

**Name of the Programme:** M. Sc. Zoology

**Course Code:** ZOO-605

**Title of the Course:** Toxicology (Practical)

**Number of Credits:** 01

**Effective from AY:** 2023-24

<b>Pre-requisites for the Course:</b>	Basic knowledge on Chemistry, Anatomy, Physiology and Ecology.	
<b>Course Objectives:</b>	To identify different toxic substances from samples To determine the toxicity of various toxic substances	
<b>Content:</b>	Detection of heavy metals in water samples Detection of additives in food items Detection of microplastics in water samples Determination of LD50 from given data using Probit analysis. Effect of heavy metal pollution physiological process in crabs/fishes Estimation of oxidative damage in organisms exposed to pollutants Understanding the classes of drugs and their modes of action	15x2 hours
<b>Pedagogy:</b>	Lectures/Tutorials/Videos/Assignments/Group discussion/Self-study.	
<b>References/ Readings:</b>	<ol style="list-style-type: none"><li>1. J. Timbrell, Introduction to Toxicology, 3rd ed. Taylor and Francis Inc., 2002.</li><li>2. C. Klaassen, J. Watkins, Casarett &amp; Doull's Essentials of Toxicology, 3rd ed. McGraw-Hill Education publication, 2015.</li><li>3. K. Stine, T.M. Brown, Principles of Toxicology. 3rd ed. CRC Press, 2015.</li><li>4. A.H. Wallace, Principles and Methods of Toxicology. 5th ed. USA: Informa Healthcare Publication, 2007.</li><li>5. T. Kwong, B. Magnani, T. Rosano, L. Shaw. The Clinical Toxicology Laboratory: Contemporary Practice of Poisoning Evaluation, 2nd ed. AACC Press, 2013.</li><li>6. G. Pandey, Y.P. Sahani. Toxicological Laboratory Manual. India: International E-Publication, 2013.</li><li>7. B. Levine, Principles of Forensic Toxicology, 2nd ed. Amer Assn for Clinical Chemistry Press, 2007.</li><li>8. E. Hodgson, A Textbook of Modern Toxicology, 4th ed. Wiley Publication, 2010.</li><li>9. M. Durrant, Handbook of Clinical Toxicology. Hayle Medical Publishers, 2019.</li></ol>	
<b>Course</b>	The learner will	

<b>Outcomes:</b>	Assess the risk of toxicants in the environment Develop protocols for analysing toxic substances in the environment Predict the toxicity of substances by experimentation Interpret the results of toxicity tests
------------------	--