

**NATIONAL UNIVERSITY OF IRELAND, GALWAY**

Ollscoil na hÉireann, Gaillimh

SEMESTER II EXAMINATIONS, 2001-2002

BIOCHEMISTRY BI315 (Unit value: 12 ECTS)

External Examiner: Dr. David Apps

Time allowed: **Three hours**Answer **five** questions

1. Discuss the kinetic mechanism of lactate dehydrogenase. Describe an experiment to verify that mechanism.
2. Give a full account of the metabolism of methionine in mammalian cells.
3. Describe the pathway of Isoprene metabolism in eukaryotic cells and discuss how it is controlled in the biosynthesis of Cholesterol.
4. Compare and contrast the signalling system used by Follicle Stimulating hormone (FSH) with that used by Gonadotropin Releasing Hormone (GnRH).
5. Outline how photoreceptor cells transduce light signals into electrical signals.
6. "Apoptosis is an evolutionarily conserved and genetically regulated form of cell death". Discuss this statement with clear examples.
7. Describe how antibody diversity is generated and indicate the implications of this knowledge for production of human therapeutic antibodies.
8. Give an overview of the biochemical properties of triacylglycerols and cholesterol, the transport of these lipids in the body and their role in cardiovascular disease.