

※ 考生請注意：本試題不可使用計算機。請於答案卷(卡)作答，於本試題紙上作答者，不予計分。

1. Cancer kills millions of people every year and is one of humanity's greatest health challenges. In order to recognize the contributions of two professors who discovered novel cancer therapy methods, the 2018 Nobel Prize in Physiology or Medicine was awarded to these two professors. Do you know what kind of discovery are they? Please briefly describe the major findings that received 2018 Nobel Prize in Physiology or Medicine (20%).
2. When a person is exposed to the low oxygen condition, known as hypoxia, the breath will increase to inhale more air into the body. If the condition persists, our body will generate more red blood cells in order to carry more oxygen molecules. Please explain how this is achieved (20%).
3. If you are admitted to graduate school, which area is most interesting to you? Why is it interesting? Please give an example and explain your reason (10%).
4. What are transgenic animals? How to generate transgenic animals? (20%)
5. Please describe how DNAs become RNAs? How do RNAs become DNAs?(15%)
6. You have obtained 100 mole of "A" powder. The molecular weight of "A" is 23. How many milligrams(mg) of "A" powder do you have? If you want to prepare 10 M of "A" solution, how many milliliters (mL) of water do you need to add? (15%)