

Part A ※ 注意：請於試卷內之「非選擇題作答區」作答，並應註明作答之題號。

1. 簡述下列植物學相關的名詞 (10%)：
 - a. homosporous 與 heterosporous
 - b. ovule 與 ovary
 - c. ascocarp 與 basidiocarp
 - d. heterocyst 與 megasporocyte
 - e. sorus 與 strobili
2. 試寫出及比較蘚苔及蕨類之生活史。(10%)
3. 試敘述被子植物之雙重受精。(5%)
4. 試比較 C4 及 CAM 植物之異同。(5%)
5. 試寫出及比較 ectomycorrhizae 及 arbuscular mycorrhizae 之異同。(5%)
6. 試寫出輪藻及陸生植物共有之特徵。(5%)
7. 試寫出參與植物光合作用之蛋白質複合體。(10%)

Part B

配合題 (請在表格中選出一個適合的答案填入下面空格中. 30 points)

A. Shoot apical meristem	E. Perforation	I. Sieve plate	M. G-actin	Q: γ -tubulin
B. Vascular cambium	F. Amphipathic	J. Peroxisomes	N. F-actin	R: Vacuoles
C. Endodermis	G. Anterograde	K. α -tubulin	O. Retrotransposon	S: Heterochromatin
D. Pericycle	H. Retrograde	L. Euchromatin	P. Histone codes	

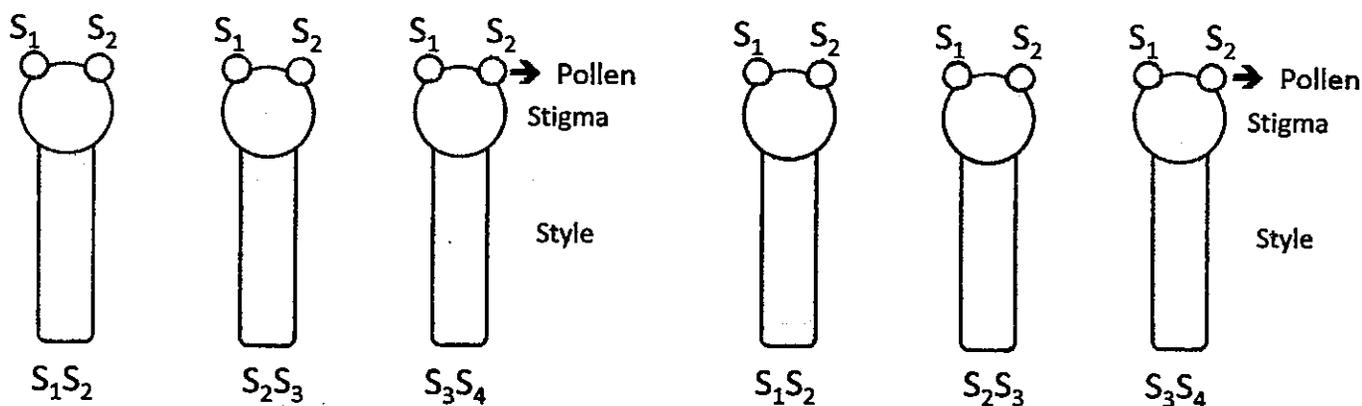
8. Casparian strip 所在的組織: _____
9. 參與 secondary growth: _____
10. 側根開始分化生長的地方: _____
11. 屬於 transposon: _____
12. Phospholipids 的特性: _____
13. Microtubule 的組成單位(subunits): _____
14. Vessel element 特有的構造: _____
15. 屬於 apical meristem: _____
16. Histones modifications: _____
17. cis-Golgi 到 trans-Golgi 的運輸方向: _____

問答題 (Answer following questions. Total: 20 points)

18. The long-distance transport via xylem and phloem are bulk flow driven by pressure. However, the origins (causes) of the pressure gradient are different in xylem and phloem. Please describe separately how the xylem sap and phloem sap moves in vascular plants. (10 points)
19. Self-incompatibility (SI) is the ability of a plant to reject its own pollen and the pollen of closely related individuals, and it determined by *S* genes. There are two types of SI, gametophytic SI and sporophytic SI. Please determine whether each pollen grain produced by S_1S_2 plant can germinate on the stigma in the following situations: (A) gametophytic SI; (B) sporophytic SI. If the pollen could germinate, draw a line from "Pollen" to "Style" to indicate the growth of the pollen tubes. (10 points)

(A) Gametophytic SI

(B) Sporophytic SI



試題隨卷繳回