

科目

外国語・英語

医学部医学科

注 意

1. 開始の合図があるまで、この問題冊子を開いてはいけません。
2. 問題は、1 ページから 6 ページにわたっています。
3. 解答用紙は 4 枚、下書用紙は 1 枚で、問題冊子とは別になっています。
4. 試験開始の合図があつてから直ちに問題冊子、解答用紙、下書用紙を確認し、不備がある場合は監督者に申し出てください。
5. すべての解答用紙の所定の欄に、受験番号(2 か所)を記入してください。なお志望学部学科欄には「医学部医学科」が印字されています。
6. 解答は、すべて解答用紙の所定の欄に記入してください。解答用紙の所定の欄以外に記入した解答は、評価(採点)の対象としません。
7. 試験終了後、問題冊子と下書用紙は持ち帰ってください。

1 Read the following passage and answer the questions that follow. Words marked with an asterisk (*) are defined in the Notes section at the end of this passage.

'Culture' is frequently contrasted with the term 'nature', the implication being that the two are rivals and opposites. Culture is thereby defined as what human beings have done to, or added to, nature by means of their inventiveness and labour. The word itself derives from the cultivation of land – *agriculture*. The artefacts, technologies and cities that humans have made over the centuries are clearly cultural rather than natural phenomena. Even the countrysides of modern nations have been transformed by human labour to such an extent that ^(A)there is little wilderness left on planet Earth. Many animal species have been destroyed in the process. However, this does not mean that nature and natural forces can be forgotten.

Some thinkers regard the economy as 'determinant in the last instance' but in fact nature is still the final judge. Although humanity has striven to understand and conquer nature, the control we exercise over it is far from complete. Furthermore, humans remain part of nature: we are still subject to the laws of physics and evolution, to biological inheritance, urges and degeneration. [regarded / culture / cannot / follows / that / it / as / be] ^(B) completely different from, completely opposite to nature. When studying examples of human culture, therefore, we should always remember that they are constructed on a natural foundation.

Given the fact that during the history of humanity many different civilisations and societies have existed and, despite ever-increasing globalisation, there is still a wide variety of societies in the world today, (C). 'Local' or 'regional cultures' can thus be distinguished from 'national cultures' and 'global culture'.

However, a plurality of cultures does not mean that they are all equal because cultural groups vary in their sizes, power and influence: some are dominant while others are subordinate. Some cultures are official, approved and central whereas some are unofficial, unapproved and marginal. The law of uneven development also applies: some are more advanced than others; some are growing and expanding, while others are declining.

While it is possible for individuals, tribes, races and nations to live in (D) and mutual respect, it is also possible for them to be in (E) or even at war with one another. Cultures are not free from the human tendency to aggression – they can also be in dispute. Regrettably, the values of one culture may be incompatible with those of another.

When different cultures meet there are often violent clashes – battles for supremacy. Military conquest usually results in the suppression of the religion, language and culture of the defeated people and the imposition of the religion, language and culture of the victors. A war is not always necessary for this to happen: a culture can be destroyed, **undermined*** or transformed by a foreign culture emerging from a nation of greater economic and cultural strength. The way American mass culture is exported around the globe is an obvious example. ^(F) In some instances resistance against Americanisation is orchestrated by the rulers of the victim state; as, for example, in Iran; and in France where the French language is policed and **quota systems*** are imposed on the import of American cultural goods.

Adapted from Walker, J. A. & Chaplin, S. (1997). *Visual Culture: An Introduction*.

Notes:

undermine: weaken

quota system: a system that limits the amount of particular goods that can enter or leave a country

(1) Translate the underlined part (A) into Japanese.

(2) Put the words in the underlined part (B) in the correct order. The word that comes at the beginning of the sentence is also shown with a small letter.

(3) Choose the best option to fill in the blank of (C) from the list below and answer with the corresponding letter.

- (a) we should regard our societies as 'inherently singular'
- (b) we should identify plural cultures with a singular culture
- (c) we should refer to our societies as 'singular' rather than as 'plural'
- (d) we should realise plural cultures no longer exist in a globalised world
- (e) we should speak of 'cultures' in the plural rather than 'culture' in the singular

(4) Choose the best option for the blanks of (D) and (E) from the list below and answer with the corresponding letter.

- | | | |
|---------------|-----------------|-------------|
| (a) challenge | (b) conflict | (c) harmony |
| (d) line | (e) obstruction | (f) support |

(5) As for the underlined part (F) The way American mass culture is exported around the globe is an obvious example, what factors enable American mass culture to be exported around the globe? Answer in Japanese.

(6) Select all the options that match the claims of the authors from the following and answer with the corresponding letter(s).

- (a) Culture is independent of nature, and both are not interrelated to each other.
- (b) There is a possibility that the winner of a war suppresses the culture of the loser.
- (c) Globalisation should be accelerated to eliminate wars caused by cultural differences.
- (d) Some countries have taken measures to fight against the cultural influence of the U.S.A.
- (e) The aggressive characteristics of humans are derived from the diversity of culture.

2 Read the following passage and answer the questions that follow. Words and phrases marked with an asterisk (*) are defined in the Notes section at the end of this passage.

A decade into her **optometry*** career, Marina Su began noticing something unusual about the kids in her New York City practice. More of them were requiring glasses, and at younger and younger ages. Many of these kids had parents who had perfect vision and who were confused by the decline in their children's eyesight. Frankly, Su couldn't explain it either.

In optometry school, she had been taught—as American textbooks had been teaching for decades—that nearsightedness, or myopia, is a genetic condition. Having one parent with myopia doubles the odds that a kid will need glasses. Having two parents with myopia **quintuples*** them. Over the years, she did indeed diagnose lots of nearsighted kids with nearsighted parents. These parents, she told me, would sigh in recognition: Oh no, not them too. But something was changing. A generation of children was suddenly seeing worse than their parents. Su remembers asking herself, as she saw more and more young patients with bad eyesight ^(A) that seemed to have come out of nowhere: ^(B) “If it’s only genetics, then why are these kids also getting myopic?”

What she noticed in her New York office a few years ago has in fact been happening around the world. In East and Southeast Asia, where this shift is most dramatic, the proportion of teenagers and young adults with myopia has jumped from roughly a quarter to more than 80 percent in just over half a century. In China, myopia is so prevalent that it has become a national-security concern: The military is worried about recruiting enough sharp-eyed pilots from among the country’s 1.4 billion people. Recent pandemic lockdowns seem to have made eyesight among Chinese children even worse.

For years, many experts dismissed the rising myopia rates in Asia as an abnormality. They argued that Asians are genetically predisposed to myopia and criticized the methodology of studies conducted there. But eventually the scope of the problem and the speed of change became impossible to deny.

In the U.S., 42 percent of 12-to-54-year-olds were nearsighted in the early 2000s—the last time a national survey of myopia was conducted—up from a quarter in the 1970s. Though more recent large-scale surveys are not available, when I asked eye doctors around the U.S. if they were seeing more nearsighted kids, the answers were: “Absolutely.” “Yes.” “No question about it.”

In Europe as well, young adults are ^(C) [distance vision / glasses for / grandparents / more likely / or / need / than / their parents / to] are now. Some of the lowest rates of myopia are in developing countries in Africa and South America. But where Asia was once seen as an exception, it’s now considered a forerunner. If current trends continue, one study estimates, half of the world’s population will be myopic by 2050.

The consequences of this trend are more critical than a surge in kids with eyeglasses. Nearsighted eyes become prone to serious problems like **glaucoma*** and **retinal*** **detachment*** in middle age, conditions that can in turn cause permanent blindness. The risks start small but rise exponentially with higher prescriptions. The ^(D) [the outlook / worse / starts / myopia / , / the / younger]. In 2019, the American Academy of **Ophthalmology*** (AAO) convened a task force to recognize myopia as an urgent global-health problem. ^(E) As

Michael Repka, an ophthalmology professor at Johns Hopkins University and the AAO's medical director for government affairs, told me, "You're trying to head off an epidemic of blindness that's decades down the road."

[①]: You need only look around to see countless kids absorbed in phones and tablets and laptops. And you wouldn't be the first to conclude that staring at something inches from your face is bad for distance vision. Four centuries ago, the German astronomer Johannes Kepler blamed his own poor eyesight, in part, on all the hours he spent studying. Historically, British doctors have found myopia to be much more common among Oxford students than among military recruits, and in "more rigorous" town schools than in rural ones. A late-19th-century ophthalmology handbook even suggested treating myopia with a change of air and avoidance of all work with the eyes—"a sea voyage if possible."

By the early 20th century, experts were uniting around the idea that myopia was caused by "near work," which might include reading and writing—or, these days, watching TV and scrolling through Instagram. In China, officials have become so alarmed that they've proposed large-scale social changes to restrain myopia in children. Written exams are now limited before third grade, and video games are restricted. One elementary school reportedly installed metal bars on its desks to prevent kids from leaning in too close to their schoolwork.

Spend too much time scrutinizing text or images right in front of you, the logic goes, and your eyes become nearsighted. "Long ago, humans were hunters and gatherers," says Liandra Jung, an **optometrist*** in the Bay Area. We relied on our sharp distance vision to track prey and find ripe fruit. [②]. "To get food, we order by getting Uber Eats."

This is a pleasingly intuitive explanation, but it has been surprisingly difficult to prove. "For every study that shows an effect of near work on myopia, there's another study that doesn't," says Thomas Aller, an optometrist in San Bruno, California. Adding up the number of hours spent in front of a book or screen does not seem to explain the onset or progression of nearsightedness.

A number of theories have rushed to fill this confusing vacuum. Maybe the data in the studies are wrong—participants didn't record their hours of near work accurately. Maybe the total duration of near work is less important than whether it's interrupted by short breaks. Maybe it's not near work itself that ruins eyes but the fact that ^(F)[outdoors / of / it / time / kids / deprives]. Scientists who argue for the importance of the outdoors are further subdivided into two camps: those who believe that bright sunlight promotes proper eye growth versus those who believe that wide-open spaces do.

Something about modern life is destroying our ability to see far away, but what? Asking this question will plunge you into a thicket of scientific rivalries—which is what happened when I asked Christine Wildsoet, an optometry professor at UC Berkeley, about the biological plausibility of these myopia theories. Over the course of two hours, she paused repeatedly to note that the next part was contentious. "I'm not sure which controversy we're up to," she said at one point. But, she also noted, these theories are essentially two sides of the same coin: Anyone who does too much near work is also not spending much time outside. ^(G) Whichever theory is true, you can draw the same practical conclusion about what's best for kids' vision: less time hunched over screens, more time on outdoor activities.

[③]. That idea took hold in the 1960s, when studies of twins showed that identical twins had more similar patterns of myopia than **fraternal ones*** and persisted in the academic world for decades. DNA does indeed play a role in myopia, but the tricky factor here is that identical twins don't just share the same genes; they're exposed to many of the same environmental stimuli, too.

Glasses, contacts, and laser surgery all help nearsighted people see better. But none of these fixes corrects the underlying anatomical problem of myopia. Whereas a healthy eye is shaped almost like a sphere, a nearsighted one is more like an olive. To slow the progression of myopia, we would have to stop the elongation of the eyeball.

Adapted from Zhang, S. (September 13, 2022). *The Atlantic*.

Notes:

optometry: the practice or profession of examining the eyes

quintuples: to make or become five times as great

glaucoma: abnormally high fluid pressure in the eye

retinal: adjective form of retina, a thin layer of tissue that lines the very back of the inside of the eyeball

retinal detachment: an eye condition where the retina becomes separated from its normal position

ophthalmology: the medical science dealing with the anatomy, functions, and diseases of the eye

optometrist: a person who practices optometry

fraternal ones (twins): twins resulting from the fertilization of two separate eggs

(1) What kind of emotion is implied in underlined (A) Oh no, not them too? Choose the most appropriate one from below. Write the corresponding letter.

(a) curious (b) disappointed (c) envious (d) indifferent (e) relieved

(2) The following paraphrases the underlined (B) she saw more and more young patients with bad eyesight that seemed to have come out of nowhere. Fill in the blanks of [i] and [ii] with the most appropriate word respectively.

she noticed an increasing number of young patients with poor eyesight, even if they had no such [i] background from their [ii].

(3) Put the words in the square brackets of (C), (D), and (F) into the correct order.

(4) As for the underlined part (E), explain why the rise in the number of young myopia patients is considered an urgent global-health problem. Answer the question in English after the phrase "It is because" on the answer sheet.

(5) Select the most appropriate sentence for each blank from [①] through [③] from the list below. Write the letter corresponding to the sentence on the answer sheet.

- (a) Now our modern lives are close-up and indoors
- (b) The cause of this remarkable deterioration in our vision may seem obvious
- (c) By now, scientists have moved past the faulty assumptions that myopia is purely genetic

(6) What does (G)two sides of the same coin mean in the passage? Answer the question in English by filling in the underlined blanks on the answer sheet. Use the words near work and outside in your answer.

(7) Select all the means mentioned in the passage that try to stop the progression of myopia. Write the corresponding letter(s) on the answer sheet.

- (a) Fitting metal bars on school desks to stop students from leaning too close to their work
- (b) Adding up the number of hours spent in front of a book or screen
- (c) Limiting written exams at school before a certain age
- (d) Recruiting more young people into the military
- (e) Wearing glasses or contacts
- (f) Taking ripe fruit

(8) In the last sentence of the third paragraph, which is underlined by a wavy line (~~~~~), it says that the recent pandemic lockdowns seem to have made Chinese children's eyesight even worse. What reasons can you give for this statement? Write your answer in about 50 words of English. In the parentheses provided at the end of this section of the answer sheet, write your total word count.

(9) To protect children's eyesight from the possible damage caused by smartphone use, write an English essay of about 200 words that includes all of the responses to the following three questions, (i) through (iii). In the parentheses provided at the end of this section of the answer sheet, write your total essay word count.

- (i) What measures can you propose to protect children's eyesight in the future?
- (ii) What difficulties would there be in accomplishing what you have described in (i)?
- (iii) How do you solve the difficulties you have described in (ii)?

