英　語

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問　題　冊　子

注意事項

(1)　試験開始の合図があるまで，問題冊子を開かないこと。

(2)　問題冊子は 12 ページで，解答用紙は 6 枚，白紙は 2 枚である。問題冊子や解答用紙に，落丁，乱丁，印刷不鮮明のものがあった場合は，ただちに試験官に申し出ること。

(3)　受験番号は，6 枚の解答用紙のそれぞれの指定箇所に丁寧に記入すること。

(4)　**問題は，** 1 から 3 の 3 つの大問よりなる。ただし， 1 は， 1−A と 1−B からなる。

(5)　解答は解答用紙の指定箇所に丁寧に記入すること。

(6)　解答用紙は，持ち帰らないこと。

(7)　問題冊子は，持ち帰ること。

(8)　各大問には，満点に対する配点の比率(%)を表示してある。

次の英文を読んで，後の設問に答えなさい。 （配点比率 10 ％）

Water is essential for life. No living being on planet Earth can survive without it. It is a prerequisite for human health and well-being as well as for the preservation of the environment. However, about 40％ of the people in the world do not have access to even a simple *pit latrine; and nearly two in ten have no source of safe drinking water. Every year millions of people, most of them children, die from diseases associated （ ① ） inadequate water supply, sanitation, and hygiene. According to the World Health Organization, each and every day some 3,900 children die （ ② ） dirty water or poor hygiene; diseases transmitted through water or human excrement are the second-leading cause of death among children worldwide after respiratory diseases. Water scarcity, poor water quality, and inadequate
(ア)
sanitation （ ③ ） impact food security, livelihood choices, and educational opportunities for poor families across the world. Water-related natural disasters such as floods, tropical storms and tsunamis exert a heavy toll in human life and suffering. And all too regularly, drought afflicts some of the world's poorest countries, exacerbating hunger and malnutrition.
(イ)

Beyond meeting basic human needs, water supply and sanitation services, as well as water as a resource, are critical to sustainable development. It is a major source of energy in some parts of the world, while in others its potential as an energy source remains largely unexploited. Water is also necessary for agriculture and for many industrial processes. And in more than a few countries, it makes up an integral part of transport systems. With
(ウ)
improved scientific understanding, the international community has also come to appreciate more fully the valuable services provided by water-related ecosystems, from flood control to storm protection and water purification.

Water challenges will increase significantly in the coming years. Continuing population growth and rising incomes will （ ④ ） greater water consumption, as well as more waste. The urban population in developing countries will grow dramatically, generating demand well beyond the capacity of already inadequate water supply and sanitation infrastructure and
(エ)
services. According to the United Nations World Water Development Report, by 2050, at least one in four people is likely to live in a country affected by chronic or recurring shortages of freshwater.

It seems there are more than a few reasons to put water and sanitation at the top of the world's agenda. At the United Nations Millennium Summit in September 2000, the largest-ever

gathering of world leaders adopted the Millennium Declaration; from the Declaration emerged the Millennium Development Goals, <u>an integrated</u> set of time-bound targets for extending the (オ) benefits of globalization to the world's poorest citizens. Among them was target 10, to cut in half the proportion of people without sustainable access to safe drinking water. At the Johannesburg World Summit for Sustainable Development, in 2002, this target was expanded to include basic sanitation, and water as a resource was recognized as a critical factor for (⑤) all the Goals. This sanitation objective is now an integral part of target 10.

*pit latrine：汲取り便所

(Adapted from *International Decade for Action 'Water for Life' 2005-2015*, United Nations, http://www.un.org/waterforlifedecade/background.shtml)

設問 1　本文中の空所（　①　）～（　⑤　）に入れるのに最も適した語（句）をそれぞれ下の選択肢より選び，その記号を解答欄に記入しなさい。

（　①　）　(A)　in　　　　　　　(B)　at　　　　　　　　(C)　for

　　　　　(D)　to　　　　　　　(E)　with

（　②　）　(A)　because　　　　(B)　since　　　　　　　(C)　as

　　　　　(D)　even if　　　　 (E)　because of

（　③　）　(A)　positively　　　(B)　negligibly　　　　　(C)　negatively

　　　　　(D)　indistinctly　　(E)　insignificantly

（　④　）　(A)　lead to　　　　(B)　lead in　　　　　　(C)　lead over

　　　　　(D)　lead of　　　　(E)　lead with

（　⑤　）　(A)　meet　　　　　(B)　met　　　　　　　　(C)　meeting

　　　　　(D)　meets　　　　　(E)　have met

設問 2　本文中の下線部(ア)～(オ)の語（句）に意味が最も近いものをそれぞれ下の選択肢より選び，その記号を解答欄に記入しなさい。

(ア)　(A)　abundance　　　　(B)　shortage　　　　　(C)　minimum

　　　(D)　affluence　　　　　(E)　richness

(イ)　(A)　worsening　　　　(B)　decreasing　　　　(C)　improving

　　　(D)　controlling　　　　(E)　terminating

(ウ)　(A)　produces　　　　　(B)　generates　　　　(C)　forms

　　　(D)　decorates　　　　(E)　transforms

(エ)　(A)　hiding　　　　　　(B)　proceeding　　　　(C)　exceeding

　　　(D)　delaying　　　　　(E)　increasing

(オ)　(A)　a unified　　　　　(B)　a corrected　　　　(C)　a formed

　　　(D)　a separated　　　　(E)　a segmented

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次の英文を読んで，後の設問に答えなさい。（配点比率 20 ％）

The prospect of cloned babies has moved a step closer after scientists extracted stem cells from human embryos created in a laboratory. The breakthrough could lead to customised cells to help treat and even cure a range of diseases, from Alzheimer's to multiple sclerosis. （　　あ　　） This could allow couples who lose a child to pay for the creation of a 'duplicate'.

While human embryos have been cloned before, none have had healthy stem cells extracted from them. The latest advance means scientists are now even closer to being able to clone children. The US team behind the work stress that they want to find treatments for incurable diseases — but critics fear there is little to stop a rogue scientist from copying their work to try to clone humans.

Dr David King, founder of the campaign group Human Genetics Alert, called for an international ban on human cloning and said it was 'irresponsible in the extreme' to have published details of the stem-cell technique. The world's first cloning was achieved at Oregon Health and Science University, with a technique similar to the one used to clone Dolly the sheep. First, Dr Shoukhrat Mitalipov took eggs donated by healthy young women and removed their DNA. （　　い　　） When the embryos were five or six days old, and around the size of a pinhead, Dr Mitalipov successfully harvested them for stem cells. These cells, known as 'master cells', are capable of turning into every type of cell in the body and are widely seen as a potential repair kit for diseased, damaged and worn-out body parts.

Dr Mitalipov has spent many years refining the technique, which involves feeding the eggs caffeine at a key point in the process. He said, 'Our finding offers new ways of generating stem cells for patients with dysfunctional or damaged tissues and organs. Such stem cells can regenerate and replace those damaged cells and tissues and alleviate diseases that affect millions of people. While there is much work to be done in developing safe and effective stem-cell treatments, we believe this is a significant step forward in developing the cells that could be used in regenerative medicine'. Using a sliver of the patient's skin at the start of the process would ensure that stem cells would be a perfect match for their body. This would raise the odds of the treatment being successful, and remove the need for powerful drugs to suppress the patient's immune system. （　　う　　） Chris Mason, a professor of regenerative medicine at University College London, said Dr Mitalipov's work, detailed in the journal *Cell*, looked like 'the real deal'. Dr Paul De Sousa, of Edinburgh University, said that improving our understanding of women's eggs could lead to new treatments for infertility. However, other scientists warned that the new research brings us closer to babies being

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cloned to order.

In Britain, the law states that cloned embryos have to be destroyed after 14 days, and it is illegal to implant them in a woman. Other countries have more relaxed rules for so-called reproductive cloning. Josephine Quintavalle, of campaign group Comment on Reproductive Ethics, questioned the need for the research, given that another, more simple way of making customised stem cells already exists. She said: 'The suspicion has to be that the real interest is not stem cell therapy *per se*, given that other uncontroversial approaches are already so successful. Let's hope that the goal is not out and out reproductive cloning'. Dr Mitalipov said he has failed to create baby monkeys via cloning, and that it is therefore unlikely his technique could be used to clone humans. Others claim that creating a five-day-old bundle of cells is a far cry from someone giving birth to a fully-formed cloned baby. However, Dr King warned: 'Scientists have finally delivered the baby that would-be human cloners have been waiting for: a method for reliably creating cloned human embryos. (　　え　　) It is irresponsible in the extreme to have published this research'.

(Adapted from Fiona MacRae, "New Spectre of Cloned Babies: Scientists Create Embryos in Lab that 'Could Grow to Full Term'", *MailOnline*, May 15 2013,
http://www.dailymail.co.uk/sciencetech/article-2324970/New-spectre-cloned-babies-Scientists-create-embryos-lab-grow-term.html)

設問 1 　本文中の空所（　あ　）〜（　え　）に入れるのに最も適切な文をそれぞれ以下の選択肢より選び，その記号を解答欄に記入しなさい。

(A) However, it also raises the spectre of babies being cloned in laboratories.

(B) Several different therapeutic concepts for cell replacement of embryonic stem cells can be assumed.

(C) Tailor-made cells could also be used to learn more about a person's illness and to test drugs to find those that work best.

(D) He placed skin cells inside the hollowed-out eggs and used a zap of electricity to make them start developing into embryos.

(E) This makes it imperative that we create an international ban on human cloning before any more research like this takes place.

設問 2 　以下の選択肢のうち，本文の内容に合致するものを一つ選び，その記号を解答欄に書きなさい。

(A) The most important risk factors for Alzheimer's disease are old age and a positive family history.

(B) Stem-cell technology is a controversial technology and would be unacceptable to some physicians despite its therapeutic potential.

(C) Embryonic stem cells have tremendous healing capacity. However, if uncontrolled, there is a high probability that patients will die.

(D) There are ethical issues in stem-cell technology; however, it is possible to carry out the treatments on animals using this technology.

(E) Embryonic stem cells are difficult to culture and grow slowly. In addition, cultured cells tend to develop various abnormalities with time.

2 次の英文を読んで，後の設問に答えなさい。（配点比率 50 ％）

　Since the first experimental psychology laboratory was started in Leipzig, Germany, by Wilhelm Wundt in 1873, psychologists have tried to understand the components of human consciousness by performing experiments on the senses of vision, hearing, and touch. Without these senses and those of taste and smell, your brain, which is responsible （　ア　） your conscious experience, would be an eternal prisoner in the solitary confinement of your skull.　Data from the senses are the building blocks （　イ　） thoughts and minds are constructed.　The Greek philosopher Protagoras summed up this notion around 450 B.C. （　ウ　） he said, "We are nothing but a bundle of sensations."

　If this notion bothers you, then consider the mind （　エ　） it were a computer. Mental operations are the way in which the computer processes data.　Obviously, the data the computer processes must come from somewhere.　In animals, information comes into their "mental computers" from the senses, while the data for the computer might come from the keyboard.　Now imagine for a minute that a certain kind of computer has a keyboard with only （　オ　） on it.　No matter （　カ　） powerful that computer is, the only data that it can ever process will involve numbers.　A keyboard that contains letters as well as numbers changes the nature of the data that a computer can receive, enabling it to process words and language. But if there is no letter "B" on the keyboard, then the words "brain" and "（　キ　）" are not distinguishable.　This means that we cannot identify whether the word received by the computer refers （　ク　） a part of the body or a weather condition.

　Most people remember very little that happened before the age of four years.　Certainly you were learning many things during the first three or four years of your life, and you did have many experiences that should have resulted （　ケ　） memories.　You were probably toilet trained then; you learned how to eat with utensils and how to recognize your parents and other family members; and you probably knew a few children's games and had been to a few interesting places, like the zoo or the seashore.　You did form memories of those events, but they were coded or registered in your brain as visual images.　Once you developed more advanced language abilities, you changed the way you recorded memories and began to register nearly all of them in the form of a language code.　You also began to think by using language rather than images.　Those early memories are still there, but because you now think in words, you can't retrieve them — you have lost the key to that part of your past that was registered in （　コ　） rather than in （　サ　）.

　People who has learned more than one language often find that it is possible to think easily about certain topics only in the language that they were using when they first learned

that information. I have a friend who is bilingual in French and English but who was *courted by her husband when she meets him during her schooling in Paris. Although they now live in an English-speaking culture, they still find that they can talk about their intimate feelings only in French, the language they were speaking when they fall in love! "If I say personal things to my husband in ☐1☐ , they have feeling and meaning," she told me, "but if I say them in ☐2☐ , they seem fake — maybe even funny. On the other hand, when we talk about things that have happened to us since we began living in Vancouver, we always speak in ☐3☐ . It is as though I can't find the ☐4☐ words for these things."

Dogs do not have language, or at least <u>humans / not / that / the / word-based language /</u> ④ <u>use</u>. This means that their thoughts will be coded in a form that <u>from / humans / in / is /</u> ⑤ <u>different / quite / that</u>. In the absence of language, dogs must <u>resort to</u> mental processes ⑥ that may be similar to the sensory-based thinking that humans use as *toddlers. I am not suggesting that dogs are running videos inside their heads, but rather that the <u>substitute</u> for ⑦ words in their thought processes is a set of images drawn from the experiences that their senses provide them.

V.S. Rusinov, a Russian scientist who used dogs to study the *electrophysiology of the brain, mounted some sophisticated equipment that measured the brain waves of dogs and transmitted them, via tiny transmitters, to recording devices. Each day, the dogs were brought into the laboratory for various training and perceptual experiments. This was done on a schedule, so for five days each week the dogs began their testing session at the same time. Rusinov soon noticed that as the dogs first came into the testing room, their brains showed electrical patterns that indicated they were fairly relaxed. Once the laboratory session started, however, there were some characteristic changes in the brain wave pattern that seemed to be connected with what the dogs were experiencing. One weekend Rusinov brought a group of visitors into the lab and, although he had no intention of actually testing any dogs that day, he turned on the equipment that normally recorded the brain wave patterns, just to show the visitors how it worked. <u>Much to his surprise</u>, the dog that was normally scheduled ⑧ for tests at that time on weekdays was producing brain wave patterns that were nearly identical to his regular working patterns. Once the testing time was past, however, the dog's brain waves returned to their normal, nonworking patterns. Rusinov's conclusion was that (あ).

*court: to seek the love of

*toddler: a child who has only recently learned to walk

*electrophysiology: the branch of physiology that studies the electrical activity of organisms

(Adapted from Stanley Coren, *How Dogs Think*, Free Press, 2005)

設問 1　（　ア　）（　ク　）（　ケ　）に入れるのにそれぞれ最もふさわしい単語を次から選びなさい。ただし同じ語は1回しか使えません。

　　　　　at / before / for / in / on / to

設問 2　（　イ　）と（　エ　）に入れるのにそれぞれ最もふさわしい句を次から選びなさい。ただし同じ句は1回しか使えません。

　　　　　along with / as if / in case / on which / that is

設問 3　（　ウ　）と（　カ　）に入れるのにそれぞれ最もふさわしい単語を次から選びなさい。ただし同じ語は1回しか使えません。

　　　　　how / what / when / where / who / why

設問 4　（　オ　）に入れるのに最もふさわしい単語を同じ段落の中から探して書きなさい。

設問 5　（　キ　）に入れるのに最もふさわしい単語を書きなさい。

設問 6　下線部①に最も意味の近い単語を次から選びなさい。

　　　　　captivity / embarrassment / option / relief / secret

設問 7　下線部②は，この段落の最初の文（二重下線部）に述べられているようなことが起きる理由を説明しています。空欄（　コ　），（　サ　）に入る最もふさわしい単語をそれぞれ同じ段落から探して書きなさい。

設問 8　下線部③の文章には正しく変化していない動詞・助動詞が3つあります。それらを探し，例にならって正しい変化形に直しなさい。
　　　　　例：do → does

設問 9　　1　～　4　に入る最もふさわしい単語を順に並べたものを次から選んで番号で答えなさい。

　　　1．English-French-English-French

　　　2．English-French-French-English

　　　3．French-English-English-French

　　　4．French-English-French-English

設問10　下線部④と⑤の語(句)をそれぞれ正しい順に並べ替えなさい。

設問11　下線部⑥と⑦の文中における意味をそれぞれ最もよく表している説明を次から選んで番号で答えなさい。

    1.　a company which is owned by a larger company

    2.　a thing that is used instead of another thing

    3.　material with particular physical characteristics

    4.　the thing which is being discussed, considered or studied

    5.　to be happy to do something if it is needed

    6.　to refuse to accept or consider something

    7.　to do something because there is no other way of achieving something

    8.　to take a trip to a place where many people go for such purposes as rest and sport

設問12　「彼」が下線部⑧のように感じた理由として最もふさわしいものを次から選んで番号で答えなさい。

    1.　この日に行われる予定だった実験が時間どおりに行われなかったから。

    2.　「彼」が意図していなかった見学者の一団が実験室を訪れたから。

    3.　実験の開始前と開始後で脳波の波形が異なることがわかったから。

    4.　実際には実験をしていないのに実験中と同様の脳波が記録されたから。

    5.　実験が終わると脳波がほとんど検出されなくなってしまったから。

設問13　（　あ　）に入る最もふさわしいものを次から選んで番号で答えなさい。

    1.　dogs could extract more information from human social sources around them simply because they were specifically looking for it

    2.　for some sounds, a dog's hearing was really hundreds of times better than ours; whereas for other sounds, dogs and humans had sound sensitivities that were very much the same

    3.　information from the sense of touch was actually shaping the dog's mind and modifying his present and future behavior

    4.　the dog was sensitive to the passage of time, and when the time came for his testing, he began to think about the testing situation and what normally happened then

    5.　understanding a dog's visual sense required some understanding of the structure and physiology of the eye, which operates much like a camera

次の文中の下線部(1)～(4)の和文の内容を，それぞれ示してある語，語句をすべて用いて英語で表現しなさい。解答は，解答用紙の所定の箇所に全文書き入れなさい。（なお，文頭に入るべき語，語句も小文字で提示してある。）（配点比率 20 ％）

Just like the fruit itself, Jakarta's nickname of the "Big Durian" reflects life in the city. It is thorny on the outside but full of sweet promises on the inside. And like the city itself, the potent smell of the durian fruit makes people either love it or detest it.

In this wet season, the fruits can be spotted on the city's sidewalks and in its markets. Jakartans know that it is now the durian season, and the fruit is selling like hotcakes in the city. Some people would even fight over it.

But even though Jakarta is nicknamed the Big Durian, the fruit doesn't grow in the city.

(1) ドリアンは，その産地にちなんだ名前をつけられる。 There are several kinds of durian that are popular: Lampung durian, Medan durian, Palembang durian. But there are also some varieties that bear special names, such as Petruk durian from Jepara, Central Java, and Hepe durian from Cileungsi, West Java.

Jayadi, a durian seller in Palmerah, Central Jakarta, said that since December last year many customers had started to look for durian from Sumatra. "In my stall, durian from Palembang is always more popular than durian from Pandeglang," he said.

The thick, sweet meat of the durian that, once ripe, had fallen from the tree, made it taste better, Jayadi said.

Durians from Pandeglang, he said, were usually picked by the farmer. "The price of the Palembang durian is between Rp 20,000 (US$2.23) and Rp 25,000 each," he said, adding that usually the season for Palembang durian would last for about four months.

Jayadi received the spiky fruits from a supplier in Meruya, West Jakarta. (2) ドリアンは，最長4日間しかもたないので，業者のドリアンの納入は，3日に一度だった。 Besides Palembang, other varieties of durian from Sumatra can also be found easily during this wet season.

Another durian seller, Muri, said that in the past few weeks, more people had bought durian at the stall and preferred to enjoy the fruit on the spot. "More customers like to eat durian here with their families or friends. This was rarely the case months ago, or during the season for durian from Solo [Surakarta] or Semarang," he said.

"The price of durian from Central Java is usually more expensive, but the quality is better. But (3) 値段を気にしない客は，ほんのわずかしかいない," Muri said.

He said that 80 percent of durian displayed at his stall could be sold in three days, while the remaining 20 percent was disposed of.

Asih Pertiwi, 32, also noticed that more fruit stalls near her house in Kalimalang, East Jakarta, were now displaying durian. "I saw only two or three stalls that sold durian before, but I guess from January I've noticed at least 10 stalls selling durian," Asih said. 彼女は，その様子にとても魅かれて，３日前にドリアンを２つ買うことにした。
(4)

"My favorite is durian from Lampung. I bought two for Rp 35,000 each. They were big, sweet but a little bitter, possibly due to over fermentation. That's exactly the best part of the durian," she said.

The good business of durian in the city, however, does not always bring something good. Last week, members of a Betawi group reportedly clashed with a local youth organization, purportedly over the protection of a durian stall on Rawasari Street in Cempaka Putih, Central Jakarta.

Members of both organizations asked a durian seller for protection money. The seller felt he could not pay both of them. The seller told one of the groups about the problem, which enraged the other group and led to the series of clashes.

Just like durian, Jakarta has its thorny and sweet sides.

(Adapted from Novia D. Rulistia, "Time to Eat Durian in the 'Big Durian'", *The Jakarta Post*, Jan 28, 2012)

(1) ［最初の１語 "Types" は，すでに解答欄に記されています。それに続けて書きなさい。］

after the place / are / are / durian / grown / named / of / they / where

(2) ［最初の１語 "As" は，すでに解答欄に記されています。それに続けて書きなさい。］

a maximum of / could / days / dropped / every / for / four / it / off /
only last / the fruit / the supplier / three days

(3) a / customers / don't / handful / mind / of / only / price / the

(4) attracted / buy / decided / her / much / she / so / that / the sight /
three days ago / to / two durian fruits