Pasos por Telecomunicaciones II

Notas de un estudiante

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Si existe algún error, crees que una sección se puede mejorar o dar cualquier tipo de *feedback* acerca del libro no dudes y mándame un correo a *jhanccoma@unsa.edu.pe*, te responderé lo más pronto que pueda y gracias por mejorar este libro de todos y para todos.

Dedicatoria aquí

Contenido

I Telecomunicaciones 2

1 Unidad I 8

1.1 Theorems **8**

1.1.1 Several equations 8

1.1.2 Single Line 8

1.2 Definitions **8**

1.3 Notations **9**

1.4 Remarks **9**

1.5 Corollaries **9**

1.6 Propositions **9**

1.6.1 Several equations 9

1.6.2 Single Line 9

1.7 Examples **9**

1.7.1 Equation and Text 9

1.7.2 Paragraph of Text 10

1.8 Exercises **10**

1.9 Problems **10**

1.10 Vocabulary **10**

1.11 Table **10**

1.12 Figure **10**

II Anexos

Bibliography 13
Articles 13
Books 13

Libros recomendados:

- Fundamentos de circuitos eléctricos[**alexander2013fundamentos**]
- Signals and Systems Using MATLAB[**chaparro2018signals**]
- Procesamiento de señales analógicas y digitales[**ambardar1995analog**]
- Física Para Ciencias E Ingeniería. Vol 1[**serway2018fisica1**]
- Física Para Ciencias E Ingeniería. Vol 2[**serway2018fisica2**]
- Cálculo de una variable: trascendentes tempranas. 7ma edición [**stewart12calculo**]
- Análisis de Fourier[**hsu1998analisis**]
- Matemáticas Avanzadas Para Ingeniería[**o2014matematicas**]
- Métodos numéricos para ingenieros[**chapra2013metodos**]
- Comunicaciones y redes de computadores[**stallings2004comunicaciones**]
- Electrónica: teoría de circuitos y dispositivos electrónicos[**boylestad1989electronica**]
- Fundamentos de sistemas digitales[**floyd2006fundamentos**]
- Tratamiento de señales en tiempo discreto[**oppenheim2011tratamiento**]
- Tratamiento digital de señales[**proakis2007tratamiento**]
- Sistemas de comunicación digitales y análogos[**couchsistemas**]
- Data communication and networking[**forouzan2007data**]
- Life Pre-Intermediate 2e[**hughes2017life**]
- Redes de computadoras[**tanenbaum2012computer**]
- Líneas de transmisión[**velalineas1999**]

Telecomunicaciones 2

1 **Unidad I** 8
1.1 Theorems 8
1.2 Definitions 8
1.3 Notations 9
1.4 Remarks 9
1.5 Corollaries 9
1.6 Propositions 9
1.7 Examples 9
1.8 Exercises 10
1.9 Problems 10
1.10 Vocabulary 10
1.11 Table 10
1.12 Figure 10

1. Unidad I

1.1 Theorems

This is an example of theorems.

1.1.1 Several equations

This is a theorem consisting of several equations.

Teorema 1.1 — Name of the theorem. In $E = \mathbb{R}^n$ all norms are equivalent. It has the properties:

$$\big|\,||\mathbf{x}|| - ||\mathbf{y}||\,\big| \leq ||\mathbf{x}-\mathbf{y}|| \tag{1.1}$$

$$||\sum_{i=1}^{n} \mathbf{x}_i|| \leq \sum_{i=1}^{n} ||\mathbf{x}_i|| \quad \text{where } n \text{ is a finite integer} \tag{1.2}$$

1.1.2 Single Line

This is a theorem consisting of just one line.

Teorema 1.2 A set $\mathscr{D}(G)$ in dense in $L^2(G)$, $|\cdot|_0$.

1.2 Definitions

This is an example of a definition. A definition could be mathematical or it could define a concept.

Definición 1.1 — Definition name. Given a vector space E, a norm on E is an application, denoted $||\cdot||$, E in $\mathbb{R}^+ = [0,+\infty[$ such that:

$$||\mathbf{x}|| = 0 \;\Rightarrow\; \mathbf{x} = \mathbf{0} \tag{1.3}$$

$$||\lambda\mathbf{x}|| = |\lambda| \cdot ||\mathbf{x}|| \tag{1.4}$$

$$||\mathbf{x}+\mathbf{y}|| \leq ||\mathbf{x}|| + ||\mathbf{y}|| \tag{1.5}$$

1.3 Notations

▪ **Notación 1.1** Given an open subset G of $\mathbb{R}^n$, the set of functions φ are:

1. Bounded support G;
2. Infinitely differentiable;

a vector space is denoted by $\mathscr{D}(G)$.

1.4 Remarks

This is an example of a remark.

R The concepts presented here are now in conventional employment in mathematics. Vector spaces are taken over the field $\mathbb{K} = \mathbb{R}$, however, established properties are easily extended to $\mathbb{K} = \mathbb{C}$.

1.5 Corollaries

This is an example of a corollary.

Corolario 1.1 — Corollary name. The concepts presented here are now in conventional employment in mathematics. Vector spaces are taken over the field $\mathbb{K} = \mathbb{R}$, however, established properties are easily extended to $\mathbb{K} = \mathbb{C}$.

1.6 Propositions

This is an example of propositions.

1.6.1 Several equations

Proposición 1.1 — Proposition name. It has the properties:

$$\big|\,||\mathbf{x}|| - ||\mathbf{y}||\,\big| \leq ||\mathbf{x}-\mathbf{y}|| \tag{1.6}$$

$$||\sum_{i=1}^{n} \mathbf{x}_i|| \leq \sum_{i=1}^{n} ||\mathbf{x}_i|| \quad \text{where } n \text{ is a finite integer} \tag{1.7}$$

1.6.2 Single Line

Proposición 1.2 Let $f, g \in L^2(G)$; if $\forall \varphi \in \mathscr{D}(G)$, $(f,\varphi)_0 = (g,\varphi)_0$ then $f = g$.

1.7 Examples

This is an example of examples.

1.7.1 Equation and Text

Ejemplo 1.1 Let $G = \{x \in \mathbb{R}^2 : |x| < 3\}$ and denoted by: $x^0 = (1,1)$; consider the function:

$$f(x) = \begin{cases} \mathrm{e}^{|x|} & \text{si } |x-x^0| \leq 1/2 \\ 0 & \text{si } |x-x^0| > 1/2 \end{cases} \tag{1.8}$$

■

1.7.2 Paragraph of Text

Ejemplo 1.2 — Example name. Nam dui ligula, fringilla a, euismod sodales, sollicitudin vel, wisi. Morbi auctor lorem non justo. Nam lacus libero, pretium at, lobortis vitae, ultricies et, tellus. Donec aliquet, tortor sed accumsan bibendum, erat ligula aliquet magna, vitae ornare odio metus a mi. Morbi ac orci et nisl hendrerit mollis. Suspendisse ut massa. Cras nec ante. Pellentesque a nulla. Cum sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. Aliquam tincidunt urna. Nulla ullamcorper vestibulum turpis. Pellentesque cursus luctus mauris. ■

1.8 Exercises

This is an example of an exercise.

Ejemplo 1.3 This is a good place to ask a question to test learning progress or further cement ideas into students' minds. ■

1.9 Problems

Problema 1.1 What is the average airspeed velocity of an unladen swallow?

1.10 Vocabulary

■ **Vocabulario 1.1 — Word.** Definition of word.

1.11 Table

Treatments	Response 1	Response 2
Treatment 1	0.0003262	0.562
Treatment 2	0.0015681	0.910
Treatment 3	0.0009271	0.296

Table 1.1: Table caption

Referencing Table 1.1 in-text automatically.

1.12 Figure

Referencing Figure 1.1 in-text automatically.

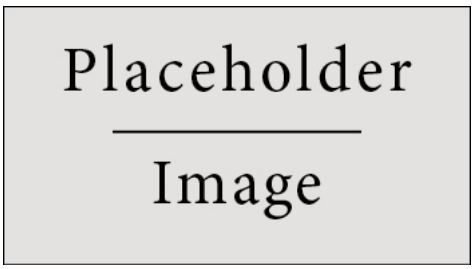

Figure 1.1: Figure caption

II

Anexos

Bibliography

Articles

Books