

本科目不得使用計算機

本科目試題共 1 頁

Total 100 points

A. Explain the terms: (3 points each, total 24 points)

1. plasmodesma
2. compatible solute
3. phytoalexin
4. floral homeotic genes
5. epinasty
6. phenylalanine ammonia lyase
7. F_1F_0 ATP synthase
8. companion cell

B. Assay: (total 76 points)

1. Some herbicides are working on blocking the photosynthetic electron flow, Please diagram to show the photosynthetic electron transport system and indicate the working site of herbicide Atrazine (the triazine class). (15 points)
2. Glyphosate is a broad-spectrum herbicide, what is the mode of action? What is the important pathway it blocks? What is the importance of this biochemical pathway? (9 points)
3. Please diagram to illustrate the proposed signal transduction pathways of systemin involved in plant defense responses against herbivore. (10 points)
4. Please compare the photosynthesis of C_3 , and CAM (crassulacean acid metabolism) plants to explain why CAM is adapted to those plants? (12 points)
5. Please diagram to show the cross sections of a soybean root, stem, and leaf. (15 points)
6. Please diagram to show the overview of respiration, indicating the locations and major pathways involved. (15 points)