平成29年度
前期日程

英　　語

医学部医学科・応用生物科学部共同獣医学科

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20ページで，解答用紙は7枚と白紙1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，ただちに試験監督者に申し出ること。白紙はメモに使用してよい。

(3) 受験番号は，7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。

(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) 問題冊子及び白紙(メモ用紙)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。

(9) 設問は**英文**で書かれている。

1 **Answer the questions in Section 1 to 5.** (配点比率：25 %)

Section 1 : Complete each sentence using the verbs in parentheses. Write the appropriate form and add any other necessary words.

Example :

Look at Tom! He _____ _____ a strange hat! (wear)

Example	
is	**wearing**

(1) I _____ _____ in Gifu since I was born. (live)

(2) The telephone _____ while we _____ _____ TV. My mother answered it. (ring, watch)

(3) At this time tomorrow, I _____ _____ _____ over the Pacific Ocean! I hope I'm awake to see it. (fly)

(4) I _____ we could go there if we wanted to. (suppose)

(5) The store refused to give me my money back. If only I _____ _____ the receipt! (keep)

Section 2 : Choose the most appropriate option A, B, C, or D to complete each sentence.

Example :

Monday is the day _____ Tuesday.

A. after

B. before

C. beside

D. next to

Example
B

(6) I think he did the best he _____ under the circumstances.

A. can

B. could

C. will

D. would

(7) _____ first thing I noticed about George is that he has _____ strange hairstyle.

A. A, a

B. A, the

C. The, a

D. The, the

(8) Sarah kept on _____ me as I was speaking.

A. interrupt

B. interrupted

C. interrupting

D. interruption

(9) They shouldn't have taken it because it wasn't _____ to take.

A. their

B. theirs

C. them

D. they

(10) _____ was there, but _____ saw _____.

A. Anyone, no one, everything

B. Everyone, no one, anything

C. No one, everyone, everything

D. Someone, everyone, nothing

Section 3 : Choose the word or phrase that BEST fits each sentence using 1, 2, 3, or 4.

Example :

You must ( ) when a teacher enters the room.

1. stand down

2. stand up

3. stand up for

4. stand with

Example
2

(11) Never ( ) until tomorrow something that you can do today.

1. put down

2. put off

3. put through

4. put up

(12) I fixed the mirror on your bike with glue. It's not dried yet, so if you touch it, I'm afraid it might ( ).

1. come down
2. come off
3. come out
4. come up

(13) The new supermarket has ( ) a lot of changes in the town.

1. brought about
2. brought along
3. brought out
4. brought up

(14) I've calculated that I will be able to ( ) the loan completely in around two years.

1. pay down
2. pay off
3. pay out
4. pay up

(15) My parents said that they would ( ) me no matter what decision I make.

1. stand by
2. stand down
3. stand out
4. stand over

Section 4 : In which of the following sentences is the underlined word NOT used correctly? Choose あ, い, う, or え for each question.

Example :

あ. I took a photograph of my friend.

い. My family and I had dinner in a restaurant.

う. His idea was separate to mine, so we did "rock, paper, scissors" to decide.

え. We had to wait for a long time for our train.

Example
う

(16) あ. All the tickets have been sold, but we will let you know if more become available.

い. Ms. Takahashi took a domestic flight from Tokyo to Sydney.

う. Everyone agrees that this mission carries a high probability of failure.

え. Bigger dogs require more exercise than smaller ones.

(17) あ. I think we need to take a different approach to this problem.

い. I don't think that the new strategy will make much of a difference.

う. Mr. Sato likes to make vegetables in his garden.

え. There are a number of similarities between the two cities.

(18) あ. The workers were shocked to hear that their company was in financial difficulties.

い. Everyone should have the right to be represented by a lawyer.

う. Water is the earth's most valuable resort.

え. Peter has a new scheme that he thinks is going to make him rich.

(19) あ. The politician was forced to resign due to a conflict of interest.

い. Kenji has a healthy interest in special needs education.

う. Put the numbers in the correct range, from the lowest to the highest.

え. The court is due to announce its verdict this afternoon.

⑳ あ. Children can be very adapt at getting adults to do what they want.

い. The findings of the survey were somewhat ambiguous.

う. Everyone was surprised when Mr. Smith announced his candidacy.

え. There are a number of places where you can seek help if you need it.

Section 5 : Choose the most appropriate word and phrase from the options A, B, C, and D to complete the conversation.

Example :

Mary: Hi John. How are you?

John: I'm ( ), thank you. And you?

A. fine

B. heavy

C. short

D. tall

Example
A

Mary: Hey John, (21) take Professor Smith's class last year?

John: You mean Sociology 101?

Mary: (22). I'm thinking about taking it this year, but I'm quite busy. Was there a lot of extra reading?

John: I guess you (23) say there was a lot, but most of it was pretty interesting. I'd definitely take it if I were you. It's (24) interesting classes I've taken.

Mary: Okay. You've convinced me. I'm going to (25) the office on my way home and sign up. I hope I don't regret taking your advice!

John: You won't. I guarantee it!

㉑ **A**. couldn't you

B. didn't you

C. shouldn't you

D. wouldn't you

(22) **A**. It's the one.

B. That's the one.

C. This is it.

D. This one.

(23) **A**. could

B. had better

C. ought to

D. should

(24) **A**. one more

B. one of the most

C. one of the much

D. the most

(25) **A**. drop by

B. drop off

C. drop on

D. drop through

2 **Read Sections 1 to 4 below and answer the questions that follow using either numbers such as 1 and 2 or capital letters such as A and B.** (配点比率：25 %)

Section 1

As a boy growing up in Denmark, Eske Willerslev could not wait to leave Gentofte, his suburban hometown. As soon as he was old enough, he would strike out for the Arctic wilderness.

His twin brother, Rane, shared his obsession. On vacations, they retreated to the woods to teach themselves survival skills. Their first journey would be to Siberia, the Willerslev twins decided. They would make contact with a mysterious group of people called the Yukaghir, who supposedly lived on nothing but elk and moose.

When the Willerslev twins reached 18, they made good on their promise. They were soon paddling a canoe up remote Siberian rivers.

"Nobody knew what you would see on the other side of a mountain," said Eske Willerslev, who is now 44. "There were villages on the maps, and you wouldn't even see a trace of them."

Dr. Willerslev spent much of the next four years in Siberia, hunting moose, traveling across empty tundra and meeting the Yukaghirs and other people of the region. The experience left him wondering about the history of ethnic groups, about how people spread across the planet.

A quarter of a century later, Dr. Willerslev is still asking those questions, but now he's getting some eye-opening answers.

As the director of the Center for GeoGenetics at the University of Copenhagen, Dr. Willerslev uses ancient DNA to reconstruct the past 50, 000 years of human history. The findings have enriched our understanding of prehistory, shedding light on human development with evidence that can't be found in pottery shards or studies of living cultures.

Dr. Willerslev led the first successful sequencing of an ancient human genome, that of a 4, 000-year-old Greenlander. His research on a 24, 000-year-old Siberian skeleton revealed an unexpected connection between Europeans and Native Americans.

Dr. Willerslev was one of the early pioneers of the study of ancient DNA, and today he remains at the forefront of an increasingly competitive field. His colleagues credit his success to his relentless work and to his skill at building international networks of collaborators.

"His role is that of catalyst, choreographer, conductor and cajoler — and sometimes all at once," said David J. Meltzer, an archaeologist at Southern Methodist University.

The scientific enterprise that Dr. Willerslev helped invent now sometimes crosses into culturally sensitive terrain. Last June, he and his colleagues published the genome of an 8, 500-year-old skeleton from Washington State known as Kennewick Man, or the Ancient One.

Native American tribes and scientists fought over control of the bones since their discovery in 1996. During his research, Dr. Willerslev met with representatives from the tribes. One tribe agreed to donate DNA for his study.

Kennewick Man, Dr. Willerslev and his colleagues concluded, was related to living Native Americans. That finding led to a momentous announcement last month: The Army Corps of Engineers said it would formally consider the request from the tribes to reclaim the skeleton and bury it.

Rane Willerslev, now a cultural anthropologist at the University of Aarhus, sees his brother's work as (あ) of their Siberian adventure.

"He just became the kind of scientist he should have become," Rane Willerslev said. "Anything else would have been wrong."

Section 2

It was on their third journey through Siberia, in 1993, that the Willerslev brothers finally found the Yukaghirs. An old man, covered in scars from hunting bears in his youth, led them to a Yukaghir village.

"It was completely different from what I imagined," Dr. Willerslev said.

The Yukaghir were not an exotic tribe living in utter isolation. In fact, virtually all of them could count Russians and people from other ethnic groups among their ancestors. The Willerslev twins could find only a single old man who still spoke the native language.

That encounter was fresh in his mind when, back in Denmark, Dr. Willerslev learned that some scientists were extracting DNA from fossil mummies, a technique that might help explain the history of people like the Yukaghir.

But there was no one in Denmark doing that research, so one of Dr. Willerslev's professors suggested a Plan B. They could investigate ancient ice that climate researchers at the University of Copenhagen had brought back from Greenland.

Dr. Willerslev and a fellow graduate student, Anders J. Hansen, set up a room where they could search for DNA in the ice cores. And in ice as old as 4, 000 years, Dr. Willerslev and Dr. Hansen discovered DNA from 57 species of fungi, plants, algae and other organisms, dating back as far as 4, 000 years.

The results were so remarkable for the mid-1990s that NASA called the young doctoral student to ask about his methods.

"(い) that I wanted to become a scientist," Dr. Willerslev said. "There's a big difference between reading about what others have discovered and discovering something yourself."

After publishing the ice study in 1999, Dr. Willerslev emailed Russian scientists, who sent him sugar-cube-size chunks of permafrost from Siberia to search for ice age DNA.

In the very first cube, Dr. Willerslev hit genetic pay dirt. "You just saw woolly mammoth, reindeer, lemming, bison," he said. "It was just incredible."

Discovering a whole ice age ecosystem in a pinch of frozen dirt helped Dr. Willerslev earn a professorship at the university. He went on to found the Center for GeoGenetics, which now employs more than 100 scientists.

From the start, Dr. Willerslev made finding ancient human DNA one of the center's top priorities. In 2006, he set out for northern Greenland with colleagues in hopes of finding some.

The scientists searched for animal bones that showed signs of being butchered. They hoped that the hunters might have left behind some of their DNA.

For more than a month, the scientists hacked into the ground, wearing full bodysuits to (う) the samples. But when they returned to Copenhagen and studied the bones, they were disappointed to find only animal DNA.

Not long afterward, Dr. Willerslev discovered that the trip had been unnecessary.

In the 1980s, university researchers had found a 4,000-year-old clump of hair in Greenland that had been stored — and forgotten — in a basement. "It was completely ridiculous," Dr. Willerslev said.

Dr. Willerslev and his colleagues extracted DNA from the hair and used powerful new methods to reconstruct the genome of the Greenlander. It was the first time (え).

The hair turned out to belong to a man. His blood type was A positive, and he had a genetic predisposition for baldness. But most interesting of all, his genes contained clues about the history of Greenland and the Inuit who live there today.

"We could see these guys were not the direct ancestors of Inuit people," Dr. Willerslev said. Instead, the ancient Greenlander belonged to a different group known as Paleo-Eskimos.

Analyzing the ancient genome, Dr. Willerslev and his colleagues concluded that Paleo-Eskimos migrated from Siberia about 5,500 years ago and endured for centuries in Canada and Greenland before vanishing. The Paleo-Eskimos were not the ancestors of today's Inuits: They were replaced by them.

Section 3

In the six years since that report, Dr. Willerslev and his colleagues have published a series of studies that have fundamentally changed how we think about human history.

Our species evolved in Africa about 200,000 years ago. Scientists are still working out how humans later populated the other continents. A lot of evidence indicates that Native Americans originated from a population somewhere in Asia more than 15,000 years ago. In search of clues to that founding population, Dr. Willerslev and his colleagues examined a 24,000-year-old bone buried near a village called Mal'ta in eastern Siberia.

In a preliminary study, Maanasa Raghavan, a researcher at the genetics center, discovered some DNA in the remains. But the genes seemed to belong to a northern European, not an East Asian.

"I put it on hold because I thought it was completely contaminated," Dr. Willerslev said of the research.

After he and his colleagues developed more powerful methods for analyzing DNA, Dr. Raghavan and her colleagues returned to the Mal'ta DNA. It was not contaminated; Instead, it was a genome unlike anything they expected.

Parts of the boy's genome closely resembled the DNA of ancient Europeans, but more of it resembled that of Native Americans.

"It was really an eye-opener," Dr. Willerslev said. "This individual has nothing to do with East Asians. He has something to do with Europeans and Native Americans."

It appears that the Mal'ta boy belonged to an ancient population spread out across Asia 24,000 years ago. They came into contact with an East Asian population at some point, and members of the two groups had children together. (お)

The Mal'ta people are not related to the Asians who live in the region today. But before they disappeared, (か). Later research revealed the route those genes took from Asia to Europe.

In a study published last June, Dr. Willerslev and his colleagues discovered Mal'ta-like DNA in Bronze Age nomads called the Yamnaya, who lived 4,300 to 5,500 years ago in what is now southwestern Russia. About 5,000 years ago, the Yamnaya expanded into Europe, where they added their DNA to the gene pool.

The new research has prompted Dr. Willerslev to give up his earlier belief that the major groups of people in different parts of the world had largely separate genetic histories. "These results made it clear this simplified picture is not the truth," he said.

Section 4

In 2011, Dr. Willerslev and his colleagues made history once again by publishing the first genome of an aboriginal Australian. The research gave him new insights about human history.

But it also taught Dr. Willerslev a lesson about the ethics involved in studying ancient DNA.

Archaeological evidence shows that humans arrived in Australia at least 50, 000 years ago. Scientists have long wondered if the aboriginals on the continent today are descendants of those first settlers, or of later arrivals.

Dr. Willerslev saw a weakness in early genetic studies on aboriginal Australians; Many aboriginals alive today have some European ancestry. He decided to look for an aboriginal genome (き) European DNA.

In 2010, he found a piece of hair collected in Australia in the 1920s at the University of Cambridge. He and his colleagues retrieved DNA from the hair and reconstructed the owner's genome.

Their analysis revealed that the ancestors of aboriginal Australians split off from other non-Africans about 70, 000 years ago. That finding supports the idea that the first settlers in Australia were the ancestors of today's aboriginals.

Dr. Willerslev was eager to share the new finding. But one of Dr. Willerslev's co-authors, Rasmus Nielsen of the University of California, Berkeley, declared that they had made a grave mistake (く) the consent of living aboriginal Australians.

"It didn't seem right to circumvent the wishes of the aboriginal community by using that sample," Dr. Nielsen said. "I was about to remove myself from the study due to these concerns."

At first, Dr. Willerslev didn't understand the fuss. "My view was that human history belongs to all of us because we're all connected, and no people have a right to stop our understanding of human history," he said.

But Dr. Willerslev decided to travel to Australia to meet with aboriginal representatives. He was shaken to learn of the unethical history of scientific research on aboriginal Australians.

Victorian anatomists plundered burial grounds, for example, and carried off bones to put in museums. Years of such exploitation had left many aboriginal Australians suspicious of scientists.

Today, geneticists who want to study aboriginal DNA need to obtain consent not just from

donors, but from community organizations. And in many cases, there are limits on how widely scientific results can be shared.

"Paying attention now, I could see why they had this skepticism and resistance," Dr. Willerslev said. "In retrospect, I should have definitely approached those people before undertaking the study. Just because it's legally right doesn't make it ethically right."

In Australia, Dr. Willerslev met with the Goldfields Land and Sea Council, which represents aboriginal people in the region where the hair sample had been obtained. He described the results of his analysis and asked for the council's consent to publish them.

The council gave him permission. In fact, when the study came out, they praised the results. "Aboriginal people feel exonerated in showing the broader community that they are by far the oldest continuous civilization in the world," the council said in a statement.

Adapted from: Carl Zimmer, "Eske Willerslev Is Rewriting History With DNA," *The New York Times*, May 16, 2016, http://www.nytimes.com/2016/05/17/science/eske-willerslev-ancient-dna-scientist.html

Answer Question 1 to 5 using 1, 2, 3, and 4.

Question (1) :

Which of the following phrases BEST fits the blank (あ) ?

1. a basis
2. a continuation
3. a curiosity
4. an excitement

Question (2) :

Which of the following phrases BEST fits the blank (い) ?

1. I got completely convinced
2. I got completely pleased
3. I got completely surprised
4. I got completely worried

Question (3) :

Which of the following phrases BEST fits the blank (う) ?

1. avoid contaminating
2. finish spreading
3. postpone cleaning
4. stop discarding

Question (4) :

Which of the following sentences BEST fits the blank (え) ?

1. scientists had abolished an entire ancient human genome
2. scientists had donated an entire ancient human genome
3. scientists had made an entire ancient human genome
4. scientists had recovered an entire ancient human genome

Question (5) :

Which of the following statements BEST fits the blank (お)?

1. Native Americans are the descendants of those children.
2. Native Americans are the ancestors of those children.
3. Native Americans disciplined those children.
4. Native Americans raised those children.

Answer Question (6) to (10) using A, B, C, and D.

Question (6) :

Which of the following sentences BEST fits the blank (か)?

A. they did not pass down their DNA to Africans
B. they did not pass down their DNA to Europeans
C. they passed down their DNA to Africans
D. they passed down their DNA to Europeans

Question (7) :

Which of the following phrases BEST fits the blank (き)?

A. faced with

B. filled with

C. forced by

D. free of

Question (8) :

Which of the following phrases BEST fits the blank (く)?

A. by getting

B. by not getting

C. by not reading

D. by reading

Question (9) :

Which of the following statements is supported by the information given in Section 1 of the text?

A. Dr. Willerslev has been a pioneer of the study of ancient genomes.

B. Dr. Willerslev has been a pioneer of the study of pottery shards.

C. Dr. Willerslev has been a pioneer of the study of Siberian rivers.

D. Dr. Willerslev has been a pioneer of the study of survival skills.

Question (10) :

Which of the following is the BEST title of Section 4 of the text?

A. Research Devices

B. Research Morality

C. Research Organization

D. Research Topics

3 **Read the following text and answer the questions below.** (配点比率：50 %)

In what could have profound implications for understanding the process of aging, a trio of scientific papers published today show that infusing elderly mice with the blood of young mice can reverse many of the mental and physical [(1)] of growing old.

Expanding on earlier research, the three studies — published concurrently in *Nature Medicine* and *Science* — demonstrate rejuvenating effects in memory, muscle strength, endurance, and sense of smell. Together, they suggest that there might be factors in the young blood that can produce globally regenerating effects in older animals. In addition to reversing the normal ravages of aging, the papers suggest, young blood might help turn around declines in cognitive function associated with age-related conditions such as heart enlargement and Alzheimer's disease. "The changes are astounding in terms of rejuvenating the mice both in the periphery of the body and in the brain," said Rudolph Tanzi, professor of neurology at Harvard and director of the Genetics and Aging Research Unit at Massachusetts General Hospital, who was not involved in any of the three research projects. "I'm kind of blown away, really, by the results."

The study in *Nature Medicine*, conducted by Saul Villeda at the University of California, San Francisco (UCSF), Tony Wyss-Coray at Stanford, and their colleagues, builds on earlier work that showed young blood could stimulate the growth of brain stem cells and new neurons, as well as work that indicated that giving old blood to young mice can have the opposite effect, [(2)] their cognitive abilities. As described in the *Nature Medicine* paper, Villeda and his colleagues physically connected the circulatory systems of old mice to young mice via surgery that stitched their abdominal cavities together. Over time, elderly mice tethered to young mice sprouted more new connections between nerve cells in their brains than did controls tethered to other elderly mice. Senior mice invigorated by their juniors' blood also produced proteins associated with neuroplasticity — the ability of the brain to reorganize itself in response to experience. The young mice were 3 months old; the elderly mice were 18 months old.

The UCSF and Stanford scientists also directly injected old mice with young-mouse blood plasma, the yellowish liquid base of blood in which proteins and other solids are suspended. Over the course of three weeks, the old mice received eight blood plasma injections from young mice. Afterward, the treated mice remembered how to find a hidden resting platform in a water maze ⑤(the controls / than / did / better). They also exhibited better recollection of a chamber they had been conditioned to associate with a mild foot shock.

While the ingredient in the young blood responsible for these effects is still unknown, a clue was provided when the scientists heated the plasma before injection, and no such benefits were seen. [⑥] proteins are deactivated by heat, the results are consistent with the relevant circulating factor being a protein. "When I first heard this story from Tony Wyss-Coray, I thought it was absolutely amazing," said Tanzi. "I thought it was ⑦(true / too / to / good / be). Now that two additional papers have come out in *Science* with similar findings, and all three papers are by well-respected labs, now you have to believe it's real," he said.

In the first of the two papers in *Science*, a team from Harvard found that by either connecting the circulatory systems of young and old mice, or injecting old mice with a signaling protein isolated from young blood, they could strengthen and ⑧rejuvenate aged muscles. The [(3)] was measured in several ways, according to Amy Wagers, professor of stem cell and regenerative biology at Harvard and one of the paper's chief authors. The DNA of old muscle stem cells was repaired; muscle fibers and cell structures called mitochondria morphed into healthier, more youthful versions; grip strength [(4)] and the mice were able to run on treadmills longer than their untreated counterparts.

The protein used in the study, called GDF 11, was already known to reduce age-related heart enlargement, which is characteristic of heart failure. But Wagers said the new work shows that GDF 11 has a similar age-reversal effect on other tissue, in particular the skeletal muscle and brain.

"That means that this protein is really acting in somewhat of a coordinating way across tissues," she said, and that drugs could be developed to target a "single common pathway" seen in a variety of age-related dysfunctions, including muscle weakness, neurodegeneration, and heart disease.

In the second *Science* paper, another team from Harvard, led by research associate Lida Katsimpardi, also transferred GDF 11 from young mice to old ones either by surgically linking their circulatory systems or through injections. They then looked at cells in the subventricular zone, an area in the mouse brain related to [⑨]. The young blood improved circulation in this region, which in turn stimulated the production of new nerve cells. When these cells migrated to the olfactory bulb and matured, the elderly mouse's sense of smell improved, reversing the loss in sensitivity normally associated with aging.

What's most exciting about this work, said Katsimpardi, is that the bolstered blood flow was observed [⑩] in the olfactory regions but throughout the brain. This could also help explain the improvement in memory and learning seen in the *Nature Medicine* paper. The three papers taken together are "like a whole story now," Katsimpardi said.

The Harvard researchers plan to continue work to see [⑪] GDF 11 is the sole factor involved in the rejuvenation, or whether it is one of several. "My bet is that there is more than one protein that is going to explain aging," Wagers said.

Bradley Wise, chief of the Neurobiology of Aging Branch at the National Institute on Aging and the administrator of the team's grant, said it's too soon to recommend wholesale transfusion of young human blood into elderly people. He said any treatments derived from this research will likely come from individual blood factors, either administered directly or via pharmaceuticals designed to mimic their effects. "The big question is: What are those factors?" he said.

Tanzi said the three papers mesh well with recent research into the importance of inflammation in conditions such as Alzheimer's disease, heart disease, diabetes, stroke, and cancer.

"The young blood is to some extent curbing inflammation in the body and brain, which is one of the main problems leading to age-dependent deterioration," he said. Taken together, Tanzi added, the new findings are "a game changer for sure."

Adapted from: Jennifer Frazer, "Swapping Young Blood for Old Reverses Aging," *National Geographic News,* May 4, 2014, http://news.nationalgeographic.com/news/2014/05/140504-swapping-young-blood-for-old-reverses-aging/

Questions (1) to (4): Which of the following words BEST fits the blanks [(1)] to [(4)]? Answer using the capital letters A to D. Each letter can be used only once.

A. impairing
B. impairments
C. improved
D. improvement

Question (5): Put the double underlined words in the parentheses (⑤) in the correct order.

Question (6) : Which of the following words BEST fits the blank [⑥]? Answer this question using the numbers 1 to 4.

1. After
2. Although
3. Before
4. Since

Question (7) : Put the double underlined words in the parentheses (⑦) in the correct order.

Question (8) : Which of the following phrases BEST fits the meaning of the word ⑧ "rejuvenate?" Answer this question using katakana ア to エ.

ア. To become older again.
イ. To continue to be in a particular state or situation.
ウ. To damage something or make something worse.
エ. To make someone look or feel young and energetic again.

Question (9) : Which of the following phrases BEST fits the blank [⑨]? Answer this question using the capital letters A to D.

A. color sensation
B. equilibrium sense
C. motor neuron
D. odor perception

Question (10) : Which of the following phrases BEST fits the blank [⑩]? Answer this question using the numbers 1 to 4.

1. not
2. not only
3. only
4. only not

Question (11) : Fill in the blank [⑪] with the appropriate word.

Questions (12) to (16) : Find the <u>underlined word</u> in the text that means the same as each of the following definitions.

(12) a situation in which something does not succeed

(13) persons that you work with, especially in a profession or a business

(14) one of the things from which something is made

(15) the fact or process of becoming worse

(16) the outer edge of an area

Questions (17) to (20) : Write T, F, or N for each of the following statements.

T = the statement agrees with the text

F = the statement does not agree with the text

N = this information is not given in the text

(17) Rudolph Tanzi conducted one of the research projects and reported the effects of young blood on age-related conditions.

(18) The relevant circulating factor responsible for reversing the normal ravages of aging is DNA of muscle stem cells.

(19) There is a high possibility of having intense rejection response in clinical trials.

(20) Amy Wagers guesses there can be factors in the young blood other than GDF 11.