(103)輔仁大學碩士班招生考試試題	考試日期：103 年 3 月 7 日第 3 節
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科目：普通生物學(二)(微生物、植物生理領域)　　系所組：生命科學系

1. Please describe the differences of cell wall between gram-positive and negative bacteria, and the reasons why gram-positive bacteria turn blue and gram-negative bacteria turn red in the Gram stain. **20%**

2. Bacteria reproduce asexually and mutations are rare, but their populations can have high genetic diversity. Explain how this can occur. **20%**

3. Please draw diagrams to explain three routes for transport within a plant, the apoplastic, symplastic, and transmembrane routes. **20%**

4. Please outline how C3 plants produce glucose from CO_2 and what the major photosynthetic product transported in phloem is. Please also draw a diagram to describe the translocation of the photosynthetic product from sources to sinks via phloem based on the "pressure flow hypothesis". **20%**

5. Please describe three different ways how plants produce ATPs and what proton motive force is. Please also give at least two ways how plants generate proton motive force. **20%**

※ 注意：1.考生須在「彌封答案卷」上作答。
2.本試題紙空白部份可當稿紙使用。
3.考生於作答時可否使用計算機、法典、字典或其他資料或工具，以簡章之規定為準。