

Part I : 50%

- 一、請說明人體如何維持「心跳」及「血糖」在平衡狀態(homeostasis)?(20%)
- 二、看過的小說或到過的地方，都會留有印象或記憶。請問，生理學上是如何形成者?(10%)
- 三、請寫出三種體內的類固醇激素(steroid hormone)，說明其產生作用的分子機轉，並介紹其和別種激素(peptide hormone)不同的地方。(10%)
- 四、一般認為，藥理學乃生理學的延續。請問：要有那些生理知識，才能唸好藥理學研究所?(10%)

Part II : 50% , 每題 5 分

1. Discuss differences between neurotransmitters and neuromodulators.
2. What is the hypothalamus-pituitary-adrenal response and its physiological significance?
3. Describe the role of limbic system in emotions.
4. Describe the role of calcium ions in initiating contraction in skeletal muscle.
5. Describe isometric, isotonic, and lengthening contractions.
6. If the enzyme acetylcholinesterase were blocked with a drug, what malfunctions would occur?
7. How does heart failure lead to edema?
8. Name four risk factors for atherosclerosis and explain.
9. How does surfactant increase lung compliance?
10. Describe the process by which bone is lengthened.