

HNB 123 – MEDICAL BIOCHEMISTRY II

DURATION: 2 HOURS

INSTRUCTIONS TO CANDIDATES:

1. Answer question ONE 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 – (30 MARKS) – ANSWER ALL QUESTIONS IN THIS SECTION

QUESTION ONE (30 MARKS)

- a) Explain the significance of biochemistry to medical students. (5 marks)
- b) Describe the structure of sickle cell anaemia (haemoglobin SS). (5 marks)
- c) Draw the diagram of purine and pyrimidine structures. (5 marks)
- d) Compare the features of DNA and RNA molecules. (5 marks)
- e) Explain elevation of CAMP levels by glucagon in liver cells. (5 marks)
- f) Outline the enzymatic inhibition of the formation of ATP by arsenate. (5 marks)

SECTION B (40 MARKS) – ANSWER ANY TWO QUESTIONS IN THIS SECTION

QUESTION TWO (20 MARKS)

- a) Describe the enzymatic control of blood clotting process. (10 marks)
- b) Describe the factors that influence enzymatic relations. (10 marks)

QUESTION THREE (20 MARKS)

- a) Describe five (5) common liver function tests (LFT). (10 marks)
- b) Explain the application of LFT and symptoms of patients that need LFT. (10 marks)

QUESTION FOUR (20 MARKS)

- a) Describe the various blood chemistry tests and their medical significance. (10 marks)
- b) Describe the renal function (RFT) and profiles. (10 marks)