UNIVERSITE CATHOLIQUE SAINT JEROME DE DOUALA

SAINT JEROME POLYTECHNIQUE

ENTRANCE EXAMINATION – ENGLISH and ETHICS (2 hours maximum)

PAPER ONE: ENGLISH LANGUAGE   (20 marks)

EXERCISE 1: Choose the right words from the list below: (10 marks)

The Scientific Method in the Lab

The very first step in the scientific method is to state the **1)** --------------. Once you have done this you can do some research and then form a good **2)** --------------. Then we test this by doing an **3)** ------------. We then analyze all of our **4)** ------ and finally form a conclusion.

There are a lot of safety rules that we must follow in the science lab as well. One piece of equipment we will use most often is **5)** ------------. If you spill harsh chemicals on your skin you should run it under water for at least **6)** --------------. When smelling chemicals, never take a big sniff, always waft. Never ever start a fire when the teacher is not in the room.

We have recently studied some general properties of matter. Area is the amount of surface covered by an object. On the other hand, **7)** ----------- is the amount of space occupied by an object; and the mass per unit of volume is known as density. The amount of matter in an object is called mass.

When doing a lab report two magic words must be included in the hypothesis. Those two magic words are If then. The materials should be written as a list. Charts and **8)** ---------will be found in the data section of the lab report.

Metric prefixes are a big part of measurement in **9)** -----------. The prefix kilo means **1000**. The prefix milli is way on the other side of the chart and means **.001** . The prefix Deca means 10. The prefix Hecto means **10)** ------------.

1- Problem – hypothese – problematic - hypothesis
2- Hypothesis - Problem – hypothese – problematic
3- Experience – experiment – test – examination
4- Hypothesis – data – datas – exams
5- Microscope – lenses – goggles – eyeglass
6- 50minutes – 1 hour - 15 minutes – 15 seconds
7- Mass – quantity - volume – countenance
8- Graphics - curbs – results – graphs
9- Experiments – calculations – figures- science
10- 0,10 – 100 – 10000 – 0,100

ANSWERS HERE!

1	2	3	4	5	6	7	8	9	10

EXERCISE 3: **Grammar and vocabulary (5 marks)**

Read the following sentences and write **the most suitable answer: A, B or C in the boxes.**

ANSWERS HERE!

1	2	3	4	5	6	7	8	9	10

1. The students in that class _____ nine years old.

A- has   B- are   C- have

2. Do you like watching Olympic Games? Yes, I _____

A- like   B- like watching   C- do

3. I like _____ to classical music.

A- listen   B- to listening   C- listening

4. _____ to come to dinner with us? *(invitation)*

A- Do you like   B- Would you like   C- Like you

5. Do you want _____ to dinner tomorrow?

A- come   B- to come   C- coming

6. This book is _____.

A- him   B- he's   C- his

7. When _____ to her?

A- you talked   B- talked you   C- did you talk

8. We _____ a wonderful dinner yesterday evening.

A- have had   B- haved   C- had

9. _____ your homework yet?

A- Have you finished   B- Did you finish   C- Did you finished

10. Is he a relative of _____?   A- your   B- yours   C- your's

READING COMPREHENSION

Replacing gas with a gas

BMW wants to make internal-combustion engines that run on hydrogen. One way that global warming might be reduced is by powering cars with something that does not release carbon dioxide when it is burned. That is part of the idea behind a "hydrogen economy" - a future in which hydrogen, which can be produced from renewable sources, takes over from hydrocarbons as the world's principal fuel.

Given this possibility (and also given the more immediately pressing need to produce vehicles that can comply with the exacting emissions standards of California), several of the world's car makers - notably Ford, DaimlerChrysler and Honda - are studying fuel cells. They react hydrogen and oxygen together in a controlled process, extracting energy in the form of electricity. Fuel cells, which are an old technology, certainly work, but they are still some years from commercial viability in cars. There is, however, an alternative: burn the hydrogen in a conventional internal-combustion engine. And that is what BMW proposes to do. This week it unveiled a prototype version of its 7-Series saloon car that has a hydrogen-powered engine.

Converting an engine to run on hydrogen is relatively simple. It requires a bit of new plumbing and a few extra lines of code for the engine's control computer. With a little jiggling, the motor can be made **"dual-fuel"**, so that it can still run on petrol as well. That would allow the infrastructure of a hydrogen-delivery network to be introduced gradually, rather than being put in place more-or-less instantly.

Given the ease of conversion, and the possibility of a piecemeal transition to a full-scale hydrogen economy, this would seem the logical way to proceed. There are, however, two catches. The first is that fuel cells are a far more efficient way to use hydrogen than burning it. When the sums are done, a fuel-cell-powered vehicle would manage 60% more kilometers per liter than a hydrogen-powered internal-combustion engine. The second is that, gram for gram, hydrogen contains significantly less energy than petrol. Performance will reflect that, unless those clever engineers at BMW can somehow overcome the difference. If they cannot, then BMW, whose prestige and independence rely largely on its engine-making ability, may be in trouble. Were fuel cells to become the standard, the firm's future could be bleak.

QUESTIONS (5 marks)

1. This passage suggests one way of solving the problem of Global warming. What is it?

_____

_____

2. True or False? Hydrogen-powered cars will very soon be available on the car market.

_____

3. *Circle A, B , C or D*. Cars that are **"dual-fuel"** can also be called:

A) Dual cars   B) Double-fuel-cars   C) mixed cars   D) Hybrid cars

4. Which company has already produced samples of the new engines?

_____

5. According to you, is this new type of cars more advantageous?

_____
_____
_____

PAPER TWO: ETHICS   (20 marks)

TOPIC:

Scientific progress is more important than moral values in any given society.

As a future engineer, what is your opinion about this statement?