

Concours Mathématiques et Physique, Physique et Chimie,  
Biologie et Géologie & Technologie  
Epreuve d'Anglais

Date : Lundi 09 Juin 2003    Heure : 15 H    Durée : 2 H    Nbre pages : 8

Barème : Part I :30, Part II: 30, Part III: 20

**IMPORTANT:**

1. *L'épreuve d'anglais comporte deux séries de feuilles :*

- *Les énoncés s'étalant sur 4 pages que les candidats sont appelés à garder*
- *Les feuilles réservées aux réponses (Answer sheets) s'étalant sur 4 pages, lesquelles doivent être rendues à la fin de l'épreuve aux professeurs surveillants*

2. *Il sera tenu compte de la présentation, (l'écriture au crayon n'étant pas permise)*

**Reading passage :**

1. Brazil has invested \$1.4 billion in a high-tech weapon against this jungle free-for-all. The country is putting in place one of the most formidable suites of surveillance and telecommunications equipment ever assembled. It's called the Amazon Vigilance System, or SIVAM, and in size and scope it's unprecedented in the developing world. It includes two dozen fixed and mobile radars, and more than 200 jungle platforms for processing satellite images and weather data. Overhead, eight planes fitted with remote sensing radar will prowl the skies. By late 2003, when all the gadgets are finally wired, officials boast they will be able to hear a tree falling in the forest.
2. They mean that literally. One of SIVAM's biggest selling points has been a means of saving the Amazon from destruction. The pricey system is being built as a kind of all purpose high-tech guardian: a tool to plot storms, sniff out minerals underground and allow doctors to map epidemics. In time, a whole network of people and institutions - city halls, police, forest guards, universities, the armed forces - will be wired into SIVAM's computers and connected to one another by phone, fax and the Internet. They will make up the so-called Amazon protection system, and they will be entrusted with ensuring the fate of the rain forest and the livelihood of its people. Environmental inspectors will get satellite images that reveal illegal cutting down of trees or unauthorized development on parks and Indian lands. Radar will help air-traffic controllers spot pilots in trouble or alert police to airborne intruders. At least that's the theory...
3. Environmentalists say it is a national security device camouflaged in green. And yet, despite all the criticism, SIVAM has survived. Much of the criticism is nonsense but not all.
4. The system will certainly help the Brazilian military monitor air traffic over the jungle and defend the country's porous borders against guerrillas and foreign intruders. In theory, forestry officials, environmentalists and tropical ecologists will be able to log on to its powerful computers and pull down satellite pictures and real time data on fires, deforestation and water pollution. But it remains to be seen whether these authorities will have the money and manpower to use that data to stop the polluters, plunderers and desperate farmers who are tearing down the rain forest. Without constant care and upkeep and an army of experts trained in the art of analyzing and quickly applying the wealth of

data its machines will soon be producing - the system will be useless. Even as officials put in place the finishing touches on the radar system, they've barely begun assembling the most important part of all -the human component. Without competent people to support it, SIVAM is just a high-tech surveillance post with a bird's eye view of destruction...

5. In order to defend the rain forest, officials must not only be able to gather information but understand and process what pops up on the satellite images and the radar screens. That is a task for experts: meteorologists to analyze the weather patterns, technicians to read remote sensing data, forestry inspectors who can quickly spot fires in satellite images. This is a huge challenge. Then there are other challenges that not even money can sort out. How much of the Amazon should be left untouched and how much turned into a land to be exploited?
6. The project is like Brazil itself: big, powerful and awkward with vast promise and equally vast problems. It's the biggest and most sophisticated ecological safeguard system in the world. Its radars will save the rain forest from the teeth of ruin.

Abridged from *Newsweek*, October 28, 2002

### ***PART I: COMPREHENSION QUESTIONS (30 marks)***

**I- Fill in the table, on the answer sheet, with the appropriate information from the text.**

**II- Complete the following statements with information from paragraph 2:**

- a)The Amazon surveillance system consists of ... ..*
- b)Two of its major tasks consist in ... ..*

**III- Refer to paragraph 4 and point out the main problems facing the Amazon forest ?**

**IV- What could this vigilance system be used for with regard to :**

- a) the weather*    *b) natural resources*    *c) health*    *d) national security?*

**V- What are the two essential requirements for the system to achieve its desired goals?**

**VI- State whether the following are TRUE or FALSE and justify your answers with information from the text.**

- a) SIVAM is claimed to be meant for environmental uses, but in fact, it is used for national security reasons.*
- b) All the objections raised against this high-tech surveillance system are baseless.*

**VII- When is this system expected to be fully operational?**

**VIII- Provide four adjectives that best describe this system.**

**IX- What do the following words refer to ?**

- a) that (§2)
- b) they (§2)
- c) its (§4)
- d) that (§5)

**X- Find in the text words closest in meaning to:**

- 1. devices (§1)
- 2. locate (§2)
- 3. control (§4)
- 4. distant (§5)

## ***PART II - LANGUAGE (30 marks)***

**1. Fill in the blanks in the following extract with words of your own that make sense. (Use only one word per blank) :**

*Radiocarbon is a radioactive isotope ... (1)... an atomic weight of 14 which makes it heavier... (2)... ordinary carbon. Radiocarbon forms ... (3)... cosmic rays or high-energy atomic particles collide... (4)... the Earth's atmosphere. This collision causes atoms... (5)... be disintegrated into smaller elements. One of these elements,... (6)...neutron, smashes into the nuclei ... (7)...nitrogen atoms and, in the process of... (8)...absorbed into the nuclei, causes a proton element to... (9)...released. In this manner, a nitrogen atom turns... (10)... a radiocarbon atom.*

**2. Supply the correct tenses or forms of the verbs between brackets:**

*Investigators are anxious about the May 25 crash of a Taiwanese- operated jumbo jet [1] ... (to fly)... from Taipei to Hong Kong. According to Taiwanese authorities, the 23-year-old Boeing 747, operated by China Airlines, [2] ... (to crash)... about 20 minutes after takeoff. The plane [3]*

... (to fly) ... at 30,000 feet, a cruising altitude at which accidents rarely [4] ... (to occur) ... Air traffic controllers [5] ... (to receive) ... no distress call or indication of trouble from the pilots; the plane apparently [6] ... (to blow) ... apart into four pieces and [7] ... (to fall) ... into the sea. Until the plane's black box recorders and wreckage [8] ... (to recover) ..., investigators [9] ... (to have) ... little hard evidence. "We [10] ... (to hope) ... to get some metal to look at", said a Boeing spokesman.

2. As indicated, use the right form of the words given in parentheses, or the right alternative among the words given:

One of the chief drawbacks to satellite-based communication systems is that the initial cost of [1] ... (set) ... them up is very high. Their advantage is that, [2] (as, provided, unless, despite) the initial capital costs can be covered, their power for [3] ... (assist) ... development is immense. [4] (Besides, However, For instance, In fact), they have already been [5] ... (wide) ... used in various places throughout the world, [6] (nevertheless, in addition, for example, therefore), to control locust [7] ... (damage) ... in Africa, to design road and rail networks in South America and to improve management of farmland in Kenya. But, [8] (moreover, in addition to, although, since) the management of land resources, satellite technology can help in three vital areas of education, [9] (such, namely, in fact, thus) in medicine, in agriculture and in offering [10] ... (nutrition) ... advice to large numbers of people.

### **PART III: TRANSLATION & WRITING (20 marks)**

- A - Translate the following sentence into English: (5 marks)**

*Depuis que le projet a été envisagé à la fin des années 1990, on a demandé à l'Institut National de Recherches de rassembler des informations dans le but d'établir une banque de données.*

- B - Write about the following topic in about 15 lines: (15 marks)**

*In your opinion, does the widespread use of mobile phones have only advantages?*