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**Academic
Reading
Practice Test
10**

IELTSFEVER ACADEMIC READING PRACTICE TEST 10

READING PASSAGE 1

Questions 1 - 14

You should spend about 20 minutes on **Questions 1 – 14** which are based on Reading Passage 1 below.

Hydrogen Cars

A

Record gas prices are making road trips more expensive than ever. But what if, instead of gas, your car ran on the most abundant element in our universe? Many experts think hydrogen will replace petrol, diesel and natural gas as the main fuel for cars, buses and trucks over the next few decades. Already car manufacturers around the world have invested billions of dollars in research and development.

B

The advantages of hydrogen are enormous: no more smog-forming exhaust gases, no more carbon dioxide emissions that contribute to global warming, no more worries about diminishing oil supplies and rising prices. But some tricky questions need to be answered before mass-produced hydrogen cars start appearing on the streets. Where will the hydrogen come from? How will motorists fill up? How will cars store the fuel? And there's also the question of how best to tap the energy in the fuel for good, on-road performance.

C

Two kinds of engines can use hydrogen as a fuel; those that have an internal combustion engine converted to use it and those that are made up of a stack of fuel cells. Internal combustion engines have powered cars since they first began to replace horse-drawn carriages more than 100 years ago. These engines can be converted to run on a variety of fuels, including hydrogen. However, most car makers think that fuel cells powering an electric motor offer a better alternative. Unlike heavy batteries that need frequent recharging, fuel cells make electricity as they go. Recent developments in technology too have greatly increased the amount of power that a stack of cells can provide. This has opened up the prospect of efficient, non-polluting electric cars.

D

Fuel cell technology sounds simple. The hydrogen fuel reacts with oxygen from the air to produce water and electricity, the reverse of the familiar electrolysis process that releases oxygen and hydrogen from water. In reality of course it's a bit more complicated. The big advantage of a fuel cell engine over an internal combustion engine running on hydrogen is its greater efficiency. The same amount of hydrogen will take a fuel cell car at least twice as far as one with a converted internal combustion engine.

E

Hydrogen has many advantages as a fuel for vehicles, but a big disadvantage is that it is difficult to store. This is because at normal temperatures hydrogen is a gas. The obvious solutions are to strongly compress the hydrogen, or liquefy it. However, tanks designed to hold hydrogen at extremely high pressures, or at temperatures approaching absolute zero, are heavy and expensive. So, high cost and the large amount of energy needed to liquefy the fuel are likely to be the main problems with refuelling with liquid hydrogen. Filling up with compressed hydrogen gas will probably prove more practical, even though it may reduce the distance between fills. Cars could store the hydrogen in high pressure tanks similar to those used for compressed natural gas or specially treated carbon may also hold large amounts.

F

Although there's no risk that we'll ever run out of hydrogen, on Earth it exists naturally only in chemical compounds, not as hydrogen gas. A relatively simple principal technology, steam reforming, can produce hydrogen gas for cars at central plants or filling stations. Alternatively fuel tanks could be filled with petrol or methanol, with the cars using on-board reformers to generate hydrogen for their fuel cells. This shows promise as a transitional measure while research proceeds on the problems of storing hydrogen. Water is the only potentially pollution-free source of hydrogen. Researchers are looking at new ways of producing hydrogen from water such as using algae, bacteria or photovoltaic cells to absorb sunlight and split water into hydrogen and oxygen. But the technology most likely to be adopted on a large scale is electrolysis, which uses an electric current to split water into oxygen and hydrogen.

G

'Remember the Hindenburg' – that's a phrase often heard when hydrogen is discussed. This German passenger airship, kept aloft by hydrogen, crashed in flames as it came in to land at Lakehurst, New Jersey, USA in May 1937. Thirty-five people died. Nowadays helium, which can't burn, is the gas of choice for lighter-than-air craft. Hydrogen is highly flammable, but recent research has indicated that the airship's fabric, not hydrogen, was the culprit in the Hindenburg disaster. Properly handled, there's no reason to think hydrogen is any more dangerous as a fuel than petrol, the explosive liquid now carried safely in the tanks of untold millions of motor vehicles.

H

Recent technological advances, particularly in fuel cell design, have made hydrogen-powered cars a practical proposition, and car makers expect to start mass-producing them within the next decade or so. Their power and acceleration should match those of today's conventionally-powered vehicles, but they may have to be refuelled more often. The best ways to produce, distribute and store the hydrogen still have to be sorted out. In the short term fossil fuels may remain in demand as a hydrogen source. However, the idea that in the not too distant future most of us will be driving non-polluting cars fuelled by hydrogen from a clean, renewable source is no longer a flight of fancy.

Questions 1 - 7

Reading Passage 1 has 8 paragraphs (A – H).

From the list of headings below choose the most suitable headings for paragraphs B – H.

Write the appropriate number (i – xi) in boxes 1 – 7 on your answer sheet.

NB There are more headings than paragraphs, so you will not use them all.

<i>Example</i>	<i>Answer</i>
Paragraph A	iv

i	Hydrogen Storage
ii	Traditional Production Methods
iii	The Possible Danger of Combustible Hydrogen
iv	A Plentiful Alternative
v	Looking Forward
vi	Good Idea but...
vii	Today's Hydrogen Production
viii	How the Process Works
ix	Hydrogen Sources and Production
x	The Workings of the Internal Combustion Engine
xi	The Engine Dilemma

1 Paragraph B

2 Paragraph C

3 Paragraph D

4 Paragraph E

5 Paragraph F

6 Paragraph G

7 Paragraph H

Questions 8 - 12

Complete each of the following statements (Questions 8 - 12) with words taken from Reading Passage 1.

Write **NO MORE THAN THREE WORDS** for each answer.

Write your answers in boxes **8 - 12** on your answer sheet.

8 There is no reason that we'll run out of hydrogen as it's the _____ that exists.

9 _____ have been devoted by companies to producing hydrogen cars.

10 _____ could use traditional fuels to produce the hydrogen needed to power hydrogen cars.

11 Investigations have proved that _____ was the cause of the Hindenburg disaster.

12 Hydrogen cars have the potential to offer the _____ that we associate with today's fossil fuel powered vehicles.

Questions 13 and 14

Choose the appropriate letters **A – D** that best answer the question and write them in boxes **13 and 14** on your answer sheet.

- 13 Which of the following is **NOT** a potential problem with the introduction of hydrogen cars?
- A The frequency of refueling stops.
 - B The creation of by-products of the electricity production process.
 - C The volatility of hydrogen.
 - D Keeping hydrogen in cars.
- 14 Which of the following hydrogen production methods for hydrogen powered cars is viewed in the article as a temporary measure?
- A A system producing hydrogen from fossil fuels.
 - B A method producing hydrogen from water vapor.
 - C A process using microscopic organisms to produce hydrogen.
 - D An electrolysis basis hydrogen production system.

You should spend about 20 minutes on Questions 15 – 27 which are based on Reading Passage 2 on the following pages.

CLONING

Paragraph A

The ethics of human cloning has become a great issue over the past few years. The advocates for both sides of the issue have many reasons to clone or not to clone. A recent poll has shown the differences in opinions with half as many women as men approving of the process. Many people find it strange to see such a clear difference between men and women with twenty-six percent of men favouring cloning.

Paragraph B

So, what is cloning? It has been defined as “the production of genetically identical organisms via somatic cell nuclear transfer”. You take an egg and remove its nucleus, which contains the DNA/genes. Then you take the DNA from an adult cell and insert it into the egg, either by fusing the adult cell with the enucleated egg, or by a sophisticated nuclear transfer. You then stimulate the reconstructed egg electrically or chemically and try to make it start to divide and become an embryo. You then use the same process to implant the egg into a surrogate mother that you would use with artificial insemination. What cloning does is that it copies the DNA/genes of the person and creates a genetic duplicate. The person will not be a Xerox copy. He or she will grow up in a different environment than the clone, with different experiences and different opportunities. Genetics does not wholly define a person and the personality.

Paragraph C

In February 1997, when embryologist Ian Wilmut and his colleagues at Roslin Institute in Scotland were able to clone a lamb named Dolly, the world was introduced to a new possibility and will never be the same again. Before this, cloning was thought to be impossible, but now there is living proof that the technology and knowledge to clone animals exist. Questions began to arise within governments and scientific organisations and they began to respond. Are humans next? Is it possible to use this procedure to clone humans also? Would anyone actually try? What can we learn if we clone humans? How will this affect the world? These are only a few of the questions that have surfaced and need answering. A whole new concept in ethics was created when the birth of Dolly was announced.

Paragraph D

When the cells used for cloning are stem cells, we are talking about cells that are pluripotential. This means that they have the capacity to develop into any of the numerous differentiated cell types that make up the body. Early embryonic cells are pluripotent and a limited number of stem cells are also found in adults, in bone marrow for instance. There is an important distinction to be made between therapeutic cloning and reproductive cloning. Reproductive cloning would

be exactly like Dolly; it would involve the creation of a cloned embryo which would then be implanted into a womb to develop to term and the birth of a clone. On the other hand, therapeutic cloning involves the use of pluripotent cells to repair damaged tissue, such as found after strokes, Parkinson's disease and spinal cord injuries.

Paragraph E

There is evidence for the effectiveness of therapeutic cloning as shown by work involving the introduction of stem cells into the brain of patients suffering from brain diseases, when the cells which have been added differentiate to form nerve cells which can in turn then lead to recovery of the lost function. In the US, foetal human cells have been similarly used though recent reports indicate that the results so far are disappointing. However, apart from the ethical problems associated with the use of foetal cells in this way, there are simply not enough cells available for it to be an effective treatment, since it needs the cells from three fetuses to treat one patient.

Paragraph F

After Dolly, governments began to take control and make laws before anything drastic could ever happen. Several ethics committees were asked to decide whether scientists should be allowed to try to clone humans. In the United States, the Bioethics Advisory Commission recommended a five-year moratorium on cloning a child through somatic cell nuclear transfer. In the United Kingdom, the Human Fertilisation and Embryology Authority and the Human Genetics Advisory Commission have approved human cloning for therapeutic purposes, but not to clone children. Many organisations have come out and stated their opinions also. Amongst all this ethical defining, many people are being ignored by the governments. People are speaking out about what they want done.

Paragraph G

Historically, we find that many a great medical breakthrough, now rightly seen as a blessing, was in its own time condemned by bio-conservative moralists. Such was the case with anaesthesia during surgery and childbirth. People argued that it was unnatural and that it would weaken our moral fibre. Such was also the case with heart transplantations and with in vitro fertilization. It was said children created by IVF would be dehumanised and would suffer grave psychological harm. Today, of course, anaesthesia is taken for granted; heart transplantation is seen as one of medicine's glories and the public approval rate of IVF is up from 15% in the early seventies to over 70% today.

Questions 15 - 20

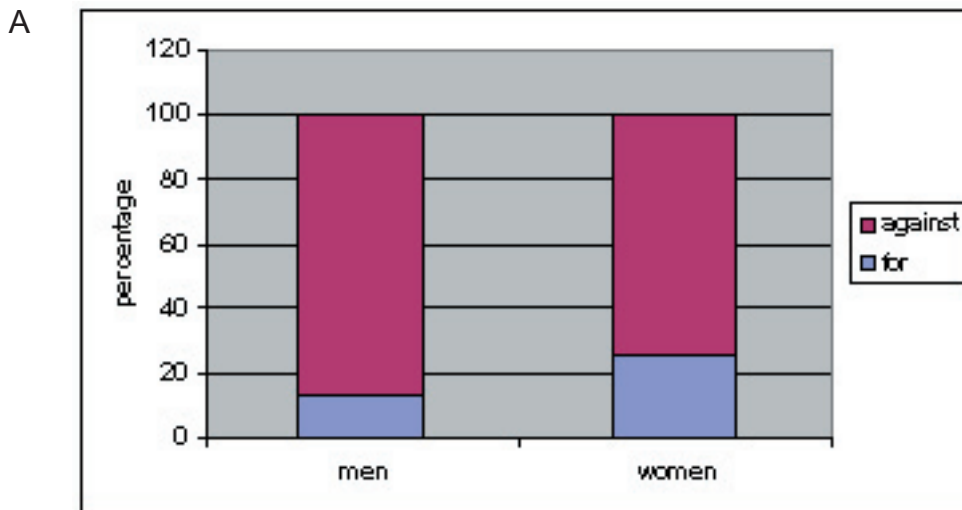
Reading Passage 2 has 7 paragraphs (A - G). Which paragraphs offers information on the following ideas? Write the appropriate letters (A - G) in boxes 15 - 20 on your answer sheet. One paragraph is used more than once and two are not used at all.

- 15 Different types of cloning.
- 16 Protective legislation.
- 17 Similar situations
- 18 A survey on attitudes towards cloning.
- 19 Scientific reasons why cloning is currently not viable for medical cures.
- 20 Illness examples that cloning could help treat.

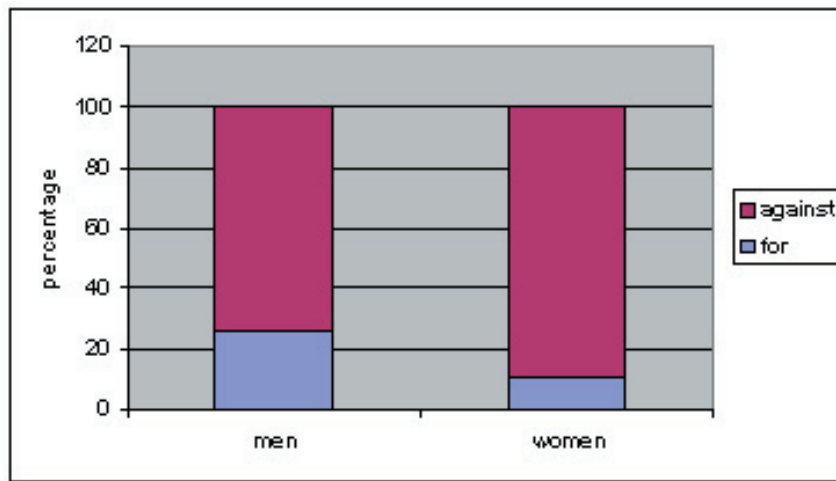
Questions 21 - 24

Choose the appropriate letters A - D and write them in boxes 21 - 24 on your answer sheet.

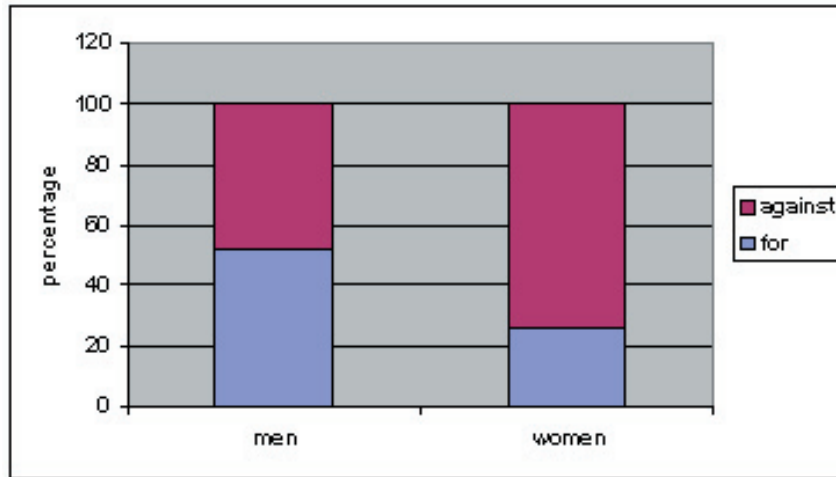
- 21 Which bar chart most accurately describes attitudes indicated in the text towards cloning by men and women?



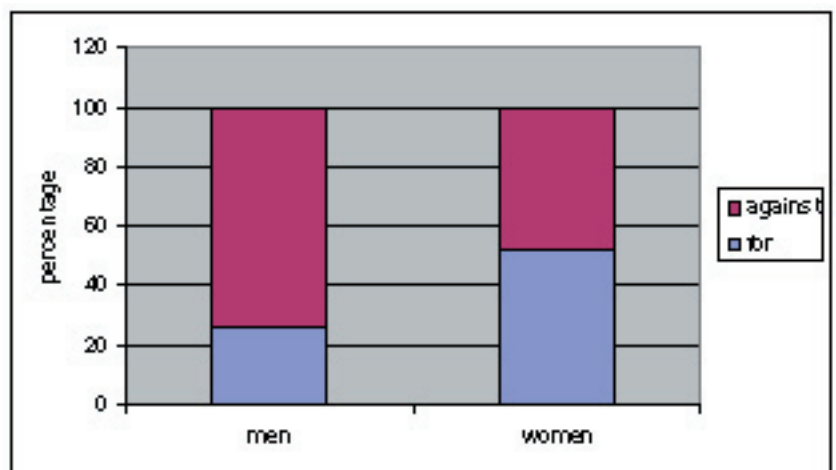
B



C



D



- 22 Which of the following is a feature of cloning used for possible medical treatment?
- A A genetic duplicate is born through use of a surrogate mother.
 - B The creation and implantation of an embryo.
 - C Implantation of differentiated pluripotent cells.
 - D Genetic mutation of pluripotent cells.
- 23 Which of the following is **NOT** a feature of cloning?
- A Reproduction of a genetic copy of the subject cloned.
 - B Reproduction of exact personality characteristics of the subject cloned.
 - C Reproduction of the pluripotential stem cells of the subject cloned.
 - D Reproduction of the DNA of the subject cloned.
- 24 Which of the following is **NOT** an example from the text of previous medical technologies that were initially mistrusted by people?
- A Test tube babies.
 - B Anaesthesia.
 - C Antiseptics.
 - D Heart replacements.

Questions 25 - 27

Using **NO MORE THAN THREE WORDS** from Reading Passage 2, answer the following questions.

Write your answers in boxes **25 - 27** on your answer sheet.

- 25 In what part of an egg is found the DNA used for cloning?
- 26 In what country has medical treatment through cloning been shown to be of limited value?
- 27 According to the text, what body wants to wait before cloning a human?

You should spend about 20 minutes on Questions **28 – 40** which are based on Reading Passage 3 below.

What is Intelligence?

Intelligence can be defined in many different ways since there are a variety of individual differences. Intelligence to a lot of people is the ability to reason and respond quickly yet accurately in all aspects of life, such as physically, emotionally, and mentally. Anyone can define intelligence because it is an open-ended word that has much room for interpretation but there are some theories which have more general acceptance than others.

Jean Piaget, a Swiss child psychologist, is well known for his four stages of mental growth theory. The first stage is the sensorimotor stage, from birth to age 2, the child is concerned with gaining motor control and getting familiar with physical objects. Then from age two to seven, the child develops verbal skills. This is called the preoperational stage. In the concrete operational stage the child deals with abstract thinking from age seven to twelve. The final stage, called the formal operational stage, ends at age fifteen and this is when the child learns to reason logically and systematically. Piaget's theory provides a basis for human intelligence by categorising the major stages in child development and how they contribute to intelligence. Each of these invariant stages has major cognitive skills that must be learned. Knowledge is not merely transmitted verbally but must be constructed and reconstructed by the learner. Thus this development involves a few basic steps. The first fundamental process of intellectual growth is the ability to assimilate the new events learned into the pre-existing cognitive structures. The second fundamental process is the capability to change those structures to accommodate the new information and the last process is to find equilibrium between the first two processes.

Howard Gardner, a psychologist at Harvard University, has formulated an even more intriguing theory. He arranged human intelligence into seven sections. First of all Gardner characterises the logistical-mathematical intelligence as people who think logically and are able to transfer abstract concepts to reality. These people enjoy solving puzzles and can be good inventors because they can visualize an invention even before making a prototype. They normally do better in school, which is for the most part due to the fact that schools are designed for logical-mathematical type of thinkers. The linguistic type, as you might guess, is the natural born writer and poet. They usually have excellent storytelling skills, spelling skills, and love to play with words. They tend to be bookworms and can easily learn more than one language. This type of intelligence seems to be located in the Broca's Area, since damage to that portion of the brain will cause a person to lose the ability to express themselves in clear grammatical sentences, though that person's understanding of vocabulary and syntax remains intact. Next Gardner traced musical intelligence to certain areas of the brain. Impaired or autistic children who are unable to talk or interact with others have often exemplified exceptional musical talent. People of this type of intelligence show great aptitude for music, have excellent pitch, and a good sense of rhythm. They concentrate better with music playing in the background. A particular concerto by Mozart has shown positive changes in the brains of listeners. Thus, musical intelligence can be a form or a means of learning. Another form of intelligence is the interpersonal intelligence. This category is for people who are very well aware of their environment. They tend to be sensitive to people around them, have an excellent idea of how people behave, and are especially sociable. Politicians, leaders, counselors, mediators, and

clergy are excellent examples of people with this type of intelligence. Damage to the frontal lobe has shown damage to this type of person's personality and his or her ability to interact with others. Intrapersonal intelligence is almost the opposite of interpersonal intelligence. This kind of intelligence deals with how well you know yourself. People who possess a higher degree of this type of intelligence have a high self-esteem, self-enhancement, and a strong sense of character. They are usually deep thinkers, self-teachers, skilled in music or art, and have an inner discipline. This sort of intelligence is hard to measure since it is often difficult to recognize externally. Spatial intelligence is the ability to perceive and interpret images or pictures in three-dimensional space. The right hemisphere of the brain has been proven to control this form of intelligence and scientists are certain that spatial intelligence is clearly an independent portion of this intellect. A person of this intellect enjoys making maps and charts. Lastly, Gardner classifies people who are athletically inclined into the body-kinesthetic intelligence. They perform the best in atmospheres of action, touching, physical contact and working with their hands. Dancers and athletes are good examples of this form of intellect. Critics are a little sceptical that Gardner considers this a form of intellect since it is only a physical component of intelligence, but nonetheless, the brain does use both hemispheres to control movement.

Gardner believes that everyone has a mixture of all the categories varying at different levels. We can see a couple of intelligence types that stand out in people we know and including ourselves. For example a math major's logical-mathematical intelligence would be more predominant than his linguistic intelligence.

Questions 28 - 34

Gardner's Intelligence Types and some descriptions of different types of people displaying different aspects of Gardner's Intelligence types are listed below in two boxes.

Match each description with the appropriate intelligence type.

Write the appropriate letters (**A - G**) in boxes **28 - 34** on your answer sheet.

Gardner's Intelligence Types

- A Logistical-mathematical type
- B Linguistic type
- C Musical type
- D Interpersonal type
- E Intrapersonal type
- F Spatial type
- G Body-kinesthetic type

- 28 People with this type of intelligence are often good at developing new products for a company.
- 29 People with this type of intelligence are often good novelists.
- 30 People with this type of intelligence often mix well with other people.
- 31 People with this type of intelligence are often very self-confident.
- 32 Young people with mental handicaps frequently display this type of intelligence.
- 33 People with this type of intelligence often learn by imagining things as pictures.
- 34 People with this type of intelligence are often good physiotherapists.

Questions 35 - 40

Read the passage *What is Intelligence?* again and look at the statements below.

In boxes **35 - 40** on your answer sheet write:

TRUE *if the statement is true*

FALSE *if the statement is false*

NOT GIVEN *if the information is not given in the text*

- 35 There are no theories of intelligence which have universal recognition around the world.
- 36 Part of Piaget's development theory includes children learning how to walk.
- 37 Piaget theorised that psychological development is finished before adulthood.
- 38 Piaget's and Gardner's theories are not mutually exclusive.
- 39 People usually have a blend of Gardner's intelligence types.
- 40 Someone can identify in themselves the kinds of Gardner's intelligence types that they display.