編號： 317 **國立成功大學104學年度碩士班招生考試試題**

系所組別：環境醫學研究所乙組

考試科目：毒理學 考試日期：0212，節次：2

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※ 考生請注意：本試題不可使用計算機。 請於答案卷(卡)作答，於本試題紙上作答者，不予計分。

1. Define poisons and describe several functions for poisons. (7%)
2. Describe cytochrome P450 oxidation cycle and its function in detoxification process. (8%)
3. Show the toxicity of toxic heavy metal lead. (10%)
4. Describe the term "hormesis" and give three examples. (5%)
5. Describe the cause and effect of enterohepatic circulation during the detoxification process of xenobiotics. (5%)
6. Define the following two related terms, "ADI" and "TDI". What is the major difference between them? Draw a flowchart to describe how the ADI/TDI can be obtained. (10%)
7. Draw the dose-response curves for two toxicants on a diagram to meet the following conditions: $LD_{50A} > LD_{50B}$ and $LD_{10B} > LD_{10A}$. Then comment on which toxicant is considered more toxic. (5%)
8. Describe as much as possible how a normal cell becoming transformed cancerous cell when exposed to non-genotoxic environmental chemicals. (10%)
9. Explain the following terms and their toxicological significance. (15%)
   a. Transversion mutation
   b. Free radical
   c. Tumor promotion
   d. Cytotoxicity
   e. Phase Ⅱ reaction
10. What will happen to the mammalian epithelial cells if encounter oxidative stress caused by environmental pollutant exposure? (10%)
11. Explain the following terms. (15%)
    a. Antigen-presenting cells
    b. Innate immunity
    c. Chemokines