

Ollscoil na hÉireann, Gaillimh.

NATIONAL UNIVERSITY OF IRELAND, GALWAY

SUMMER 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. List and briefly define the general biological themes that pervade all of biology and describe the vital activities of living organisms.
- Q 2. List the main categories of evidence of evolution and give a general account of two of them.
- Q 3. Describe in illustrated detail how movement is achieved in *Amoeba* and in *Paramecium*.
- Q 4. List the characteristics of the Arthropoda. Briefly describe, with the aid of diagrams, the digestive system, blood system and nervous system of *Periplaneta*, the cockroach.
- Q 5. Describe loose connective tissue in illustrated detail, emphasizing the functions of its components.
- Q 6. Give an account of the structure and functioning of the pancreas, emphasizing both its endocrine and exocrine capabilities.
- Q 7. Write an account of two of the following:
 - (a) Non-specific defenses against infection
 - (b) The nephron
 - (c) The retina of the eye
 - (d) Oxygen and carbon dioxide transport in the blood
 - (e) Oogenesis