

**SUMMER EXAMINATIONS 2002**

FIRST MEDICAL EXAMINATION

HUMAN BIOLOGY II

EXTERN EXAMINER

INTERN EXAMINER     Professor J A Houghton

**SECTION A: GENETICS****ANSWER BOTH QUESTIONS**

- (1) Write brief notes on two of the following:
  - (a) Cystic Fibrosis
  - (b) Genetic anticipation
  - (c) Genetic imprinting
  - (d) Sex linkage.
  - (e) Gene Therapy
  
- (2) Write an essay on "Autosomal Trisomy: Before and After Birth"

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## **FIRST MEDICAL EXAMINATION**

### **HUMAN BIOLOGY II**

Time allowed : Two hours

Use a separate Answer Book for each Section

**Please note Section A is Genetics**

#### **SECTION B: BIOCHEMISTRY**

External Examiner:

Dr. Iain Mowbray

Internal Examiner:

Dr. Tadhg Griffin

#### **ANSWER BOTH QUESTIONS**

1. (a). Describe the four levels of protein structure.

or

- (b). Write an essay on the plasma membrane.

#### **2. Answer two of the following:**

- (i) Give an account of the Cell Cycle.
- (ii) Explain the role of the mitochondrion in the synthesis of ATP.
- (iii) Describe the structure of deoxyribonucleic acid (DNA).
- (iv) Discuss the relevance of the  $K_m$  of an enzyme for its substrate, using glucokinase and hexokinase as examples.
- (v) Explain briefly the role of transfer RNA (t-RNA).