

**Bachelor - Common Trunk Math-Computer Science**

**Scientific terminology and written and oral expression**

**Lecturer :BAAZIZ Mohammed Lamine**

**Chapitre 1:**

**1. Definitions**

- Terminology is the discipline that deals with scientific or technical vocabularies, with the aim of studying the way in which science and technology designate objects and phenomena.
- A set of rigorously defined terms that are specific to a science, a technique, or a particular field of human activity.

**2.Computer terminology:** Is the set of terms and rules used in the field of computing, in particular, including terms relating to concepts, techniques, standards, software or hardware products, as well as practical applications and IT professions.

**3. Mathematical Terminology:** Is the set of terms used in the field of mathematics.

**Exercice 1 :**

Below is a list of computer jargon terms

Français	Anglais	Arabe
Instruction	Instruction	تعليمية
Programme	Program	برنامج
Programmeur	Programmer	مبرمج
Programmation	Programming	برمجة
Condition	Condition	شرط
Séquencement	Sequencing	تسلسل

Branchement	Connection	تفرع
Déclaration	Declaration	تصريح
Corps	Body	جسم
Boucle	loop	حلقة
Boucles imbriquées	nestedloops	حلقة متداخلة
Système d'exploitation	Operating system	نظام التشغيل
Expert	Expert	خبير
Données	Data	معطيات
Exécution	Running	تنفيذ
Connaissance	Knowledge	معارف
Compétences	Skills	مهارات
Courriel	E-mail	بريد إلكتروني
Moteur de recherche	Browser	محرك بحث
Site internet	Website	موقع
Chemin d'accès	Path	طريق البلوغ
Numérique	Digital	رقمي
Informatique	Computer science	إعلام آلي
Mémoire vive	RAM Random Access Memory	الذاكرة الحية
Mémoire Morte	ROM Read Only Memory	الذاكرة الميتة
Langage de Programmation	Programming language	لغة برمجة

## Exercice 2

Below is a list of mathematical jargon terms

### Alphabet grec

Français	Anglais	Arabe
Fonction	Function	دالة
Entier	Integer	صحيح
Réel	Real	حقيقي
Ensemble	Set of	مجموعة
Numérateur	numerator	بسط
Dénominateur	Denominator	مقام
Algèbre	Algebra	الجبر
carré	Square	مربع
Rectangle	Rectangle	مستطيل
Triangle	Triangle	مثلث
Suite arithmétique	Arithmetic progression	متتالية حسابية
Limite	limit	نهاية
Coordonnée (x,y)	Coordinates	الأحداثيات
Abscisse	Abscissa x-axis	قواصل
ordonnée	y-axis	ترانيب
Le produit cartésien	Cartesian product	الجداء الديكارتي
Commutative	commutative	تبديلي
Distributive	Distributive	توزيعي
Elément neutre	Neutralelement	عنصر حيادي
Elément absorbant	Absorbingelement	عنصر ماص
Angle Aigu	Acute angle	زاوية حادة
angles Adjacents	Adjacent angles	زاويتان متجاورتان
Sommet	Vertex	
Sinus	/sinus	جيب
Cosinus	/Cosine	تجب
Tangente	Tangent	ظل
Cotangente	Cotangent	تظل
Matrice carrée	Square Matrix	مصفوفة مربعة
Matrice Symétrique	Symmetric matrix	مصفوفة متناظرة

A	$\alpha$	Alpha
B	$\beta$	Beta
$\Gamma$	$\gamma$	Gamma
$\Delta$	$\delta$	Delta
E	$\varepsilon$	Epsilon
Z	$\zeta$	Zeta
H	$\eta$	Eta
$\Theta$	$\theta$	Theta
I	$\iota$	Iota
K	$\kappa$	Kappa
$\Lambda$	$\lambda$	Lambda
M	$\mu$	Mu
N	$\nu$	Nu
$\Xi$	$\xi$	Xi
O	$\omicron$	Omicron
$\Pi$	$\pi$	Pi
P	$\rho$	Rho
$\Sigma$	$\sigma, \varsigma$ *	Sigma
T	$\tau$	Tau
Y	$\upsilon$	Upsilon
$\Phi$	$\phi$	Phi
X	$\chi$	Chi
$\Psi$	$\psi$	Psi
$\Omega$	$\omega$	Omega

### Exercice 3 Below is a list of mathematical symbols

Symbole	En Français	باللغة العربية
+	addition	جمع
-	soustraction	طرح
×	multiplication	ضرب
÷	division	قسمة
∈	appartient	ينتمي
∉	n'appartient pas	لا ينتمي
∀	pour tout	لكل
∃	il existe	يوجد
∃!	il existe un seul	يوجد واحد فقط
⊂	inclus	ضمن
∩	intersection	تقاطع
∪	union	اتحاد
$A^c, C_{\Omega}^A$	complementaire de A dans $\Omega$	متمم ل A في $\Omega$
$\implies$	implique	يستلزم
$\iff$	équivalent	يوافق
$\Delta$	discriminant	مميز
$\sqrt{\dots}$	racine carre	جذر تربيعي
$\sqrt[n]{\dots}$	racine $n^{eme}$	جذر نوني
$ \cdot $	valeur absolue	قيمة مطلقة
$\ \cdot\ $	norme	منظم
$>$	superieure strictement à	أكبر قطعاً من
$\geq$	superieure ou égale à	أكبر من او يساوي
$<$	inférieure strictement à	اصغر قطعاً من
$\leq$	inférieure ou égale	اصغر من او يساوي
$=$	égalité	تساو
$\neq$	différence	خلاف
$\Sigma$	somme	جمع
$\Pi$	produit	جاء

### Exercice 4

A) Give the mathematical acronyms for the following expressions:

1. la racine carrée de x..... $\sqrt{x}$

2. leBicarré de x..... $x^4$

3. la racine cubique de x..... $\sqrt[3]{x}$

4. la valeur absolue de x .....  $|x|$

5. la fraction de x et y ..... $\frac{x}{y}$

6.l'intersection ..... $\cap$

7.l'union ..... $U$

B) traduire les expressions mathématiques précédentes en Arabe ?

1. الجذر التربيعي ل س

2. س قوة أربعة.

3. الجذر التكعيبي ل س.

4. القيمة المطلقة ل س

6. التقاطع

7. الإتحاد

**Exercice 5** give meaning of following ACRONYMES in english:

- ✓ **PGCD**: Plus Grand Commun Diviseur
- ✓ **PPCM**: Plus Petit Commun Multiple
- ✓ **TICE**: Technologie de l'Information et de Communication de l'Education
- ✓ **EIAH**: Environnement Informatique pour l'Apprentissage Humain
- ✓ **FOAD**: Formation Ouverte et A Distance
- ✓ **TéléTPs**: Travaux Pratiques à distance
- ✓ **HTML**: HyperText Markup Language
- ✓ **MSDOS**: Microsoft Disk Operating System
- ✓ **MOOC**: Massive Open Online Course
- ✓ **RDF**: Reconnaissance Des Formes
- ✓ **CD-ROM**: Compact Disk - Read Only memory
- ✓ **USB**: Universal Serial Bus
- ✓ **TCP/IP**: Transmission Control Protocol / Internet Protocol

## 1. computer glossary

### Computer science

Science of rational processing, particularly by automatic machines, of information considered as the support of human knowledge and communications in the technical, economic and social fields (definition approved by the French Academy).

### Information

Element of knowledge capable of being represented using conventions to be preserved, processed, or communicated.

### Computer

Machine that electronically processes data. All other languages call the machine "calculateur" (Computer in English), except French, which designates it under the name of computer.

### hardware

Physical components of a computer system, including peripheral devices such as printers, modems, and mice. (hardware).

### software

Instructions for the computer. A series of instructions that perform a particular task is called a program. (Software)

### desk

Designates the screen with icons and background that appears when starting the computer.

### Office automation

Set of techniques and means tending to automate office activities and mainly the

processing and communication of speech, writing and images.

### **Icon**

On a screen, a graphic symbol that represents a particular software function or application that can be selected and activated from a device such as a mouse.

### **Window**

A window is an interactive area in which information is displayed, it can be moved and resized.

### **File**

A complete set of information named and recorded by a user and stored on disk. On a technical level, a file can contain program code, data used by a program or created by a user.

### **Case**

Grouping multiple files. Folders allow you to classify files. They can also contain subfolders.

### **Extension**

Designates the letters following the period after the file name, for example: .doc, .jpg, .mp3, etc. The extension defines, among other things, the nature of the file (text, image, sound, etc.).

### **Data**

Representation of information in a conventional form intended to facilitate its processing.

### **Internet**

Set of networks of all sizes interconnected by the IP protocol

### **ADSL**

New technology uses the traditional telephone line (although it does not prevent calls from being received) and offers speeds close to a good cable connection

### **Display**

Display information on a screen.

**Algorithmic**

Study of problem solving by implementing sequences of elementary operations according to a defined process leading to **anti virus**.

Program responsible for fighting computer viruses.

**Application**

Software designed to help the user perform a specific task, such as word processing, accounting, or inventory management.

**Database**

A set of data organized for use by programs corresponding to distinct applications and in a manner to facilitate independent evolution of data and programs.

**Library**

Libraries are a set of basic functions used by many programs.

**Binary**

The computer only understands 1s and 0s, so it writes 6 like this: 00000110

**BIOS**

The Bios (Basic Input Output System) is an electronic component which contains a program allowing it to manage the system's inputs and outputs such as disks, floppy disk drives, CD-Roms, etc. As its name suggests, this memory programmed can only be read and cannot be erased.

**BIT**

Abbreviation of binary digit. The smallest unit of information processed by a computer. One bit represents 1

or 0 in binary numeration, or a true or false logical condition

**Byte**

A unit of data which nowadays consists almost exclusively of 8 bits. A byte can represent a single character, such as a letter, number, or punctuation mark.



**Dialog box**

Message that appears in a window, either to warn you of an event, or to ask you for keyboard input (name of the file to load, for example) or even confirmation (Yes/No/Cancel).

**Motherboard**

The main circuit board containing the primary components of a computer system. This board contains the processor, RAM, supporting circuitry, controller and bus connector

**Carte réseau**

Expansion card installed in a computer to connect it to a local network.

**Code**

Program instructions written by a developer in a programming language.

**Configurer**

Define the subassemblies constituting hardware or software, or act on their parameters to ensure their implementation.

**Connexion**

Procedure allowing a user to contact a computer system and, if necessary, to be recognized by it.

**Speed**

Rate of transfer of information through a bus. Above all, remember that the higher the flow rate, the better the performance.

**Implémenter**

Complete the final phase of developing a system that allows hardware, software and procedures to come into operation.

**Facility**

Loading a computer and setting up a software update or new software so that it can work.

**Uninstallation**

Complete removal of software from a computer system

**Hypertext**

Term coined by Ted Nelson in the 1960s to describe his vision of information represented and accessible from active links embedded in documents. The Web is entirely based on this technology.

**Maintenance**

Set of actions intended to prevent or correct damage to equipment in order to maintain or restore its conformity to specifications.

**ZIP**

Most used file compression format on PC. There are a large number of so-called "zipped" files available for download on websites. File compression helps reduce transmission time.

**DBMS**

(Database management system): Refers to all the functions used to define the data structure, formulate queries, modify and store information.

**Motherboard**

The motherboard is the central control unit of the PC. There are the processor, RAM, expansion slots, keyboard port and other chips managing memory and controlling data exchange between components.

**Graphic card**

The graphics card is the interface between the PC and the monitor. This is where the monitor is connected and this is also where the data to be displayed is converted.

**Soundcard**

This card ensures that it generates sound adequately. This is where the data is converted into sound or music. You can connect an amplifier, microphone, joystick or synth here. Many sound cards have a CD-Rom drive connection port, which allows you to play audio CDs or perform sampling.

**RAM**

(Random Access Memory), Volatile (random access) memory in which information can be temporarily stored during the execution of a program.

### **ROMs**

Or dead memory. Memory which can only be read, as opposed to Ram (Random Access Memory), which can be read but also written (storing information temporarily).

### **Port (communication)**

Socket through which the computer exchanges data with the outside world. There are two types, the serial port, which is most often used to connect a mouse or a modem, and the parallel port, also called a printer port or Centronics port.

### **Port (Parallel)**

Also called printer port. 25 pin socket specially designed for printers.

### **Processor**

The processor is the heart of the PC. It is actually the processor that determines the performance of the PC. The tasks required during data exchange (calculation, transfer of data to a specific location, comparison of data) are carried out by this component located on the motherboard

### **USB (Universal Serial Bus)**

Plug & Play technology allowing up to 127 peripherals (mouse, modem, keyboard, scanner, etc.) to be connected on the same channel and allowing a transfer rate of approximately 12 Mbits/s.

### **Pilot (or driver)**

Specific program that allows a computer to control a device.

### **Pixel**

(Contraction of Picture Element): It is the smallest component of an image also called point. Each pixel is coded in three colors (Red, Green, Blue: RGB or RGB for Red, Green, Blue), it is all of these pixels that make up an image. When we talk about an 800 x 600

display, we should read 800 by 600 pixels.

### **Partition**

Divide

### **Partition**

Distinct separations that can be defined in a hard drive. The operating system then recognizes the partition as if it were a different hard drive.

### **Pack**

Software bringing together a set of small programs.

### **OS**

Means in English "Operating System" and in French "Système d'Exploitation. It is the "software" which allows all programs to operate. Examples of OS: Windows 95, Windows 98, Windows 98se (Se for second edition), Windows NT, W2K (Windows2000), Windows Millennium (Me), Windows XP, Linux, Unix etc.

### **MS-DOS (Microsoft Disk Operating System)**

The Disc Operating System is a computer's operating system in the form of PC-compatible text commands.

### **Multi-tasking**

Ability of an operating system to run multiple programs at the same time.

### **Modem**

Acronym for modulator-demodulator. A modem converts digital information into analog information and vice versa.

### **Cache memory**

The cache temporarily stores the most frequently used instructions. The microprocessor can thus access data more quickly and the overall operation of the computer is accelerated.

### **Joystick**

Gamepad. Device allowing you to control your characters or vehicles on a screen in a game.

<b>device Manager</b>
Small utility program that explains to the computer how to manage a device not recognized directly by the Bios.
<b>Engrave</b>
It is the action of recording data on a recordable CD or DVD with a burner and specialized software.
<b>Firewall</b>
Software or hardware element that controls traffic (generally incoming and outgoing) and acts as a barrier between your computer and the network (internet).
<b>Cookie</b>
Small file downloaded by a website that we consult. A cookie collects information that will be transmitted to this site during your next visit, in order to better serve you.
<b>RJ11 connector</b>
Socket similar to that of the telephone which connects the PC to the network.
<b>CD-ROM</b>
Initials of Compact Disc - Read Only memory. Therefore designates a 12 cm compact disc from which you can only read the information. In French = CD-ROM. Unlike a floppy disk, you cannot record anything on it.
<b>Bus</b>
Set of communication lines carrying digital data between the processor, memory and various peripherals.

## 2. mathematical glossary

<b>Mathematics</b>
The word “mathematical” as well as that of “philosophy” would be due to Pythagoras. It

comes from the Greek mathêma which means “science” in the perspective of the time, that is to say “all knowledge”.

Mathematics is a body of abstract knowledge resulting from logical reasoning applied to various objects such as mathematical sets, numbers, shapes, structures, transformations, etc. ; as well as the mathematical relationships and operations that exist between these objects

### **Theorem Corollary**

In mathematics and logic, a corollary is a proposition deduced from an already demonstrated truth. In short, this is an obvious consequence requiring no proof.

### **Numerator and denominator**

The denominator denominates, gives its name to the fraction. **The numerator**, indicates the number of parts defined by the denominator.

### **Algebra**

a word of Arabic origin, beginning with al (“the” in Arabic). It comes from the first part of the title of a book by the mathematician Al-Khwarizmi. Repositioning is the passing of the negative elements of an equation to the other side of the equal sign to make them positive: this is the starting point of algebra.

### **Equation**

An equation is, in mathematics, a relationship containing one or more variables. Solving the equation consists of determine the values that the variable can take to make equality true. The variable is also called unknown and values for which equality is checked solutions.