



MASENO UNIVERSITY

UNIVERSITY EXAMINATIONS 2013/2014

**THIRD YEAR FIRST SEMESTER EXAMINATIONS FOR THE
DEGREE OF BACHELOR OF SCIENCE IN MEDICAL
LABORATORY SCIENCE, MEDICAL BIOTECHNOLOGY AND
PHARMACEUTICAL SCIENCES WITH INFORMATION
TECHNOLOGY**

(MAIN CAMPUS)

PMT 329: ENVIRONMENTAL HEALTH AND TOXICOLOGY

Date: 2nd April, 2014

Time: 11.15am - 1.30pm

INSTRUCTIONS:

- This paper consists of two sections A & B. Section A consists of short answer questions (SAQ) and amounts to 40 marks.
- Section B constitutes long answer questions (LAQ) totaling to 30 marks.
- Attempt ALL questions in section A.
- Answer ANY TWO OTHER QUESTIONS in Section B in the answer booklet(s) provided.

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ISO 9001:2008 CERTIFIED



SECTION A (40 MARKS)

Attempt 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)-Descrip
 - e. Defines the mechanism of toxic action of poisons and toxic chemicals. (1mark) Mechanistic
- 2) State five mechanisms through which toxicants exert toxicity (5 marks)
- 3) Enumerate five determinants of the rate of distribution of a chemical in the human body (5 marks)
- 4) List five ways through which toxic agents can be classified (5 marks)
- 5) Pinpoint five way through which cadmium can gain entry into the body (5 marks)
- 6) Distinguish between:
 - a. Toxicokinetics and toxocodynamics
 - b. Toxicogenetics and toxicogenomics
 - c. Local and systemic health effects
 - d. Acute and chronic exposure
 - e. Acute and chronic health effect (5 marks)
- 7) Systematically specify the five steps used to assess risk in a workplace (5 marks)

SECTION B (30 MARKS) Answer any two questions

- 8) Describe potential environmental sources of toxicity(15 marks)
- 9) Describe the physiological classification of toxic agents(15 marks)
- 10) Describe methods of treatment of hazardous waste(15 marks)