Mansoura University
E.S.P.C.
Time allowed: 2 hrs.

Faculty of Science
First Year
January 2013

English Language Exam (102 ع)

Section One: Reading Comprehension: (30 Marks) {45 Minutes}

Deoxyribonucleic Acid is a material that governs inheritance of eye color, hair color, stature, bone density, and many other human and animal traits. DNA is a long, but narrow string-like object. A one foot long string or stand of DNA is normally packed into a space roughly equal to a cube 1/millionth of an inch on a side. This is possibly only because DNA is a very thin string. Our body's cells each contain a complete sample of our DNA. There are muscle cells, brain cells, liver cells, blood cells, sperm cells, and others. Basically, every part of the body is made up of these tiny cells and each contains a sample or complement of DNA identical to that of every other cell within a given person. There are a few exceptions. For example, our red blood cells lack DNA. Blood itself can be typed because of the DNA contained in our white blood cells. Not only does the human body rely on DNA but so do most living things including plants, animals and bacteria. A strand of DNA is made up of tiny building-blocks. There are only four different basic building-blocks. Scientists usually refer to these using four letters: A, T, G, and C. These four letters are short nicknames for more complicated building-block chemical names, but actually the letters (A, T, G, and C) are used much more commonly than the chemical names. For example, to refer to a particular piece of DNA, we might write: AATTGCCTTTAAAAA. This is a perfectly acceptable way of describing a piece of DNA. Someone with a machine called a DNA synthesizer could actually synthesize the same piece of DNA from the information AATTGCCTTTAAAAA alone.

The sequence of bases (letters) can code for many properties of the body's cells. The cells can read this code. Some DNA sequence encodes important information for the cell. Such DNA called, not surprisingly, "coding DNA". Our cells also contain much DNA that doesn't encode anything that we know about. If the DNA doesn't encode anything, it is called non-coding DNA or sometimes, "junk DNA". The DNA code, or genetic code as it is called, is passed through the sperm and egg to the offspring. A single sperm cell contains about three billion bases consisting of A, T, G, and C that follow each other in a well-defined sequence along the strand of DNA. Each egg cell contains three billion bases arranged in a well-defined sequence very similar, but not identical to the sperm. Both coding and non-coding DNAs may vary from one individual to another. These DNA variations can be used to identify people or at least distinguish one person from another.

When a cell is getting ready to divide creating two daughter cells, it packs its DNA into bundles called chromosomes. Chromosomes are just bundles of DNA. For humans, there are consistently 23 pairs of chromosomes, each with a consistent size and shape. Chromosomes are numbered. Chromosome number 1 is the largest chromosome; chromosome number 2 a little smaller and so on. Among the 23 pairs of chromosomes there is a pair called the sex chromosomes. This is something of a misnomer, since there are many functions on the "sex" chromosomes that have nothing to do with sex. In females, the sex chromosome pair consists of two similar size chromosomes called X chromosomes. Males have one X and one small Y chromosome.

1) Answer the following questions:

a. Describe the physical characters of DNA.
b. What are "junk DNA" and "coding DNA"?
c. How can DNA distinguish one person from another?
d. What are chromosomes?
e. What is the difference in chromosomes between male and female?

2) Fill in the following spaces according to the passage:

a. A single sperm cell contains _____ bases and each egg contains _____ bases.
b. Each cell of our body contains a _____ of our _____.
c. For humans, there are consistently _____ of chromosomes.

3) Decide whether the following sentences are *True* or *False* according to the passage and correct the *False* ones:

a. The bases in each egg are identical to those of each sperm.
b. Chromosome number 1 is the smallest chromosome.
c. The red blood cells are rich in DNA.
d. Only the human body relays on DNA.
e. In one person the DNA in each cell is identical.

4) Find the synonym of the following words in the passage:

a. logical order.
b. typical
c. DNA
d. a piece taken as a representative of the whole
f. child

Section Two: Structure Section: (30 Marks) {30 Minutes}

I. Choose the correct answer from a, b, c or d:

1) We have got one dog, two cats and _____ fish.
a) some b) any c) none d) ---
2) _____ living things have the right to live, even sharks, spiders and cacti.
a) All b) Most c) None d) Half
3) I'm thinking _____ buying a new printer, now.
a) about b) at c) of d) in
4) He invited a friend along _____ Carla would not be moody.
a) for b) so that c) to d) with
5) The truck _____ with the red van.
a) crashed b) collided c) walked d) hit
6) I met _____ many nice people in Thailand.
a) such b) so c) a lot of d) much
7) How was the exam? How did you get _____?
a) on b) up c) by d) in

8) Both streets go to the station. You can take _____.
a) either b) neither c) both d) as well

9) He managed to do it! It was _____ incredible!
a) enough b) quite c) rather d) quiet

10) Jack got into his car and _____ of today's world leaders are taking environmental concerns seriously.
a) got by b) got on c) drove off d) took off

II. Fill in the gaps using the instructions between the brackets:

1) I'm very bad _____ tennis. I'm afraid. **(Use correct preposition)**
2) This exercise was _____ easy, wasn't it? **(Use *enough*, *quite* or *rather*)**
3) Would you like _____ grapes? **(Use *some* or *any*)**
4) Charlie is _____ a nice boy. **(Use *so* or *such*)**
5) I'm sorry. There isn't enough to go round. You can only have _____ ice cream or pie. **(Use *either*, *neither* or *both*)**
6) Let's stop _____ a coffee. **(Use *for*, *so that* or *to*)**
7) This chicken's _____ small for five. **(Use *enough* or *too*)**
8) He's always showing off. It's really _____. **(Use *annoyed* or *annoying*)**
9) We called the doctor because Alice was complaining _____ a pain in her stomach. **(A correct *preposition*)**
10) Susan was offered the job, but she _____. **(A correct *phrasal verb*)**

Section Four: Writing Skills: (30 Marks) {45 Minutes}

a) Punctuate the following paragraph, then underline the punctuation marks you used:

in vivo testing is the use of nonhuman animals in experiments the earliest references to animal testing are found in writing of greeks in the 2nd and 4th centuries bc aristotle 384-322 bc and erasistratus 304-258 bc were among the first to perform experiments on living animals galen a physician in 2nd century rome dissected pigs and goats and is known as the father of vivisection avenzoar an arabic physician in 12th century moorish spain who also practices dissection introduced animal testing as an experimental method of testing surgical procedures before applying them to human patients

b) Using the writing techniques you have studied, write an essay on *ONE* of the following:

1- The role of science in our life.
2- Man and woman relationship in the Egyptian society.

Best of Luck