

Ollscoil na hÉireann, Gaillimh  
NATIONAL UNIVERSITY OF IRELAND, GALWAY

First Medical Examination, Autumn 2002

Dr. S. McDonald

Dr. B. Wilkins

Mr. A. Black

**ANATOMY**

**(Cells, Tissues and Development)**

**Time allowed: Three hours**

Questions in **Section A** are worth 25 marks each. As a guide you should spend 40 minutes on each of these questions.

Questions in **Section B** are worth 12.5 marks each. As a guide you spend 20 minutes on each of these questions.

The balance of time (20 minutes) is for you to read the paper thoroughly and review your answers.

**SECTION A: ANSWER QUESTION 1 AND ONE OTHER.**

1. Write an essay on stem cells. Include in your answer examples of how stem of cells might be useful in the treatment of disease.
2. The epidermis is a multifunctional epithelium consisting of communities of cells with different but complementary functions. Discuss.
3. Describe the key events in the development of the placenta.
4. Describe the development and importance of the notochord.

**Section B: Answer FOUR questions.**

5. Compare and contrast the microscopical anatomy of hyaline cartilage and bone.
6. Write an essay on the development of the heart.
7. Outline the key stages in the development of the kidneys.
8. Write an essay on the histological structure of the stomach.
9. Write notes on:
  - a. The skeletal muscle sarcomere.
  - b. Neural crest.
10. Write notes on:
  - a. Liver lobules.
  - b. Gastrulation.