

Ollscoil na hÉireann, Gaillimh.

NATIONAL UNIVERSITY OF IRELAND, GALWAY

AUTUMN EXAMINATIONS, 2002

FIRST YEAR SCIENCE

Biology BO101

First paper

Extern Examiner: Professor Maciej Zalewski
and internal examiners

Time allowed: Two and one half hours.

Answer *four* questions.

- Q. 1 Describe in illustrated detail the structure and functions of the following components of the endomembrane system of the animal cell: endoplasmic reticulum; golgi apparatus.
- Q. 2 Define 'adaptive radiation'. Island chains are show-cases of adaptive radiation. Discuss fully.
- Q. 3 To illustrate the phenomenon of division of labour among cells, describe in illustrated detail the structure and functions of the cells in the body wall of *Hydra*.
- Q. 4 Either Describe the reproductive system and copulation in the earthworm, *Lumbricus terrestris*
Or Describe the anatomical features which characterize the Phylum Chordata and show how these features are displayed in the lancelet *Amphioxus*, *Branchiostoma lanceolatum*.
- Q. 5 Describe the structure, function and position in the human body, of muscle tissue.
- Q. 6 Give an illustrated description of the human liver, mentioning the three special characteristics of the liver blood supply, and list the functions of the liver.
- Q. 7 Describe in illustrated detail, the structure of the human eye.