

**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)

# Electrotechnology Exam Paper November 2014

**Xiang Xie**



## **Electrotechnology Exam Paper November 2014:**

*Electro-technology* Stanley A. Dennis, Leon Irving Thomas, 1961      **Systems and Computer Technology** Yunfei Chen, Xiaodong Liu, Lipo Wang, Chunlei Ji, Qiang Sun, Yuan Ren, Xin Wang, 2015-09-17 This volume consists of papers presented at the 2014 International Symposium on Systems and Computer Technology ISSCT 2014 Shanghai China 15-17 November 2014. The demand for systems and informatics has been constantly increasing as more and more computer applications have been built. Great efforts have been made to improve the state of the art.      **Proceedings of CECNet 2021** A.J. Tallón-Ballesteros, 2022-01-19 It is almost impossible to imagine life today without the electronics communications and networks we have all come to take for granted. The 6G network is currently under development and some chips able to operate at the Terahertz THz scale have already been introduced so the next decade will probably see the consolidation of 6G based technology as well as many compliant devices. This book presents the proceedings of the 11th International Conference on Electronics Communications and Networks CECNet 2021 initially planned to be held from 18-21 November 2021 in Beijing China but ultimately held as an online event due to ongoing COVID-19 restrictions. The CECNet series is now an established annual event attracting participants in the interrelated fields of electronics, computers, communications and wireless communications engineering and technology from around the world. Careful review by program committee members who took into consideration the breadth and depth of those research topics that fall within the scope of CECNet resulted in the selection of the 88 papers presented here from the 325 submissions received. This represents an acceptance rate of around 27%. Providing an overview of current research and developments in these rapidly evolving fields, the book will be of interest to all those working with digital communications networks.      *Simulation and Modeling Methodologies, Technologies and Applications* Mohammad S. Obaidat, Tuncer Ören, Helena Szczerbicka, 2020-07-31 The present book includes a set of selected best extended papers from the 9th International Conference on Simulation and Modeling Methodologies, Technologies and Applications SIMULTECH 2019 that was held in Prague, Czech Republic from 29 to 31 July 2019. The conference brought together researchers, engineers and practitioners interested in methodologies and applications of modeling and simulation. New and innovative solutions are reported in this book. A selection was made after the conference based also on the conference chairs' assessment, reviewers' assessment, quality of presentation and audience interest so that this book includes the extended and revised versions of the very best papers of the conference. New and innovative solutions are reported in this book.      **Engineering**, 1912      **Maritime Technology and Engineering 5 Volume 1** Carlos Guedes Soares, 2021-07-08 This set of two volumes comprises the collection of the papers presented at the 5th International Conference on Maritime Technology and Engineering MARTECH 2020 that was held in Lisbon, Portugal from 16 to 19 November 2020. The Conference has evolved from the series of biennial national conferences in Portugal which have become an international event and which reflect the internationalization of the maritime sector and its activities. MARTECH 2020 is

the fifth of this new series of biennial conferences The set comprises 180 contributions that were reviewed by an International Scientific Committee Volume 1 is dedicated to maritime transportation ports and maritime traffic as well as maritime safety and reliability It further comprises sections dedicated to ship design cruise ship design and to the structural aspects of ship design such as ultimate strength and composites subsea structures as pipelines and to ship building and ship repair

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