



MASENO UNIVERSITY
UNIVERSITY EXAMINATIONS 2013/2014

**THIRD YEAR SECOND SEMESTER EXAMINATIONS FOR THE
DEGREE OF BACHELOR OF SCIENCE (MEDICAL LABORATORY
SCIENCE, MEDICAL BIOTECHNOLOGY & PHARMACEUTICAL
SCIENCES) WITH INFORMATION TECHNOLOGY**

(MAIN CAMPUS)

PMT 329: ENVIRONMENTAL HEALTH AND TOXICOLOGY

Date: 25th July 2014

Time: 8.30 – 10.30 am

INSTRUCTIONS:

1. Write your University Registration Number on every booklet that you use.
2. Do not write your name on any papers you use.
3. The Questions are set out in **Two (2)** Sections, A and B
4. **Section A** has **Seven (7)** Short Answer Questions (SAQs) to be answered in **Sixty (60) minutes**,
5. **Section B** has **Three (3)** Long Essay Questions (LEQs) to be answered in **sixty (60) minutes**.
6. The time allowed for this Paper is **Two (2)** hours.
7. Read very carefully the additional instructions preceding each Section.
8. Observe carefully further instructions on the cover of Answer Booklets.

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ISO 9001:2008 CERTIFIED



SECTION A (40 MARKS)

Answer ALL questions in this section

- 1) Identify the branch of toxicology that:
 - a. is mandated to study the potential deleterious impact of chemicals, present as pollutants of the environment and to the living organisms (1 mark)
 - b. deals with the effects of toxins (typically in the form of drugs) on human patients (1 mark)
 - c. focuses on detecting the criminal use of toxic agents (1 mark)
 - d. is responsible for toxicity testing which provides necessary information for safety evaluation and regulatory requirements (1 mark)
 - e. defines the mechanism of toxic action of poisons and toxic chemicals. (1mark)
- 2) State five mechanisms through which toxic agents cause toxicity (5 marks)
- 3) Enumerate five determinants gastrointestinal absorption (5 marks)
- 4) Identify five factors that will dictate the severity of dermal injury following exposure to a pesticide (5 marks)
- 5) Enumerate five health effects that may arise due to exposure to tropospheric ozone (5 marks)
- 6) Describe five investigations that can help diagnose heavy metal poisoning (5marks)
- 7) Outline five measures that can be beneficial in mitigating radiation toxicity (5 marks)
- 8) Specify five sources of heavy metal toxicity (5 marks)

SECTION B (30 MARKS)

Answer **any two** questions. Question 9 is compulsory.

- 9) Discuss determinants of gastrointestinal absorption (15 marks)
- 10) Describe the physiological classification of toxic agents (15 marks)
- 11) Describe potential environmental sources of toxicity (15 marks)