
SEMESTER II EXAMINATIONS, 2000

SECOND-YEAR SCIENCE

BOTANY

BT207: Plant growth and development

Professor P. Gahan
Professor M.D. Guiry
Dr M. McDonald
Dr J. Fuller
Dr M. Sheehy Skeffington

Time allowed: *Three hours.*
Answer *four* questions, at least *one* from each section.

SECTION A

1. Describe the phenomenon of chemiosmosis in chloroplasts.
2. Discuss the effects of photorespiration on CO₂ fixation in higher plants.
3. Compare the rôles of light and darkness on photoperiodism.

SECTION B

4. Give an illustrated account of variation in the gametophyte generation of liverworts.
5. Describe the main cell types and their distribution in a hardwood of your choice.
6. What are the main characteristics of the Pteridophyta? In your illustrated answer, make special reference to the Pteridophyta life cycle and describe how it is distinct from that of a member of the Coniferophyta.
7. Write concise notes on **two** of the following:
 - (a) the zygomorphic floral structure;
 - (b) wind pollination;
 - (c) monocotyledonous plants.