PRÁCTICO INTRODUCTORIO COMÚN

¿Qué son las palabras claves?

Las palabras claves sirven para delimitar un tema. Cuando alguien realiza una búsqueda de un material determinado, sea por una vía digital o bien impresa, las palabras claves deberán producir resultados relevantes. Esto significará una reducción de las posibilidades del material disponible a un número menor de alternativas más precisas.

Las palabras claves nos brindan economía en términos de tiempo y deben ser incluidas en los trabajos de tipo académico u otros que se publiquen ya que eso permite al lector identificar con facilidad material afín en un volumen de información cada vez más creciente.

A) Identificando el tema por medio de las palabras clave.

¿Con cuál de los siguientes temas asociaría las palabras encerradas en el cuadro?

1 -

human and natural resources- technology- equipment- finance- manufacturing- productivity

- Industrial and Systems Engineering
- Environment and System Engineering
- Systems Engineering facing the Future

2-

plant and herbivore agents- parasitism- Evolutionary computation- species- genetic algorithm- quasi-ecosystem- prey-predator model

- Evolutionary Computation for Agents in Quasi-Ecosystem
- Dynamic Vision Based Motion Recovery
- Noise-Induced Synchronization of Uncoupled Nonlinear Systems

3-

Nonlinear dynamics- synchronization- Markov process- uncoupled systems- delta-type stationary solution- noisy signals

- Evolutionary Computation for Agents in Quasi-Ecosystem
- Dynamic Vision Based Motion Recovery
- Noise-Induced Synchronization of Uncoupled Nonlinear Systems

4-

Guide- engineering- complex systems-interrelated components-interdisciplinary- sustainability

- Environmental Systems Engineering
- What is Systems Engineering?
- Micromechanical Systems Engineering

5-

Code view- configuration management- Model view- Execution view- Conceptual view

- Applied Software Architecture
- Noise-Induced Synchronization of Uncoupled Nonlinear Systems
- What is Systems Engineering

6-

Ordered pair- commutative- associative – function

- Geometry in Space
- Binary Operations
- Topology

7-

Symmetry- group- associative law- permutation group

- Group Theory
- Commutative rings
- Algebraic Geometry

8 -

Matrix theory-sets- functions- lineal structure

- Linear algebra
- Algebraic Geometry
- Binary Operations

9-

human intelligence- machine learning- reasoning- robotics

- Industrial and Systems Engineering
- Environment and System Engineering
- Artificial Intelligence

10 -

LANs- WANs- networking- communication

- Evolutionary Computation for Agents in Quasi-Ecosystem
- Computer networks
- Dynamic Vision Based Motion Recovery

11-

Free oscillation- undamped oscillator- pendulum-small force

- Dynamic Vision Based Motion Recovery
- Forced vibrations and resonance
- Topology

12-

Group- ring- binary operations- set

- Commutative rings
- Micromechanical Systems Engineering
- Forced vibrations and resonance

B) Lea los textos a continuación y asigne un título adecuado teniendo en cuenta las clasificaciones hechas en A

1) ……

Abstract.
This paper deals with a quasi-ecosystem by an evolutionary learning method for agents in the quasi-ecosystem. The quasi-ecosystem is composed of plant and herbivore agents, which are in a relationship of parasitism. The selfish behaviour which satisfies themselves leads to extinction because resources in the environment are finite. Evolutionary computation is adopted to update feed rules of herbivore agents. Extinctions can be

avoided by maintaining numerical balance between each species. The effectiveness of the proposal approach is demonstrated by computer simulations.

2) .....

This is a complex, highly interdisciplinary branch of computer science that attempts to incorporate the principles of human intelligence and reasoning into computing systems. AI research is concerned with modelling all facets of human intelligence, but most often the research involves creating computer systems that have the ability to plan (automated deduction), adapt to different situations (machine learning), acquire human-like senses (machine vision and natural-language processing), and effect changes to the environment (robotics). Introductory courses in AI are offered at the undergraduate level; in- depth study is available at the graduate level.

3) .....

It is one of the fastest growing areas of engineering. It looks at the "big picture" of what makes organizations work best—the right combination of human and natural resources, technology and equipment, and information and finance. Industrial and systems engineering is vital to solving today's critical and complex problems in manufacturing, distribution of goods and services, health care, utilities, transportation, entertainment, and the environment. Industrial and systems engineers design and refine processes and systems to improve quality, safety and productivity.

4) .....

Formally, a *group* is a set G on which there is a multiplication '*' defined, satisfying the associative law. In addition, there is to be an element '1' in G with 1*g=g*1=g for every g in G; and every element g in G must have an inverse h satisfying g*h=h*g=1.

A particularly important class of groups is the set of permutation groups, those in which the elements are permutations of some set, and the group operation is simply composition. For example, the symmetric group on N objects is the set of all N! rearrangements of the N elements. Other important examples include the alternating groups and the Mathieu groups. In some sense, every group is a permutation group, but interesting questions arise in relation to the action on the set. For example, one considers groups which are highly transitive (they include enough symmetries to permute many large subsets), or groups which preserve additional structure of the set being permuted (angles in space, for example). Many combinatorial questions can be reduced to questions

about the symmetric group; even the Rubik's cube can be viewed as a puzzle concerning a particular permutation group.

5) .....

Everybody has at least a qualitative familiarity with resonance, and probably the most striking feature of the driven oscillator is the way in which a periodic force of a fixed size produces very different results depending on its frequency. In particular, if the driving frequency is made close to the natural frequency, then (as anyone who has pushed a swing knows) the amplitude of oscillation can be made very large by repeated applications of a quite small force.

6) .....

Three commonly used definitions are provided by the best known technical standards that apply to this subject. They all have a common theme:

• A logical sequence of activities and decisions that transforms an operational need into a description of system performance parameters and a preferred system configuration. (MIL-STD- 499A, Engineering Management, 1 May 1974. Now cancelled.)

• An interdisciplinary approach that encompasses the entire technical effort, and evolves into and verifies an integrated and life cycle balanced set of system people, products, and process solutions that satisfy customer needs. (EIA Standard IS-632, Systems Engineering, December, 1994.)

• An interdisciplinary, collaborative approach that derives, evolves, and verifies a life-cycle balanced system solution which satisfies customer expectations and meets public acceptability. (IEEE P1220, Standard for Application and Management of the Systems Engineering Process, [Final Draft], 26 September 1994.

C) Referencias bibliográficas y temas.

¿Qué temas se relacionan con las referencias bibliográficas a continuación?

Temas:

1. Computer Science
2. Water pollution
3. Estimation of the accuracy
4. Map Production
5. Mathematical Analysis
6. Soil compressibility and settlement
7. Shape and Size of the Earth

Bibliografía:

a) **Campbell, J.** (1984). *Introductory Cartography*. Prentice Hall. New Jersey.
The book is conceived as the text for a general, introductory course in cartography - the type of course that is a vital component of many undergraduate geography programs.

b) **Wilford, H.M.** (1981). *The Mapmakers*. Alfred A. Knopf. New York. A non-technical history of cartography that includes a description of the expeditions to Lapland and Peru to verify the flatenning of the earth at the poles.

c) **Burris, S**. (1998). Logic for Mathematics and Computer Science, Prentice Hall.

This is an elective course for MSc students. Topics covered: Propositional logic, conjunctive and disjunctive normal forms, resolution, Horn clauses. Equational logic, unification, term rewrite systems, the Knuth-Bendix procedure. Predicate clause logic. Logic with quantifiers. Historical overview of the (modern) logics and computing.

d) **Chorley, R.J.** (1969). *Introduction to Geographical Hydrology*. Metheun.
This paperback is concerned with the interactions between water occurrence and human activity (world's water inventory, rain-making, use of groundwater, human use of rivers and choice in water use).

e) **Whitlow, R.** (1983) ed. 1990. *Basic Soil Mechanics*. Longman Scientific & Technical. Essex. This book is intended as a main text in the basic theory and principles of soil mechanics in the fields of building and civil engineering. It is assumed that the reader will have a basic grounding of mathematics and science, particularly basic mechanics.

f) **Hutchinson, J**. (1994) *Equations and Functions*. Department of Mathematical Science ANU.
The material covered is basic to most of subsequent mathematics courses (e.g. differential equations, differential geometry, measure theory, numerical analysis, to name a few), as well as to much of theoretical physics, engineering, probability theory and statistics. Various interesting applications are included; in particular to fractals and to differential and integral equations.

g) **Hirvonen, R.A.** (1979). *Adjustment by Least Squares in Geodesy and Photogrammetry*. Frederick Ungar Publishing Co. New York.
The original Finnish edition has been translated by the author and revised by him for English-reading students to demonstrate practical applications of the principle of least squares.

➢ El significado de una palabra.

A menudo el significado de una palabra desconocida está expresado de manera explícita en un texto. Es importante reconocer esos recursos. A continuación se ejemplifican las maneras en que el significado de un término se aclara en el mismo texto.

D) Identifique el término y los recursos utilizados para hacerlo entendible.

	PALABRA O IDEA EXPLICADA	EXPLICACIÓN O EQUIVALENCIA	RECURSO EMPLEADO
1. Measured data can be stored on a hard disk or floppies in the surface unit for subsequent processing and plotting or printing.	Plotting	printing	or
2. This probe is used to determine the magnetizability (magnetic susceptibility) of rocks.			
3. The physico-mechanical properties of rocks in individual areas are studied using a system of intersection paths -rays-.			
4. Many interpretation techniques have been suggested for seismic refraction surveying. But some of them, including interpretation software presently available on the market, expect too much from nature.			
5. LogStation, which is an Intergraph's workstation-based log analysis software, takes full advantage of sophisticated graphics and programming technology.			
6. The concept has been criticized as tautological , that is, circular in its			

reasoning.			
7. Agile-denoting the quality of being agile, ready for motion, nimbleness, activity;			

➢ ACTIVIDADES DE ESCRITURA

A- RE- LEA los títulos y explicaciones propuestas para cada apartado de la bibliografía.

COMPLETE las líneas sugeridas para cada apartado.

- En su libro *Introduction to Cartography*, Campbell (1984) tratará ……
  ……
  ……
- En *The MapMakers*, Wilford (1981) describe ……..
  ……
  ……
- En su obra, Burris (1998) desarrolla ……
  ……
  ……
- El autor Whitlow (1983) hace referencia ……
  ……
- *Equations and Functions,* tìtulo escrito por Hutchinson (1994) aborda ……
  ……
- El libro *Adjustment by Least Squares in Geodesy and Photogrammetry,* Hirvonen (1979) se propuso ……
  ……

B- ELIJA uno de los apartados en el ejercicio y REDACTE de qué trata el apartado elegido.

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PAUTAS DE ESCRITURA EN LM EN CONTEXTOS ACADÈMICOS

- Al hacer referencia a un trabajo académico, no olvide hacer referencia a él. En caso de tratarse de un libro, recuerde nombrar el título y consignarlo en cursiva. Asimismo, si nombra el autor/ la autora del mismo le recomendamos hacer referencia al año de publicación de ese trabajo como se consigna en el siguiente ejemplo:

Nombre del trabajo. Libro en letra cursiva según normas APA

Apellido del autor (año de publicación del trabajo)

En su libro *Introduction to Cartography*, Campbell (1984) ….

- Hacer referencia al trabajo y/ o a los autores del texto fuente apelando a frases tales como: El texto `……` hace referencia/ desarrolla/ …. . Recuerda evitar comenzar tu producción escrita con la frase `El texto habla o dice ….` ya que tu producción ocurre en un

contexto académico. En consecuencia, recuerda adecuar tu redacción y vocabulario teniendo en cuenta el receptor que leerá y evaluará tu producción (en este caso, el profesor de la cátedra) y el contexto en el que serás evaluado en virtud de del rigor académico del texto fuente.