

Cork Institute of Technology
Bachelor of Engineering in Building Services Engineering
(National Diploma in Engineering in Building Services Engineering)

(NFQ – Level 7)

Summer 2005

Electrotechnology – Paper 1

(Time: 3 Hours)

Instructions

Answer FIVE Question.

All Question carry equal marks.

Examiners: Mr. S. Beljevic
Dr. N. J. Hewitt
Mr. T. Dunne

- Q1. (a) Using a sketch outline the theory in relation to charge separation in the storm cloud.
(6 marks)
- (b) Explain what is meant by the term rolling sphere and why is it important when designing lightning protection system?
(8 marks)
- (c) Outline and explain the most important factors taken into consideration for the lightning protection?
(6 marks)
- Q2. Relative to the protective relay:
- (a) Name four general function of a relay.
(4 marks)
- (b) Name at least five incoming signal to a relay.
(4 marks)
- (c) Name four basic requirements that must be taken into account when designing the protection system, and briefly explain each of them.
(8 marks)
- (d) Name at least four principals that must be taken into account when designing the protective relays.
(4 marks)

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Xiaolong Qi



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nh₂ and s₂ are ch₄ nh₃ and hs respectively

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