

系所組別：環境醫學研究所乙組

考試科目：環境毒理學

考試日期：0307，節次：2

※ 考生請注意：本試題 可 不可 使用計算機

1. Describe the following interactions between two toxicants: synergism, antagonism, and dose additive effect. (9%)
2. Explain phase I and phase II reactions. (7%)
3. What are acute, subchronic, and chronic toxicity? (9%)
4. The 2008 Chinese milk scandal is a food safety incident in mainland People's Republic of China involving milk and infant formula which had been adulterated with melamine. With China's wide range of export food products, the scandal has affected countries on all continents. Please describe what you know about the incident while trying your best to apply your knowledge about toxicology in your description. (10%)
5. Answer the following questions related to a group of trace environmental toxicants- dioxins. (15%)
 - A. What are the chemical structures of dioxins?
 - B. Why is dioxin considered as an "endocrine disruptor"?
 - C. What are the origins of dioxin contamination in food?
 - D. What effects could dioxin exposure cause to human health?
 - E. What suggestions would you provide to those who intend to reduce their exposure to dioxins via food consumption?
6. Please explain Major Histocompatibility Complex and elaborate on its role in immunotoxicological response. (10 %)
7. Please explain the following terms: (5 % for each)
 - a. Cytotoxic T cell
 - b. Hypersensitivity
 - c. Fab

(背面仍有題目,請繼續作答)

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8. Explain the following terms and their toxicological significance: (9%)
 - a. Genotoxicity
 - b. Ames test
 - c. maximum tolerated dose (MTD)
9. Describe as much as possible how a normal cell becoming transformed cancerous cell when exposed to chemical carcinogen. (8%)
10. Oxidative stress has become an important research topic in environmental toxicology, give five examples of reactive oxygen species (ROS) or reactive nitrogen species (RNS). (8%)