

系所組別：藥理學研究所

考試科目：生理學

考試日期：0307，節次：3

※ 考生請注意：本試題 可 不可 使用計算機**Part I：簡答題：(50 分)**

1. List at least three factors involved in determining the magnitude of resting membrane potential? (5%)
2. List at least three roles of calcium ion in the physiological functions. (5%)
3. Describe the events that take place during neurotransmitter release. (5%)
4. Distinguish between a sensation and a perception. (5%)
5. Distinguish among the endocrine, paracrine, and autocrine systems. (5%)
6. Diagram the hypothalamic-pituitary-adrenal system and its physiological role. (5%)
7. What is an end-plate potential and what mechanisms are involved in producing it? (5%)
8. Describe the criteria used to distinguish brain death from coma. (5%)
9. Describe the sequence of events leading to excitation-contraction coupling in cardiac muscle. (5%)
10. Using at least four characteristics to distinguish slow-wave sleep from rapid eye movement stages. (5%)

Part II：問答題(50 分)

- 1.請敘明胎兒如何啟動分娩機制及其相關荷爾蒙之作用。(20%)
- 2.請簡述下列胞器功能：(15%)
 - (1) Mitochondria (5%)
 - (2) Lysosome (5%)
 - (3) Rough endoplasmic reticulum (5%)
- 3.請舉出一例您所知道的細胞膜蛋白質，並說明其結構特性及功能。(15%)