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Programme Name: BSc (Toxicology Honours Research)- FYUP
Semester II Examinations (2023-24) – Oct/Nov 2023

Paper Name: Introduction to Toxicology
Time: 2hr 30 min.

Paper Code: BTX MIC-201
Maximum Marks: 60

Instructions: This paper has 3 sections- A, B and C. Attempt all the three sections.

Abbreviations Used:

CO/CLO-Course Outcome/Course Learning Outcome; PO-program Outcome, BTL- Bloom Taxonomy Levels: BTL1- Remember; BTL2- Understand; BTL3- Apply; BTL4 - Analyze; BTL5- Evaluate; BTL6- Create.

SECTION A

$$1.5 \times 10 = 15$$

Very Short Answer Type Questions (Marks 1X10 = Marks -10; Attempt all questions)

Q. No.	Question	Marks	BTL	CO/CLO
1.	Write two scopes of toxicology.	1.5	3	4
2.	Define NOAEL.	1.5	2	2
3.	Define blood brain barrier.	1.5	2	3
4.	Write the metabolized form mercury which caused Minamata disease.	1.5	1	1
5.	What is the gestation period of rats?	1.5	2	5
6.	Balb/C is a strain of mouse. (True or False)	1.5	1	5
7.	LD50 is a fixed value and is same for each chemical and animal species used. (True or False)	1.5	5	5
8.	Name one amino acid found in glutathione.	1.5	1	4
9.	Interstitial fluid is about.....% of body weight. (Fill in the blank)	1.5	1	3
10.	Define antagonistic chemical interaction.	1.5	2	5

SECTION B

$$5 \times 3 = 15$$

Short Answer Type Questions (10X3 = 30 Marks; There are internal choices)

Q. No.	Question	Marks	BTL	CO/CLO
1.	What are various roles of toxicologists in environmental and human health?	10 5	3	2
	OR What is the historical importance of arsenic in developing various concepts of toxicology?	10 5	2	1

2.	Write a short note on storage of toxic chemicals and their metabolites.	105	2	3
	OR Write a note on biological factors affecting toxicity and metabolism of chemicals and drugs.	105	2	3
3.	What is the importance animal welfare in toxicology?	105	5	2
	OR Why small animals (rats and mice) are preferred in toxicology research?	105	5	2

SECTION C

Long Answer Type Questions (12X2 = 40 Marks; There are internal choices)

$$15 \times 2 = 30$$

Q. No.	Question	Marks	BTL	CO/CLO
1.	Describe role of oxidation reactions in biotransformation of chemicals and drugs.	20 15	2	3
	OR What are various routes of exposure to chemicals? Why some routes are more efficient than others?	20 15	1,4	3
2.	What is role of free radical and reaction oxygen species (ROS) in toxicity of chemical? Give metabolic pathway of carbon tetrachloride. (either write in text or draw the pathway of metabolism)	20 15	1	2
	OR Write a detail account of criticism of classical LD50 test. What are alternative LD50 tests? Write in detail about two alternative tests.	20 15	5	2

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