

## 医学部

[一般・学士] ～第1次試験～

英語

試験時間

70分

- 注意事項
1. この科目の問題用紙は13ページ、解答用紙はマークカード1枚である。
  2. 解答用紙(マークカード)に、氏名・フリガナ・受験番号の記入および受験番号のマークを忘れないこと。
  3. マークはHBの鉛筆で、はっきりとマークすること。
  4. マークを消す場合、消しゴムで完全に消し、消しくずを残さないこと。
  5. 解答用紙(マークカード)は折り曲げたり、メモやチェックなどで汚したりしないように注意すること。
  6. 各問題の選択肢のうち質問に適した答えを1つだけ選びマークすること。1問に2つ以上解答した場合は誤りとする。
  7. 問題用紙は解答用紙(マークカード)とともに机上に置いて退出すること。持ち帰ってはいけない。

I 次の英文を読み、下記の設問に答えなさい。なお①～⑦はパラグラフの番号です。

① Because humans have evolved as part of the web of life, the premise<sup>\*1</sup> that we remain embedded in it seems obvious. Yet, with our technological success, which has been driven by our needs and wants and formed with natural capital<sup>\*2</sup>, we have made it possible to conceal this fundamental truth from ourselves. For urbanites<sup>\*3</sup>, the sources of what keeps us healthy—food, medicine, clean water, and clean air—are hidden, and the sinks for our wastes are likewise mostly out of sight.

② Scientists have steadily and consistently increased their level of concern regarding the state of the planet, citing, ( 1 ) statistics, that we have cleared half of the Earth's forests, degraded 40% of agricultural lands, pushed a quarter of fisheries to very dangerously low levels, and we have also set the Earth's climate on a very worrisome path. Such desperately terrifying statements baffle<sup>\*4</sup> many of us as we look out our windows to view a landscape filled with greenery or visit a park where life abounds, and wonder what could possibly be wrong with nature given what we see around us. Nature's invisibility to too many of us, ( 2 ) a clear failure to appreciate our absolute dependence on it, has brought on a human-induced, and nearly unprecedented, period of simplification in the biosphere.

③ Biodiversity, namely the variety of life, including genes, species, and ecosystems, is declining at a pace never before matched in human history. Species extinction rates, the most widely cited measurement of biodiversity loss, are 100 to 1,000 times higher today than so-called background extinction rates (i.e., the rates observed in the fossil record when no mass extinction was occurring and before humans evolved). While pollution, invasive species<sup>\*5</sup>, and overharvesting<sup>\*6</sup> have all contributed to biodiversity loss, destruction of habitat has been the largest culprit<sup>(7)</sup>, although climate change is currently close behind and will likely become the most important biodiversity loss factor by mid-century. All of these drivers result from human activities, ( 3 ) grow very rapidly as the human population itself increases explosively. If we do not act to more carefully and sensibly manage the living world, the consequences will be extremely severe even for humans. This loss of species, the genes they hold, and the ecosystems they form, is far more than a loss of unique creatures: with the loss of biodiversity, human health itself is put ( 4 ).

④ Given all that ties human well-being to biodiversity, how quickly we are losing that biodiversity, how little we know about life on Earth, and the fact that losses in biodiversity are mainly from human actions, why has it been so hard to prevent biodiversity loss and to improve the situation?

⑤ Much of the blame lies in traditional economic approaches<sup>(5)</sup> that have failed to adequately and appropriately value<sup>\*7</sup> natural resources. The field of ecological economics<sup>(8)</sup> is founded to provide better valuations of ecosystems. A major feature of ecological economics is to emphasize natural capital's irreplaceability<sup>\*8</sup>. Hence, flawed<sup>\*9</sup> notions that human capital<sup>\*10</sup> may substitute for natural capital, or that one form of natural capital may substitute for another, must be replaced with the understanding that once biodiversity is lost, it is gone forever: it cannot be purchased back into existence at some future date.

⑥ The challenges ( 5 ) preventing biodiversity loss, of course, represent more than market failure or shortcomings in economic analysis. Human cognitive biases<sup>\*11</sup> provide the main foundations for many economic decisions and far too many people still struggle even to understand the very serious nature of biodiversity loss or to recognize the absolute need to meaningfully value natural capital. Hence, what may motivate people most to improve the ways in which we do business with the biosphere is to expose<sup>(9)</sup> the connections that bind the fate of humans and all species together.

⑦ For most of humanity, these connections have become too abstract and too distant. Our relationship to nature is more tangible than the common understanding that "all life is connected" or that we are a part of a food web, and the biodiversity that sustains us is not just in a faraway and tropical place but near where we live. The challenge for conservation in the 21st century, then, is to transform the concept of biodiversity from the abstract into the concrete and the distant into the personal. Only with such a shift in culture<sup>(10)</sup> will conservation move from what is currently a state of angry, and very misguided and misinformed artificial arguments about "morality and altruism<sup>\*12</sup>" to one of custom and habit. It is critical that everyone recognizes that modern conservation is ( 6 ) about doing "the right thing" for others and actually much more about doing what is necessary and essential for our own survival.

出典: Aguirre, A.A., Oatfield, R.S. & Daszak, P. (Eds) (2012) *New Directions in Conservation Medicine*, New York: Oxford University Press, pp. 45-53. (抜粋一部改変)

[注] \*1)premise [前提]

\*2)natural capital [「自然資本」土壌、大気、水、植物相、動物相などの自然財産を、資本の一つとして捉えた経済学の概念。]

\*3)urbanite [都市居住者、都会人]

\*4)baffle [まごつかせる]

\*5)invasive species [侵入生物種]

\*6)overharvesting [過剰伐採]

\*7)valuate [評価する]

\*8)irreplaceability [ほかのものと置き換えられないこと]

\*9)flawed [欠点のある]

\*10)human capital [「人的資本」人間が持つ能力(知識や技能)を資本として捉えた経済学の概念。]

\*11)cognitive bias [認知バイアス] ある対象を評価する際に、自分の利害や希望、または対象の目立ちやすい特徴に引きずられて、考えや評価が歪められる現象。

\*12)altruism [利他主義]

問1 本文中の(1)～(6)の各空欄に入る最も適切なものを、それぞれ①～⑤の中から一つずつ選びなさい。

- (1) ① around another worrying ② around obvious worrying  
③ between other relaxing ④ between another consoling  
⑤ among other alarming
- (2) ① insisting on ② possessing of  
③ compensated for ④ combined with  
⑤ having opposed to
- (3) ① how ② which ③ such  
④ as ⑤ whenever
- (4) ① at hand ② in case ③ on leave  
④ at risk ⑤ in return
- (5) ① being allowed at ② distributed in ③ faced in  
④ factored through ⑤ allowed to
- (6) ① much less ② any more ③ not less  
④ so much ⑤ much more

問2 本文中の下線部(イ)と(エ)の意味内容として最も適切なものを、それぞれ①～⑤の中から一つずつ選びなさい。

(7) traditional economic approaches in paragraph 5

- ① irregular industrial methods  
② modern commercial proposals  
③ common well-organized aspect proposals  
④ unorthodox economical strategies  
⑤ conventional financial and material resource strategies

(8) culture in paragraph 7

- ① a body of individuals living as members of a community  
② the behaviors and beliefs that characterize human society  
③ any behavior pattern that has been so regularly followed that it has become voluntary  
④ a system characterized by the least valuable aspects of economic beliefs  
⑤ the mental character of the most elite members of a community

問3 本文中の下線部(ア)と(ウ)の語に最も意味の近いものを、それぞれ①～⑤の中から一つずつ選びなさい。

(9) culprit in paragraph 3

- ① survivor ② witness ③ responsible factor  
④ traitor ⑤ guilty pioneer

(10) expose in paragraph 6

- ① uncover and lay bare ② torment  
③ dispose and characterize ④ conceal and admit  
⑤ surpass

問4 次の(11)～(13)の英文の問いの答えとして最も適切なものを、それぞれ①～⑤の中から一つずつ選びなさい。

(11) What is the main message of the passage?

- ① Losses in biodiversity are mainly due to human actions and activities, and climate change will be the most important biodiversity loss factor by mid-century.  
② Our focus only on economic growth above all other considerations makes it easy for most people to feel connected to nature and so it remains unclear why there is biodiversity loss.  
③ Because humans have evolved as part of the web of life, the idea that we remain restricted by nature's rules should be clearly obvious and this is true for most people.  
④ Because of irrelevant economic thinking and strategies, few people truly understand the dangers of biodiversity loss to human survival itself, and the need for societal change and for sound conservation practices.  
⑤ The planet's ecosystems are in grave danger, and biodiversity loss has risen to the point where human capital must change.

(12) Which of the following details is NOT found in the passage?

- ① Species extinction rates are 100 to 1,000 times higher today than the rates observed in the fossil record before humans evolved.  
② Despite the clear importance of biodiversity to humans and despite the fact that rapid losses in biodiversity are mainly due to human activities, it is unclear why it has been so hard to improve the situation.  
③ The idea that once biodiversity is lost, it is gone forever is inaccurate because human capital can purchase natural capital back into existence.  
④ The challenge for modern conservation is to transform the types of abstract, distant thinking about biodiversity that most humans use and rely on into thinking that is concrete and personal.  
⑤ Scientists have cited many desperately alarming statistics concerning the dangerous condition of our planet's ecosystem.

(13) Which of the following definitions best fits with the term "ecological economics" as it is used in paragraph 5 of this passage?

- ① A traditional feature of ecological economics is to bring economics and ecology together to restrict the ways valuations are done for ecosystems and for other natural resources.  
② In the field of ecological economics, both economics and ecology come together to emphasize good valuations for ecosystems and for other natural resources so that we can address the very serious problems that traditional economic approaches have in dealing with the natural world.  
③ A good way to regard ecological economics is that it is not just in a faraway and tropical place but is actually near where we live, where we work, and where we are trying to raise our families.  
④ It can be a real challenge to bring the meaning of ecology into easier concepts and forms so that what is abstract for average human beings can be transformed into something that is concrete.  
⑤ Because traditional economics have failed to adequately and appropriately value natural resources and ecosystems, ecological economics has been used as an alternative system to provide better valuations of human capital.

II 次の(14)～(21)の各英文の空欄に入る最も適切なものを、それぞれ①～⑤の中から一つずつ選びなさい。

(14) ( ) India of ( ) years was an India in turmoil.

- ① The/the ② The/a ③ The/those ④ An/the ⑤ An/these

(15) Although government officials say the water is safe, many people who worry about ( ).

- ① the water quality do not believe the officials  
② bottled water don't get complete answers for them  
③ tap water which comes from lakes and rivers  
④ the situation wants something clear  
⑤ bottled water feel that is good enough

(16) ( ) seen the ravages of malaria, most people in developed countries cannot understand its terrible effects in certain parts of the world.

- ① Have had never ② Never ever ③ To never  
④ Had never ⑤ Having never

(17) The process ( ) living things to transform food into energy and living tissue is called metabolism.

- ① it enables ② that enables ③ which it enables  
④ enables ⑤ having enables

(18) I couldn't make myself ( ) above the noise of the traffic.

- ① bearing ② heard ③ having heard  
④ to hear ⑤ having to hear

(19) To avoid any public attention, the mayor ( ).

- ① appeared in talk shows to promote her policies
- ② spoke at a press conference about her future plans
- ③ wrote to the local newspapers to explain her ideas
- ④ arranged a private meeting with her staff
- ⑤ organized an interview with prominent reporters

(20) Acupuncture has proved its effectiveness over hundreds of years; ( ).

- ① it should therefore be an accepted component of mainstream medical practice
- ② it is because non-harmful, non-toxic processes are used in treating all medical problems
- ③ there is no acceptable empirical research that conclusively demonstrates its healing power
- ④ mainstream medical professions have, of course, refused to recognize the usefulness of alternative medical techniques
- ⑤ it will always be the only treatment for those who do not know how traditional medicine actually works

(21) Some emotional problems in older people can also cause serious memory problems. Feeling sad, lonely, worried, or bored for very long periods can sometimes cause you to become confused or forgetful. On the other hand, being active, spending more time with family and friends, and learning new skills can be very beneficial for overall memory health. ( ). Once you get help, your memory should get better.

- ① You definitely need treatment with medications as soon as possible
- ② You may also need to see a doctor or counselor for treatment
- ③ Taking memory supplements will solve all of your issues
- ④ It is likely that you will require some type of expensive surgical treatment
- ⑤ Just accept that you will have to give up on having a normal life

Ⅲ 次の英文が論理的に意味の通る内容として完成するように、(22)～(25)の各空欄に入る最も適切なものを、①～⑤の中からそれぞれ一つ選びなさい。

Many people commonly and incorrectly confuse influenza (the flu) with the common cold. The flu differs from the cold in that someone with the flu gets sick suddenly, looks much sicker, and feels much weaker ( 22 ) if the ailment were a common cold.

The common cold is a mild infection frequently caused by viruses other than the influenza virus. On the other hand, the flu is an acute infection of the respiratory tract in the nose and throat that can sometimes spread down into the lungs. It ( 23 ) every year, mainly in late fall and early winter, and in a widespread fashion, affects many people of different ages at the same time.

About 10-20% of people in the United States get the flu every year, and about 114,000 ( 24 ) to a hospital for complications related to the flu. Each year roughly 20,000 Americans die of these complications. Most of these deaths are reported ( 25 ) older than 65 years.

- (22) ① rather                      ② as                      ③ only
- ④ what                      ⑤ than
- (23) ① is taken place              ② catches on              ③ populates
- ④ occurs                      ⑤ happened
- (24) ① send                      ② are granted              ③ are admitted
- ④ give rise                      ⑤ are hospitalized
- (25) ① at these                      ② from whom              ③ in those
- ④ of these                      ⑤ for their

Ⅳ 次の英文を読み、以下の問いに答えなさい。

Traditionally, mental proficiency tests have been divided into two types: achievement tests and aptitude tests. Achievement tests are designed to measure acquired skills and knowledge, particularly those that have been explicitly taught. Hence, the proficiency exams required by some American states for high school graduation are, in fact, achievement tests. In contrast, general aptitude tests are designed to measure a person's ability to acquire new skills or knowledge. For example, vocational aptitude tests can help you decide whether you would do better as a mechanic or musician. However, all mental proficiency tests are in some sense achievement tests because these mental tests assume some sort of past learning or experience with certain objects, words, or situations. Therefore, the difference between achievement and aptitude tests is actually mostly one of degree and of intended use.

問 1 次の英文の書き出しに続くものを、①～⑤の中から一つ選びなさい。

- (26) The author's descriptions about the two different types of mental proficiency tests are clear \_\_\_\_\_.
- ① but secretive                      ② and emotional                      ③ but superstitious
  - ④ but pessimistic                      ⑤ and objective

問 2 次の英文の問いの答えとなるものを、①～⑤の中から一つ選びなさい。

- (27) Which of the following fits with the information presented in this passage?
- ① Mental proficiency tests are a means of acquiring new skills and knowledge.
  - ② All high school students in the US should take proficiency tests.
  - ③ Aptitude and achievement tests are completely interchangeable terms.
  - ④ An aptitude test might be helpful to a person contemplating a career move.
  - ⑤ Traditional systems for defining mental proficiency tests are completely misleading.

問 3 次の英文の書き出しに続くものを、①～⑤の中から一つ選びなさい。

- (28) If the author included another paragraph preceding the one above, this earlier paragraph would most likely deal with \_\_\_\_\_.
- ① the requirements for career choice
  - ② a general description of proficiency testing methods
  - ③ the requirements for high school graduation
  - ④ the relationships between education and vocation
  - ⑤ a broad description of global education systems

## V 次の会話文を読んで、以下の設問に答えなさい。

- Timmy: Scientists at MIT are incredible. ( 29 ).
- Cathy: Really? Is that right? Are we actually closer to beating liver cancer? I've heard that it's a really dangerous disease.
- Timmy: ( 30 ). But we have reasons to be hopeful. According to the scientists, targeting this gene is an effective strategy for treating liver and colon cancer. ( 31 ).
- Cathy: What did they find?
- Timmy: Well, it said they analyzed 106 cancer-cell samples and found that a protein made by a gene called axin had an abnormal appearance in nine of the samples. These abnormal proteins were made from altered or mutated axin genes. When they inserted non-mutated and fully functional forms of the axin genes into cancer cells, they found that the growth of not only liver cancer, but also of colon cancer, was suppressed by up to 95 percent!
- Cathy: ( 32 ), then maybe it could be used for treating other cancer types.
- Timmy: ( 33 ) because it almost sounds too good to be true.

問1 会話文が論理的に意味の通る内容として完成するように、(29)～(33)の空欄に入る最も適切なものを、①～⑤の中からそれぞれ一つずつ選びなさい。各選択肢は一度しか使えません。

- ① The results were announced in *Nature Genetics*, a major science journal
- ② They've discovered a gene that seems to suppress the development of liver cancer
- ③ Wow. Actually I don't understand everything you said but if axin really does have such a strong effect
- ④ I hate to say it, but I think we have to also be realistic
- ⑤ I agree. That's certainly true

問2 会話文について、次の英文の問いの答えとして最も適切なものを、①～⑤の中から一つ選びなさい。

- (34) Which of the following fits with the information presented in this passage?
- ① Because axin seems to be affecting two major but different types of cancers, it is possible that this gene plays some key roles in the formation of cancer.
- ② Timmy is clearly a scientist with enough knowledge about cancer to be able to explain such specific details to Cathy, who is equally knowledgeable enough to understand the significance of these findings.
- ③ The results about these abnormal proteins are very encouraging because such altered axin genes seem to be able to actually cure liver and colon cancers.
- ④ Axin is so important for the treatment of cancer that scientists should focus all of their efforts on this gene only and spend much less time on other areas of cancer research.
- ⑤ Timmy understands this issue very well and he is very convinced that this treatment will be absolutely vital for the future success of our efforts to cure cancer.

## VI 次の(ア)と(イ)の日本語の文の意味を表すように、それぞれ①～⑩の語(句)を並べ替え、各空欄に一つずつ入れて英文を完成させ、(35)～(42)の空欄に入るものの番号を答えなさい。

(ア) 人々はそれぞれ自分なりのやり方でストレスと折り合いをつけなければならない—ときにはそれを避けようとしたり、ときにはそれを受け入れ、あるいは、克服されるべき挑戦としてそれを探し求めさえもしたりして。

Each person needs to ( ) ( 35 ) ( ) stress ( 36 ) his or her own way; sometimes trying to avoid it, but sometimes ( ) it or even ( ) ( ) ( 37 ) ( 38 ) ( ) to be mastered.

- ① with      ② out      ③ seeking      ④ as      ⑤ come to  
⑥ a challenge      ⑦ accepting      ⑧ it      ⑨ terms      ⑩ in

(イ) われわれは一人ひとりが、幸せになるための能力や潜在性を備えており、一人ひとりがそのような特性を自分で活用しうる手段を与えられている。

Each of us has certain talents and ( ) for happiness, and each of us ( ) ( 39 ) by ( 40 ) ( ) ( 41 ) ( ) ( ) ( 42 ) ( ) use.

- ① which      ② we      ③ put      ④ traits      ⑤ is given  
⑥ the means      ⑦ to      ⑧ such      ⑨ the potential      ⑩ may