

# 國立成功大學

## 113學年度碩士班招生考試試題

編 號：312

系 所：臨床醫學研究所

科 目：生物化學

日 期：0202

節 次：第 3 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. Please briefly describe the following methods.

- (1) Single-cell RNA sequencing (scRNA-seq) (5%)
- (2) Super resolution microscopy (5%)
- (3) Transcriptomic analysis (5%)
- (4) Knockout mice (5%)
- (5) Next generation sequencing (5%)
- (6) Two-dimensional gel electrophoresis (5%)
- (7) Electrophoretic mobility shift assay (5%)
- (8) CRISPR/Cas9 Genome Editing (5%)

2. Please briefly describe the following terms.

- (1) Wobble hypothesis (5%)
- (2) Replication fork (5%)
- (3) Topoisomerase (5%)
- (4) Okazaki fragment (5%)
- (5) Epigenetic modification (5%)
- (6) iPS cells (5%)
- (7) G protein (5%)
- (8) RNAi (5%)

3. What is autophagy? (5%)

What are the differences between autophagy and ubiquitin-proteasome system (UPS)? (5%)

4. What is single-nucleotide polymorphism (SNP)? (5%)

Please describe its importance and application in medicine. (5%)