

OLLSCOIL NA hÉIREANN  
NATIONAL UNIVERSITY OF IRELAND, GALWAY

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SUMMER EXAMINATIONS, 2002

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B.Sc. DEGREE (HONOURS)

BOTANY

*Third Paper*

Professor M.J. Dring  
Professor M.D. Guiry  
Professor P.M.T. Curran  
Professor M. O'Connell  
Dr M. McDonald  
Dr J. Fuller  
Dr. D. Stengel

Time allowed: *Three* hours.

Answer *three* questions, *one* from Section A and *two* from Section B.

SECTION A

1. Write a **comprehensive** essay on **one** of the following topics:
  - (a) Biodiversity.
  - (b) Long-term human impact and the shaping of the present-day Irish landscape.
  - (c) Genetic Engineering in Plants.
  - (d) Conservation is a luxury third world countries cannot afford.

SECTION B

2. Discuss in detail the rôle of airborne fungal spores in respiratory disease and allergic reactions in humans.
3. 'Certain fungi of the genus *Amanita* contain toxins of extraordinary virulence. The toxins are ring-shaped molecules made up of amino acids, and they disrupt the membranes and the nuclei of cells in the liver'. Discuss this statement and give an account of other poisonous and hallucinogenic fungi.
4. Give an account of solid-state fermentation and the cultivation of edible fungi.
5. Write a comprehensive essay on the accumulation of radioactive caesium in fungi especially after the nuclear reactor accident at Chernobyl.