

銘傳大學 99 學年度研究所碩士班招生考試

生物科技學系碩士班

第二節

動物生理試題

(第 / 頁共 / 頁) (限用答案本作答)

可使用計算機 不可使用計算機

Please briefly answer the following questions:

1. Why does insulin have to be administered by injection rather than orally? (5 points)
2. How can you explain the fact that persons who die of heart attack (lack of oxygen to heart muscle) have perfectly adequate amounts of oxygenated blood in their heart chambers? (5 points)
3. Every year a small number of children die from diseases that develop as a result of vaccines received to protect them. It seems to be an inherent hazard associated with mass preventative inoculation. Is it worth the risk? Can you debate both sides of this issue? (10 points)
4. Describe the possible reasons of autoimmune diseases. (5 points)
5. Why is the best body position for public speaking and singing a standing, or "sitting tall" position? (5 points)
6. How is the stomach of a cow like the gut of a termite? (5 points)
7. Explain why drinking coffee may increase the sensation of hunger. (5 points)
8. Explain why men who have had a vasectomy operation are still able to expel normal amounts of semen but no sperm. (5 points)
9. Describe the four compartments of the stomach of ruminant animals. Also, how they work. (10 points)
10. Describe how antigen-presenting cells introduce foreign antigens to T_H cells. Also, how T_c cells recognize virus-infected cells. (10 points)
11. Why does testing HCG (human chorionic gonadotropin) work as a pregnancy test early in pregnancy but not late in pregnancy? What is the function of HCG in pregnancy? (10 points)
12. How do calcitonin and parathyroid hormone (PTH) maintain blood Ca^{++} level near the set point? (5 points)
13. Describe how the renin-angiotensin-aldosterone system (RAAS) regulates kidney function. (5 points)
14. How does breathing differ in mammals and birds? (5 points)
15. Explain why passive immunization provides short-term protection from an infection, whereas active immunization provides long-term protection. (5 points)
16. Explain why treatment of a chronic infection with antibiotics for an extended period of time may cause vitamin K deficiency. (5 points)

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