

系所組別：細胞生物與解剖學研究所

考試科目：動物學

考試日期：0307，翻次：2

※ 考生請注意：本試題 可 不可 使用計算機

1. Describe the theory of evolution by natural selection proposed by Charles Darwin. Give examples about the evidence of evolution from the aspect of comparative anatomy. (10%)
2. Describe glycolysis, aerobic respiration, and the energy (ATP) generated by the catabolism of glucose. (10%)
3. What is a cell cycle? How is the cell cycle controlled? (10%)
4. Describe the characteristics of vertebrates. (10%)
5. Describe the differences in osmoregulation between freshwater fishes and marine fishes. (10%)
6. Describe the differences in body temperature regulation between amphibians and mammals. (10%)
7. Describe the hormonal control of the ovarian and menstrual cycles in adult human females. (10%)
8. Describe the organization and function of the autonomic nervous system in vertebrates. (10%)
9. Describe the roles of the pituitary gland in human endocrinology and its functional relationship with the hypothalamus. (10%)
10. Describe the cardiovascular (heart and circulation) systems of fishes and mammals. Draw pictures to illustrate the differences in the cardiovascular systems between these two groups of vertebrates. (10%)