

國立成功大學

112學年度碩士班招生考試試題

編 號：318

系 所：臨床醫學研究所

科 目：生物化學

日 期：0207

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. Why is the asymmetry of the lipid bilayer functionally important? Please give examples to explain it. (10%)
2. What is RNA interference? Please give each one an example to describe their major function in cells. (10%)
3. Please describe the mechanisms of translational control. (10%)
4. Please give a simple drawing and a flow chart to explain the amplification of DNA by polymerase chain reaction (PCR). (10%)
5. Please give a simple drawing for a "roadmap" of protein traffic between cell organs. (10%)
6. Please briefly describe the mechanisms of DNA repair. (10%)
7. What is co-translational translocation? What is post-translational translocation? Please compare their benefits or defects in protein translocation. (10%)
8. Three classes of cell-surface receptors above ion-channel-coupled receptor, G-protein-coupled receptor and enzyme-coupled receptors. Please give an example of each one to explain their characterizations and downstream molecular events. (10%)
9. Please describe what the molecular events happened in each cell cycle phase and how the cell cycle control-system regulate cell cycle progress. (10%)
10. Please compare the events of cell apoptosis and necrosis. (10%)