

問答題：(每題 10 分)

1. Illustrate neuromuscular relationships.
2. Demonstrate physiological functions of hypothalamus and brain stem.
3. Explain gastric mucosal barriers and their physiological significances.
4. Describe the factors that influence the rate and depth of breathing.
5. What is the pituitary gland (hypophysis) ?
6. Draw and label an action potential diagram. Explain the ion channels involved in the different phases of action potential. What are the differences among the action potentials generated in sino-atrial node, atrium, atrio-ventricular node and His-Purkinje system?
7. Explain and give an example for each of the following terms:
 - a. G-protein coupled receptors
 - b. Steroid receptors
 - c. Tyrosine kinase linked receptors
 - d. Ligand-gated receptors
8. Discuss the mechanism of platelet activation and aggregation. What is the physiological significance with respect to homeostasis?
9. Draw and label a diagram of a nephron. Describe briefly the function of different regions with respect to re-uptake and excretion of metabolites and nutrients.
10. Explain and give a physiological example for each of the following terms:
 - a. positive feedback
 - b. negative feedback