



(University of Choice)

**MASINDE MULIRO UNIVERSITY OF
SCIENCE AND TECHNOLOGY
(MMUST)**

**MAIN CAMPUS
MAIN EXAMINATIONS**

**UNIVERSITY EXAMINATIONS
2021/2022 ACADEMIC YEAR**

FOURTH YEAR SECOND SEMESTER EXAMINATIONS

**FOR THE DEGREE
OF
BACHELOR OF SCIENCE IN BIOCHEMISTRY**

COURSE CODE: SBM 424

**COURSE TITLE: ENVIRONMENTAL BIOCHEMISTRY AND
TOXICOLOGY**

DATE: MONDAY, 25TH APRIL 2022

TIME: 8:00 – 10:00 A.M.

INSTRUCTIONS TO CANDIDATES

Answer ALL questions in section A and any TWO in section B

TIME: 2 Hours

MMUST observes ZERO tolerance to examination cheating

This Paper Consists of 2 Printed Pages. Please Turn Over. ►

SECTION A (SHORT ANSWER QUESTIONS, 40 MARKS)

1. Outline the various steps employed in environmental hazard management. (4 marks)
2. Distinguish between hazard and a risk, giving relevant examples in each case. (5 marks)
3. List five common sources of solid wastes in Kenyan urban centers. (5 marks)
4. Explain briefly the role of biochemistry in environmental management. (5 marks)
5. Outline five effects of toxins on individuals. (5 marks)
6. Penetration of a toxicant from the environment to the sites of its toxic effect inside the organism can be a three-phase process. Explain. (6 marks)
7. Explain the difference between Nernst partition coefficient and dissociation constant (pK_a) (5 marks)
8. State five factors influence the rate of absorption of toxicants in various parts of the GIT. (5 marks)

SECTION B (ESSAY QUESTIONS, 30 MARKS)

9. Write an essay on the various processes and mechanisms are involved in the transport of toxicants through membranes. (15 marks)
10. Discuss the conventional process of wastewater treatment. (15 marks)
11. Discuss the various strategies for phytoremediation. (15 marks)