



# MERU UNIVERSITY OF SCIENCE AND TECHNOLOGY

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## University Examinations 2024/2025

FOURTH YEAR FIRST SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR  
OF SCIENCE IN BIOCHEMISTRY

### SHC 3403: BIOCHEMICAL TOXICOLOGY

DATE: JANUARY 2025

TIME: 2 HOURS

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INSTRUCTIONS: Answer question *one* and any other *two* questions

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#### QUESTION ONE (30 MARKS)

- Outline basic principles of teratology as proposed by James Wilson (6 marks)
- Highlight common operational features of tumor promoters (6 marks)
- State points at which secretion of triglycerides from the liver as lipoproteins might be disrupted (6 marks)
- Describe briefly the history of toxicology (6 marks)
- Describe briefly the different types of specialized carrier-mediated transport processes (6 marks)

#### QUESTION TWO (20 MARKS)

Discuss the common toxic mechanisms and sites of action of metals (20 marks)

#### QUESTION THREE (20 MARKS)

Using structural illustration describe dealkylation as an example of phase one metabolism of toxicants (20 marks)

#### QUESTION FOUR (20 MARKS)

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Foundation of Innovations

Page 1

Using structural illustration describe some of the possible routes of metabolic activation of acetylaminofluorene (AAF) to make it a potent carcinogen (20 marks)