

OLLSCOIL NA hÉIREANN, GAILLIMH
NATIONAL UNIVERSITY OF IRELAND, GALWAY

SEMESTER II EXAMINATIONS 2002/2003

THIRD YEAR
INDUSTRIAL ENGINEERING AND INFORMATION SYSTEMS
(DESIGN STREAM)
AND
INDUSTRIAL ENGINEERING AND INFORMATION SYSTEMS

LEGAL ASPECTS OF DESIGN

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**All answers should make references to relevant Irish, European and International
Legislation, Directives, Standards, Protocols and Treaties as appropriate**

Attempt *three* questions. All questions carry equal marks.
Time allowed: *two* hours

Q.1 Patents and Copyrights

- a) Discuss the main issues of Copyright Law and explain its importance.
- b) List exclusive rights that Copyright Law protects, and provide case study material from your seminar contribution to illustrate the points made.
- c) Define Utility Patents, Plant Patents and Design Patents.
- d) In order for an invention to merit a patent it must satisfy one of three criteria. List these criteria and provide a comprehensive explanation of each.

Q. 2 Ethics in Engineering

- a) List the steps involved in making an Ethical decision.
- b) Define the fundamental canons of Engineering Ethics.
- c) Explain in detail, with examples, the following Ethical approaches:
 - The Virtue Approach
 - The Utilitarian Approach
 - The Rights Approach
 - The Fairness/Justice Approach
 - The Common Good Approach

Q. 3 Product Liability

- a) Define Product Liability, providing case study material as appropriate.
- b) Explain how the following provide a basis for product liability:
 - Warranty law,
 - Negligence,
 - Misrepresentation.
- c) Describe, in detail, the requirements for an action in Strict Liability.
- d) List possible defences against Product Liability claims and explain them.

Q. 4 The Engineer and the Environment

- a) Discuss "Design for the Environment", detailing why and when it was introduced, who introduced it, and list the various approaches used to achieve it.
- b) Discuss the various aspects of Life Cycle Analysis from the perspective of a designer of consumer products.
- c) List design strategies to extend the useful life of a product.
- d) In relation to Life Cycle Analysis define:
 - Inventory Analysis,
 - Impact Analysis,
 - Improvement Analysis.

Q. 5 Other legislation covering engineering products and processes

- a) Define CE Marking and explain why it is used.
- b) In relation to Intellectual Property discuss:
 - Copyright and related rights in the information society and their harmonisation.
- c) Identify an Environmental Standard discussed in class and describe in detail.