DIRECTIONS FOR TEACHERS

LISTENING SECTION

COMPREHENSIVE EXAMINATION IN ENGLISH

Monday, January 26, 2015 — 1:15 to 4:15 p.m., only

BE SURE THAT THE LISTENING SECTION IS ADMINISTERED TO EVERY STUDENT.

1 Before the start of the examination period, say:

> Do not open the examination booklet until you are instructed to do so.

2 Distribute an answer sheet to each student. Then distribute one examination booklet, one essay booklet, and scrap paper to each student.

3 After each student has received an examination booklet, an essay booklet, scrap paper, and his or her answer sheet, say:

> A separate answer sheet has been provided for you. Follow the instructions for completing the student information on your answer sheet. You must also fill in the heading on each page of your essay booklet that has a space for it, and write your name at the top of each sheet of scrap paper.

4 After the students have filled in all headings on their essay booklets, say:

> You will listen to a passage and answer some multiple-choice questions. You will hear the passage twice.
>
> I will read the passage aloud to you once. Listen carefully. You may take notes on page 3 of your examination booklet. Then I will tell you to open your examination booklet to page 4. You will be given a chance to read the questions before the second reading. Then I will read the passage a second time. You may also take notes during the second reading or answer the questions.
>
> Now I will read the passage aloud to you for the first time. Open your examination booklet to page 3.

5 Note the time you start reading the listening passage. The three-hour examination starts now. Read both the introduction and the passage aloud, including the attribution at the end. Read with appropriate expression, but without added comment.

Listening Passage

The following passage is from a book entitled "Physics of the Impossible" by Michio Kaku, published in 2008. In this excerpt, Dr. Kaku discusses his fascination with science.

One day, would it be possible to walk through walls? To build starships that can travel faster than the speed of light? To read other people's minds? To become invisible? To move objects with the power of our minds? To transport our bodies instantly through outer space?

Since I was a child, I've always been fascinated by these questions. Like many physicists, when I was growing up, I was mesmerized by the possibility of time travel, ray guns, force fields, parallel universes, and the like. Magic, fantasy, science fiction were all a gigantic playground for my imagination. They began my lifelong love affair with the impossible.

I remember watching the old *Flash Gordon* reruns on TV. Every Saturday, I was glued to the TV set, marveling at the adventures of Flash, Dr. Zarkov, and Dale Arden and their dazzling array of futuristic technology: the rocket ships, invisibility shields, ray guns, and cities in the sky. I never missed a week. The program opened up an entirely new world for me. I was thrilled by the thought of one day rocketing to an alien planet and exploring its strange terrain. Being pulled into the orbit of these fantastic inventions I knew that my own destiny was somehow wrapped up with the marvels of the science that the show promised. …

I was just a child the day when Albert Einstein died, but I remember people talking about his life, and death, in hushed tones. The next day I saw in the newspapers a picture of his desk, with the unfinished manuscript of his greatest, unfinished work. I asked myself, What could be so important that the greatest scientist of our time could not finish it? The article claimed that Einstein had an impossible dream, a problem so difficult that it was not possible for a mortal to finish it. It took me years to find out what that manuscript was about: a grand, unifying "theory of everything." His dream—which consumed the last three decades of his life—helped me to focus my own imagination. I wanted, in some small way, to be a part of the effort to complete Einstein's work, to unify the laws of physics into a single theory.

As I grew older I began to realize that although Flash Gordon was the hero and always got the girl, it was the scientist who actually made the TV series work. Without Dr. Zarkov, there would be no rocket ship, no trips to Mongo, no saving Earth. Heroics aside, without science there is no science fiction.

I came to realize that these tales were simply impossible in terms of the science involved, just flights of the imagination. Growing up meant putting away such fantasy. In real life, I was told, one had to abandon the impossible and embrace the practical.

However, I concluded that if I was to continue my fascination with the impossible, the key was through the realm of physics. Without a solid background in advanced physics, I would be forever speculating about futuristic technologies without understanding whether or not they were possible. I realized I needed to immerse myself in advanced mathematics and learn theoretical physics. So that is what I did.

In high school for my science fair project I assembled an atom smasher in my mom's garage. I went to the Westinghouse company and gathered 400 pounds of scrap transformer steel. Over Christmas I wound 22 miles of copper wire on the high school football field. Eventually I built a 2.3-million-electron-volt betatron particle accelerator, which consumed 6 kilowatts of power (the entire output of my house) and generated a magnetic field of 20,000 times the Earth's magnetic field. The goal was to generate a beam of gamma rays powerful enough to create antimatter.

My science fair project took me to the National Science Fair and eventually fulfilled my dream, winning a scholarship to Harvard, where I could finally pursue my goal of becoming a theoretical physicist and follow in the footsteps of my role model, Albert Einstein. …

In my own research I focus professionally on trying to complete Einstein's dream of a "theory of everything." Personally, I find it quite exhilarating to work on a "final theory" that may ultimately answer some of the most difficult "impossible" questions in science today, such as whether time travel is possible, what lies at the center of a black hole, or what happened before the big bang. I still daydream about my lifelong love affair with the impossible, and wonder when and if some of these impossibilities might enter the ranks of the everyday.

—excerpted from *Physics of the Impossible,* 2008
Doubleday

6 After reading the passage aloud once, say:

> You may take five minutes to read the questions on page 4 of your test booklet before I read the passage aloud the second time.

7 After the students have had five minutes to read the questions, say:

> As you listen to the second reading, you may take notes or answer the questions. You will be given an opportunity to complete the questions after the second reading. Now I will read the passage aloud a second time.

8 Read both the introduction and the passage a second time.

9 After the second reading, say:

> Now turn to page 4 of your test booklet, read the directions and answer the multiple-choice questions. You may look over your notes to answer the questions.