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RC. Thévenin Equivalent Under DC Supply -- RC. Thévenin Equivalent Under DC Supply -- RC. Infinite Time Constant Under AC Supply -- RC. Impulse Response, Concatenated Transients, Infinite Time Constant, DC Supply -- RL. Infinite Time Constant Under AC Supply -- RL. Infinite Time Constant Under DC Supply -- Obtaining the Differential Equation -- Obtaining the Differential Equation -- 2 Second Order Transients -- 2.1 Second Order Circuits. 2.1.1 Series RLC Circuit -- 2.1.2 Parallel RLC Circuit -- 2.1.3 Generic Differential Equation of a Second Order Circuit -- 2.2 Transient Response of Second Order Circuits -- 2.2.1 Natural Response -- 2.2.2 Forced or Steady State Response -- 2.2.3 Complete Response -- 2.2.4 Initial Conditions -- 2.3 Procedure to Obtain the Response of a Second Order Circuit -- 2.4 Solved Problems -- Series RLC. Calculation of Initial Conditions -- Series RLC Without Excitation Sources -- Parallel RLC Without Excitation Sources -- Overdamped Series RLC Under DC Supply -- Underdamped Series RLC Under DC Supply -- Overdamped Series RLC Under AC Supply -- Critically Damped Series RLC Under DC Supply -- Overdamped Parallel RLC Without Excitation Sources -- Critically Damped Parallel RLC Under AC Supply -- Overdamped Series RLC with Thévenin DC Equivalent -- RLC Without Damping and Without Excitation Sources -- Overdamped Series RLC Under AC Supply -- Underdamped Parallel RLC Under DC Supply -- Underdamped Parallel RLC Under DC Supply and impulse response -- Obtaining the Differential Equation -- Obtaining the Differential Equation -- 3 Laplace Transform Analysis -- 3.1 Introduction -- 3.2 Definition -- 3.3 Main Properties and Theorems -- 3.4 Laplace Transform Pairs -- 3.5 Application to the Analysis of Electrical Circuits -- 3.5.1 Introduction -- 3.5.2 Voltage-Current Relationship in the s-Domain -- 3.5.3 Impedance and Admittance -- 3.5.4 Kirchhoff's Laws -- 3.5.5 Methodology of Resolution -- 3.6 Inverse Laplace Transform -- 3.6.1 Inverse Laplace Transform Calculation Methodology -- 3.6.2 Simple Real Poles, $p_1 \neq p_2 \neq \dots \neq p_m$ -- 3.6.3 Multiple Real Pole -- 3.6.4 Complex-Conjugated Pole -- 3.7 Solved Problems -- First Order Circuit Under DC Supply -- First Order Circuit Under DC Supply -- First Order Circuit Under DC Supply -- First Order Circuit Under DC Supply. First Order Circuit Under AC Supply -- First Order Circuit Under DC and AC Supply -- Overdamped Second Order Circuit Without Supply -- Underdamped Second Order Circuit Under AC Supply -- Overdamped Second Order Circuit Under AC Supply -- Overdamped Second Order Circuit Without Supply -- Capacitors in Parallel. Impulse Response -- First Order Under Circuit AC Supply -- First Order Circuit Under AC Supply -- First Order Circuit Under Dependent Source and DC Supply -- Magnetically Coupled Coils -- Magnetically Coupled Coils -- Second Order Circuit Under Impulse Supply -- Second Order Circuit Under Exponential Supply -- Impulse Response.
