

Part I : 50%

1. Explain the following terms: (10%)

- a. Fick's law of diffusion
- b. Volume of distribution
- c. Rate of elimination
- d. Beta-arrestin bias
- e. First pass effect

2. Briefly describe the signal transduction system involved in the following receptors: (10%)

- a. Cytokine receptors
- b. Thyroid hormone receptor
- c. Beta-adrenergic receptor
- d. Nicotinic acetylcholine receptor

3. Describe the side effects of COX-2 inhibitors and the involved mechanisms. (5%)

4. Describe the progress in the design of oral contraceptives over the past three decades. (5%)

5. Describe the effect of the following drugs on action potential. (5%)

- a. Digoxin
- b. Procainamide
- c. Verapamil
- d. Flecainide
- e. Amiodarone

6. Give examples and describe the mechanism of action of the commonly used anti-hyperlipidemics. (5%)

7. Answer **ONLY ONE** of the following questions: (10%)

- a. Name some of the important pharmacologists and describe their contribution to the development of pharmacology.
- b. What is gene therapy?
- c. What is dendritic cell vaccination?
- d. What is the strategy and rationale of pain control in hospice care?

編號： 352、361

國立成功大學九十七學年度碩士班招生考試試題

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系所：藥理學研究所 臨床藥學研究所 甲、乙組 科目：藥理學

本試題是否可以使用計算機：可使用，不可使用（請命題老師勾選）

考試日期：0302，節次：2

Part II : 50%

1. Describe action mechanisms of opioid analgesics. (10%)
2. Illustrate endocrine effects of insulin. (10%)
3. Demonstrate action mechanisms of nonsteroidal anti-inflammatory drugs.(10%)
4. Explain effects of proton pump inhibitors on gastric diseases. (10%)
5. Elucidate nitric oxide in disease. (10%)