SCIENCE AND TECHNIQUES PREPARATORY SCHOOL OF ORAN

FIRST ENGLISH WRITTEN TEST **1ST YEAR**

The law of conservation of mass or of matter, also known as the Lomonosov-Lavoisier law, states that the mass of substances in a closed system will remain constant, no matter what processes are acting inside the system. It is a different way of stating that though matter may change form, it can be neither created nor destroyed. The mass of the reactants must always equal the mass of the products. This law works fine for anything that is not approaching the speed of light; at high speeds, mass begins transforming to energy (for which reason, we now have the Law of Conservation of Mass and Energy). However, this means that in most situations the law of conservation of mass can be assumed valid.

This law was first formulated by Antoine Lavoisier in 1789, but Mikhail Lomonosov in 1748 had also expressed similar ideas earlier. **It was the key to making chemistry into a real science instead of an offshoot of alchemy**; prior to this, buoyancy of gases made it difficult to determine before and after measurements of weight. After this, the ideas of chemical elements, process of fire and oxidation, and many other basic chemical principles could be understood.

In nuclear reactions and in very large astronomical objects, this law becomes questionable.

I- Reading comprehension:

1. Define from the text "the law of conservation".
2. Why is the law of conservation of the mass also called "Lomonosov-Lavoisier law"?
3. Is this the conservation law applicable under all circumstances?
4. How did this law serve chemistry?
5. Explain the following sentence in your own words :

   "...it was the key to making chemistry into a real science instead of an offshoot of alchemy".

II- Underline the right answer :

1. There are many natural ways **to get rid of** insects' invasions.
   a-to expel b- to cure c- to forget about
2. I just want to stay at home and watch television and **take it easy**.
   a-sleep easily b-sit down c-relax
3. You'll never see your money again because I'm afraid he's gone **for good**.
   a-permanently b-clearly c-quickly
4. With his third novel, he finally **hit pay dirt** and wrote a bestseller.
   a- succeeded b-decided c-regretted
5. The **radius** of an individual neutron or proton is very close to 1 Fm.
   an element b-radioactivity c- the line from a circle's center

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The law of conservation of mass or of matter, also known as the Lomonosov-Lavoisier law, states that [**the mass of substances in a closed system will remain constant, no matter what processes are acting inside the system. It is a different way of stating that though matter may change form, it can be neither created nor destroyed.]** **1** The mass of the reactants must always equal the mass of the products. **[This law works fine for anything that is not approaching the speed of light; at high speeds, mass begins transforming to energy (for which reason, we now have the Law of Conservation of Mass and Energy). However, this means that in most situations the law of conservation of mass can be assumed valid.]3**

[This law was first formulated by Antoine Lavoisier in 1789, but Mikhail Lomonosov in 1748 had also expressed similar ideas earlier.] **2** It was the key to making chemistry into a real science instead of an offshoot of alchemy; prior to this, buoyancy of gases made it difficult to determine before and after measurements of weight. [**After this, the ideas of chemical elements, process of fire and oxidation, and many other basic chemical principles could be understood.]4**

[In nuclear reactions and in very large astronomical objects, this law becomes questionable.]3

I- Reading comprehension: 5.P

1. Define from the text "the law of conservation".
2. Why is the law of conservation of the mass also called "Lomonosov-Lavoisier law"?
3. Is this the conservation law applicable under all circumstances?
4. How did this law serve chemistry later?
5. Explain the following sentence in your own words :

   "**...***it was the key to making chemistry into a real science instead of an offshoot of alchemy*"**.**

II- Underline the right answer : 5.P

1. There are many natural ways **to get rid of** insects' invasions.
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2. I just want to stay at home and watch television and **take it easy**.
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III- Fill in the blanks with the right preposition (on- in- at) : 2.5

1. In most countries people drive **on** the right.
2. Last year we had a lovely skiing holiday **in** the Swiss Alps.
3. She spends most of the day sitting **at** the window.
4. The report about the accident was **on** the front page of the newspaper.
5. In the theatre we had seats **in** the front row.
6. Write the name and address **on** the front page of the envelope.
7. I'll meet you **at** the corner of the street at 10.
8. **at** the end of the street is a path to our house.
9. The price of electricity is going up **in** October.
10. **on** Sunday afternoons I usually get up late.

IV- Correct the mistake in the following sentences 2.5

1. Are there **some** letters for me?
2. I'm thirsty. Can I have **any** water, please?
3. You shall speak **to** him about that.
4. "The old man and the sea" was **written** by Ernest Hemingway.
5. She was **sitting** by the fire.
6. This book is great. It's very **useful.**
7. I chose the **most** expensive thing on the menu.
8. How long **has** your boss been away?
9. She must be a great tennis player.
10. I haven't seen **him** yet.

V- Answer to *one of* the following topics in no more than 150 words : 5.P

a) What is a computer network?

b) Compare among different kinds of computers.

c) Summarize Rutherford and Chadwick experiments.