

NATIONAL UNIVERSITY OF IRELAND, GALWAY
Ollscoil na hÉireann, Gaillimh

SEMESTER II EXAMINATIONS
Autumn 2001-2002

BIOCHEMISTRY BI315 (Unit value: 12 ECTS)

External Examiner: Dr. David Apps

Time allowed: *Three* hours

Answer *five* questions

1. Describe two methods by which the K_i for a competitive enzyme inhibitor may be determined.
2. Compare and contrast vitamin K-dependent and biotin-dependent carboxylation reactions.
3. Give an account of the main enzymes and pathways involved in the biosynthesis of steroid hormones from cholesterol in mammalian cells.
4. Giving examples, describe the signalling mechanisms used by hormones that bind to membrane-bound receptors and indicate clearly the importance of G-proteins in signal transduction.
5. Discuss signalling through acetylcholine receptors.
6. Compare and contrast the morphological and biochemical features of apoptosis and necrosis.
7. Give a detailed description of the mechanisms by which antibody diversity is generated in mammalian systems.
8. Write an essay on lipoproteins and lipid transport in the human body.