

# 國立成功大學

## 115學年度碩士班招生考試試題

編 號：108

系 所：生物醫學工程學系

科 目：生理學

日 期：0203

節 次：第 1 節

注 意：1. 不可使用計算機  
2. 請於答案卷(卡)作答，於  
試題上作答，不予計分。

1. Describe the four major functions of complement proteins. (8%)
2. Describe the four possible causes of autoimmunity. (8%)
3. Describe the major causes of asthma, emphysema, and chronic bronchitis. (10%)
4. Explain how the body acclimatizes to hypoxia at high altitude. (8%)
5. Propose how the glomerular filtration rate (GFR) changes with constriction or dilation of the afferent arteriole (AA) or efferent arteriole (EA). (12%)
6. For the muscles involved in urination, compare the contraction and relaxation of the detrusor muscle, internal urethral sphincter, and external urethral sphincter during bladder filling and during micturition. (12%)
7. Describe the major regulatory mechanisms controlling prolactin and oxytocin secretion during breast-feeding. (8%)
8. Describe the changes that occur in the ovary and uterus during the menstrual cycle. (12%)
9. How is an action potential generated in a neuron? Additionally, what are the key characteristics of an action potential? (12%)
10. Identify the various ways in which cellular signaling occurs in animal cells. (10%)

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End of questions