

OLLSCOIL NA hÉIREANN
NATIONAL UNIVERSITY OF IRELAND, GALWAY

SUMMER EXAMINATIONS, 2002

B.Sc. DEGREE (HONOURS)

BOTANY

First Paper

Professor M.J. Dring
Professor M.D. Guiry
Dr M. McDonald
Dr J. Fuller

Time allowed: *Three* hours.
Answer *three* questions, at least *one* from each Section.

SECTION A

1. 'The anti-parallel orientation of the two strands of the molecule poses a problem for the replication of DNA'. Discuss this statement.
2. Discuss the phenomenon of gene cloning.
3. Examine the use of *Agrobacterium tumefaciens* in higher-plant transformations.

SECTION B

4. What factors relating to the development and ecology of sand-dunes and machair should be considered when attempting to conserve these coastal habitats? Describe the characteristics of machair that have led to its inclusion as a priority habitat in Annex 1 of the EU Habitats Directive.
5. 'The objectives of conservation and farming cannot be reconciled'. Discuss this statement with reference to specific habitats with which you are familiar.
6. Give a brief description of the types of peatland found in Ireland, and propose a scheme for classifying ombrotropic peatlands according to their conservation value.