

RAJARATA UNIVERSITY OF SRI LANKA FACULTY OF APPLIED SCIENCES

B.Sc. (Honours) Degree in Chemistry
Fourth Year Semester I Examination – September / October 2019

CHE 4213 – CHEMICAL TOXICOLOGY

1. a) Illustrate what is meant by the terms therapeutic index and margin of safety. (40 marks) b) Explain the term tolerance using a suitable example. (20 marks) c) Define the term LD ₅₀ . (20 marks) d) State assumptions of dose-response relationship. 2. a) Write short notes on following; i. Plasma protein binding ii. Enterohepatic recirculation (40 marks) b) What are the physicochemical characteristics which determine the absorption, distribution and excretion of chemicals in biological systems. (20 marks) c) The three main sites of absorption for chemicals are the gastrointestinal track, skin and lungs. List the similarities and differences between these sites relevant to the absorptive process. (40 marks) 3. a) Briefly describe the two phases of metabolism. (20 marks) c) Identify the chemical and biological factors that affect the metabolism.		Ans	wer	e: Two (02) hours			
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- d) Distribution of foreign compounds may be restricted to certain tissues like brain.
 Explain. (40 marks)
- 4. a) Naphthalene is toxic to the lungs. How does the human body eliminate naphthalene with the aid of glutathion conjugation? (40 marks)
 - b) Write short notes on following;
 - i. Toxic effects of bee venom
 - ii. Toxins of castor beans
 - iii. Nerve toxins in plants (60 marks)

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