

OLLSCOIL NA hÉIREANN

NATIONAL UNIVERSITY OF IRELAND, GALWAY

SEMESTER II EXAMINATIONS, 2000

THIRD-YEAR SCIENCE

BOTANY

BT307: Plant utilization and biotechnology

Professor P. Gahan
Professor M.D. Guiry
Professor P.M.T. Curran
Dr M. McDonald
Dr B. Kelly

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

SECTION A

1. Write a concise account of signal transduction in plants.
2. Compare abscisic and ethylene in the context of the physiological processes they control.
3. Discuss the possible rôle of tissue culture in plant pathogen elimination.

SECTION B

4. Write an essay on the use of algae in the food industry.
5. Write concise notes on **three** of the following:
 - (a) Harvesting methods for *Ascophyllum* in Ireland and Norway;
 - (b) Harvesting methods for *Macrocystis*;
 - (c) Artificial sea-beds;
 - (d) Alginate structure.
6. Outline current problems with the Irish seaweed industry and discuss how these might be overcome.
7. Describe the structure and function of marine fungal spore appendages. Illustrate your answer.
8. Give an account of both traditional and novel methods used for the preservation of wood in the sea.