

系所組別： 生理學研究所甲組

考試科目： 生理學

考試日期：0220，節次：2

※ 考生請注意：本試題 可 不可 使用計算機**Answer any 4 of the following 5 questions (each 25%)**

1. What are the three major types of muscles in our body? Describe their distinguishing morphological features and relate them to functions in the organs.
2. What is an endocrine organ? If you suspect that a particular organ served an endocrine function, what experiments would you do to prove your hypothesis?
3. What are the key mechanisms that generate (a) resting membrane potential and (b) action potential in an excitable cell? The conduction of action potential can be altered under physiological conditions. Discuss the possible underlying mechanisms.
4. Homeostasis is one of the most important concepts in physiology. Use the respiratory system to illustrate your knowledge on this. Discuss how the parameters you cited may temporarily deviate from normal under physiological conditions.
5. Our body weight is kept rather constant. In some people it deviates from normal (e.g., obesity). What may lead to this abnormality? Why is it often difficult for their body weight to return to normal? What harmful effects would obesity bring to the body?
