

國立成功大學

112學年度碩士班招生考試試題

編 號：261

系 所：生理學研究所

科 目：生命科學

日 期：0207

節 次：第 1 節

備 註：不可使用計算機

※ 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. Stress, defined as noxious or potentially noxious stimuli to a living organism. These stimuli comprise an immense number of situations, including physical trauma, prolonged exposure to cold, prolonged heavy exercise, infection, shock, decreased oxygen supply, sleep deprivation, fright, and other emotional stresses. Please describe how endocrine system in our body responds to stress and the physiological consequences in response to stress. (25%)

2. If a species wants to continuously survive in this planet, it needs to pass the genetic materials to the descendant. The genetic materials are preserved in a very sophisticated organelle, called nucleus. How are the genetic materials passed from generation to generation? Please describe this from the molecular biology's perspective. (25%)

3. Recently, the temperature drops and the weather is very cold. However, even with the outdoor temperature is below 10°C, our body can maintain the body temperature around 37°C. How is this achieved? (25%)

4. Graduate school is a place for young students to start their professional career. As a trainee in the master program of Physiology, what is your most interested research field or topic? Why are you interested in this field/topic? (25%)