

MSc Sem.-1 Examination

401

Toxicology

February-2025

Time : 2-30 Hours]

[Max. Marks : 70

Q1A	Define toxicology and explain its scope in the study of human health and the environment.	7 Marks
Q1B	Explain human health risk assessment and its steps in toxicology.	7 Marks
OR		
Q1A	Describe the history of toxicology, focusing on significant milestones and contributors in the field.	7 Marks
Q1B	Elaborate on the routes of exposure and explain how they influence organism-environment interactions.	7 Marks
OR		
Q2A	List key responsibilities of Quality Assurance (QA) personnel in ensuring GLP compliance.	7 Marks
Q2B	Explain the format and essential components required for writing a Standard Operating Procedure (SOP).	7 Marks
OR		
Q2A	Explain the difference between Quality Control (QC) and Quality Assurance (QA) in pharmaceutical studies.	7 Marks
Q2B	Explain the role of computers in a Quality Control laboratory. How do they enhance efficiency and accuracy in data handling, record maintenance, and analysis under Good Laboratory Practices?	7 Marks
OR		
Q3A	Describe in detail the housing and environmental requirements for laboratory animals, including enrichment and sanitation practices.	7 Marks
Q3B	Write in detail about the methods of euthanasia in laboratory animals, focusing on ethical considerations and commonly used techniques.	7 Marks
OR		
Q3A	Outline the steps and methods for the proper disposal of dead animal carcasses.	7 Marks
Q3B	Explain the design and ventilation requirements of an animal house, including factors affecting air exchange and animal health.	7 Marks
OR		
Q4A	What are pharmacological responses, and how do drugs elicit these responses in different animal models?	7 Marks
Q4B	Write in detail about breeding methods, including inbred strains, random breeding, selective breeding, and F1 hybrids, with their applications in research.	7 Marks
OR		
Q4A	Explain the factors affecting the nature and degree of pharmacological responses, including genetic, physiological, and environmental influences.	7 Marks
Q4B	Discuss the classification of animal models for toxicity testing, including the main categories and examples.	7 Marks
Q5	Answer the following questions (Any Seven)	14 Marks

(P.T.O)

I	Who is known as the father of toxicology, and why?	2 Marks
II	Define the term "toxicant" and give one example.	2 Marks
III	What is the role of dose-response relationships in toxicology?	2 Marks
IV	What is the significance of accurate record-keeping in a GLP-compliant laboratory?	2 Marks
V	How do GLP guidelines apply to the control and maintenance of animal houses in non-clinical research?	2 Marks
VI	What does the acronym MSI stand for in the context of GLP, and what is its purpose in a test facility?	2 Marks
VII	What are the common gases used for inhalation euthanasia?	2 Marks
VII	Name two methods of disposal for dead animal carcasses.	2 Marks
IX	Define "intestinal motility" and its importance in experimental studies.	2 Marks
X	Define a negative model in the context of toxicity testing.	2 Marks
XI	What are the 3 R's in animal research, and why are they important?	2 Marks
XII	Calculate the dose of amoxicillin for a 6-year-old child weighing 45 pounds, given an adult dose of 500 mg.	2 Marks

BEST OF LUCK