

NATIONAL UNIVERSITY OF IRELAND, GALWAY  
Ollscoil na hÉireann, Gaillimh

Semester II, Summer 2000  
Second Science Examination

BIOCHEMISTRY (BI212)

Extern Examiner: Professor N.C. Price

Time allowed: Two Hours

Please attempt **three** of the following. All questions carry each marks.

1. Give an account of the fluid mosaic model of membrane structure.
2. Describe the biosynthesis of the purine and pyrimidine nucleotides.
3. DNA is the genetic material. Describe the crucial experiments that were performed to demonstrate this statement. Explain clearly how DNA stores the genetic information of an organism.
4. Describe the process of RNA synthesis (transcription) in procaryotic cells. What are the principal differences in the process in eucaryotic cells?
5. Discuss the roles of insulin and of glucagon in the regulation of carbohydrate metabolism.
6. Give an account of the digestion of protein in humans.