

2020年度 入学試験問題

英 語

注 意

- (1) 解答用紙には受験番号の記入欄が3か所ある。
3か所とも正確、明瞭に記入すること。
- (2) 解答用紙には氏名の記入欄が1か所ある。
正確、明瞭に記入すること。
- (3) 解答はすべて解答用紙の所定欄に記入すること。
解答用紙の裏面は使用してはならない。
- (4) 問題紙の本文は17ページある。
試験開始後、落丁・損傷がないか確認すること。
- (5) 試験終了後、問題紙は各自持ち帰ること。

[I] 次の文章を読んで設問に答えなさい。[*印のついた語句は注を参照しなさい。](71点)

Our evolutionary success is usually attributed to our ancestors' flashiest achievements: upright walking, control of fire, tool use and social cooperation. "Sleep isn't generally listed," says David Samson, an anthropologist* at the University of Toronto, Mississauga. "But my bias is it should be — because it is expressed so uniquely in humans."⁽⁷⁾

Roughly 8 million years ago in Africa, hominins—the evolutionary branch that includes humans and our extinct ancestors—diverged from* other primates*. Since that split, hominins evolved distinctive sleep habits still with us today. First off, we sleep less. While humans average seven hours, other primates range from just under nine hours to seventeen. Chimps, our closest living evolutionary relatives, average about nine and a half hours. And although humans doze* (X) less time, a greater proportion is rapid eye movement sleep (REM) (中略).

These differences were first noticed in the 1960s, when scientists recorded monkey sleep phases using electroencephalogram (EEG)* machines. But only recently (あ) anthropologists (い)(う)(え) the role (お) sleep in human evolution. "Which is kind of wild to me because it's something we spend a third of our lives doing," Samson says. Thanks to a surge of new research, Samson and his colleagues are finding that our unique sleep habits may have been as essential to hominins' success as walking on two feet—even though scientists aren't sure why we sleep at all.⁽¹⁾

Some animals do sleep (Y) one or two eyes open, but others tend to go for the full shut-eye. Within that state, they cycle through degrees of consciousness. During non-REM stages, heart rate and breathing slow, muscles relax and awareness of external stimuli fades. Brain activity

settles into comalike*, low-frequency electrical waves, detectable by EEG. Next comes REM sleep, characterized by quick brain waves and dreams. (中略)

While the costs of sleep are obvious—an animal is vulnerable to predators and other threats, and loses opportunities to find food and mates ^(b)—the benefits are not. Different hypotheses about why we need sleep include neural* development and upkeep, ^(c) memory processing and immune defense, but there’s no consensus.

Sleep habits also differ drastically* among species. Elephants get by with two hours of shut-eye, while armadillos need 20. Researchers have found several factors that influence these variations in sleep patterns. For example, animals with high metabolisms* sleep less — presumably ^(d) because they spend more time awake and eating. And animals with bigger brains spend a greater portion of sleep in REM. As a result, different species need different amounts of sleep based on their diets, brain size and other variables. An armadillo-hour does not equal an elephant-hour when it comes to catching Zs*.

In a 2018 study in the *American Journal of Physical Anthropology*, Samson and colleague Charles Nunn, an anthropologist at Duke University, employed a sophisticated statistical method to compare the sleep patterns found in 30 primate species, including our own. They found, says Samson, that humans are significant “evolutionary outliers*.” (中略) Human sleep is shorter and deeper—in other words, more efficient—than that of our closest relatives. The finding supports a hypothesis proposed by the duo in 2015. Efficient sleep gave our hominin ancestors an evolutionary edge. ^(e) By shortening total duration, hominins reduced their time as unconscious targets for predators, and added waking hours to complete essential tasks, like learning, securing resources and maintaining social bonds.

It’s also still unknown when our ancestors evolved this unusual

sleep pattern. Samson speculates it may have emerged when they became too large to sleep in trees, roughly 2 million years ago with *Homo erectus**. While other apes avoid predators by building arboreal* nests, it's possible that hominins sleeping on the ground evolved more efficient sleep to allow them to spend more time awake—and on the alert (Z) potential threats.

Based on nearly 70 studies across cultures, including those without electricity or 9-to-5 workdays, Samson and Nunn determined that humans sleep an average of seven hours out of every twenty four. But, says Samson, “where it gets tricky is that when you look across cultures, the way those seven hours are expressed can be pretty flexible.”

In contemporary industrialized societies, people typically sleep for one continuous bout*. But other cultures divide sleep over multiple sessions, through daytime napping or two nighttime episodes, separated by about an hour of wakefulness. The latter was the norm for humans before the Industrial Revolution, according to research by historian Roger Ekirch. In preindustrial documents, Ekirch identified over a thousand mentions of so-called first and second sleep, and activities done between, such as chores, prayers, even visiting neighbors. (中略) The habit of segmented sleep was shed by the early 1900s, likely due to artificial lighting and changing societal views that equated* single-bout sleep with productivity and prosperity. Yet Ekirch believes it persists, among Westerners who spontaneously wake in the middle of the night, “a persistent echo of a pattern of sleep . . . dominant for literally thousands of years.”

(By Bridget Alex, writing for *Discover* 電子版, January 1, 2019)

〔注〕 anthropologist 人類学者

diverged from (diverge from ~から分岐する)

primates 霊長類の動物

doze 眠る

electroencephalogram (EEG) 脳波図

comalike 昏睡状態のような

neural 神経の

drastically 劇的に

metabolisms 新陳代謝

catching Zs 眠ること

outliers アウトライヤー (通常の分布から大きく外れたもの)

Homo erectus ホモ・エレクトス (旧石器時代に存在していたヒト科の一種)

arboreal 樹木の

bout 一期間

equated (equate ~ with ... ~を…と等しいとみなす)

I - A 空所(X)~(Z)に入るもっとも適切なものを次の1~4の中からそれぞれ一つ
選び、その番号を解答欄に記入しなさい。

- | | | | | | | | | |
|-----|---|----|---|------|---|------|---|------|
| (X) | 1 | at | 2 | by | 3 | for | 4 | of |
| (Y) | 1 | in | 2 | over | 3 | to | 4 | with |
| (Z) | 1 | by | 2 | for | 3 | into | 4 | on |

I - B 下線部 (a)~(i) の意味・内容にもっとも近いものを次の 1 ~ 4 の中からそれぞれ一つ選び、その番号を解答欄に記入しなさい。

(a) surge

- | | |
|---------------------|---------------------|
| 1 detailed analysis | 2 radical discovery |
| 3 rapid increase | 4 slow flow |

(b) predators

- | | |
|-------------|-----------|
| 1 disasters | 2 hunters |
| 3 monsters | 4 traps |

(c) upkeep

- | | |
|---------------|------------|
| 1 maintenance | 2 movement |
| 3 prevention | 4 progress |

(d) presumably

- | | |
|-------------|------------|
| 1 precisely | 2 probably |
| 3 uniquely | 4 usually |

(e) edge

- | | |
|-------------|-------------|
| 1 advantage | 2 corner |
| 3 phase | 4 sharpness |

(f) speculates

- | | |
|----------------|----------|
| 1 fears | 2 hopes |
| 3 hypothesizes | 4 proves |

(g) episodes

- | | |
|-----------|-----------|
| 1 dreams | 2 patrols |
| 3 periods | 4 stories |

(h) norm

- | | |
|--------------|-------------|
| 1 desire | 2 evolution |
| 3 obligation | 4 standard |

(i) shed

- | | |
|---------------|-----------|
| 1 abandoned | 2 applied |
| 3 established | 4 valued |

I - C 波線部 (ア)~(ウ) の意味・内容をもっとも的確に示すものを次の 1 ~ 4 の中からそれぞれ一つ選び、その番号を解答欄に記入しなさい。

(ア) my bias is it should be

- 1 I am inclined to put sleep on the list
- 2 I believe that people generally sleep
- 3 my colleagues insist on adding sleep
- 4 researchers do not believe in bad sleep

(イ) scientists aren't sure why we sleep at all

- 1 scientists don't believe sleep is all important
- 2 scientists are wondering why some humans never sleep
- 3 scientists are not certain why we have our own sleep habits
- 4 scientists don't know why humans need sleep

(ウ) the way those seven hours are expressed can be pretty flexible

- 1 different cultures may have different devices to measure seven hours' sleep
- 2 how seven hours' sleep is structured varies a good deal between cultures
- 3 people explain their need for seven hours' sleep in very different ways
- 4 written texts concerning seven hours' sleep are not very consistent

I - D 二重下線部の空所(あ)~(お)に次の 1 ~ 7 の中から選んだ語を入れて文を完成させたとき、(あ)と(う)に入る語の番号を解答欄に記入しなさい。同じ語を二度使ってはけません。選択肢の中には使われないものが二つ含まれています。

But only recently (あ) anthropologists (い)(う)(え) the role (お) sleep in human evolution.

- | | | | |
|------|---------|------------|--------|
| 1 as | 2 begun | 3 consider | 4 have |
| 5 it | 6 of | 7 to | |

I - E 本文の意味・内容に合致するものを次の1～8の中から三つ選び、その番号を解答欄に記入しなさい。

- 1 Humans' advanced development has traditionally been attributed to several unique human achievements, including sleep habits.
- 2 Hominins started to follow a different evolutionary path from other primates around 8 million years ago.
- 3 David Samson, a researcher at the University of Toronto, and his colleagues have devoted about a third of their lives to studying the sleep habits of apes.
- 4 While elephants can manage with two hours' sleep, armadillos need to sleep ten times more, as different animals have different sleep patterns.
- 5 David Samson and Charles Nunn found that because humans sleep for a shorter period of time than other primate species, they tended to be more tired, and thus an easier target for predators.
- 6 Human beings and other primates could sleep much more efficiently in trees than on the ground because they did not have to worry about potential threats.
- 7 In some cultures today, a decent amount of sleep is achieved by taking more than one sleep in a twenty-four hour period.
- 8 Before the Industrial Revolution, people worked between their periods of nighttime sleep, on the condition that they did not have to go out.

〔Ⅱ〕 次の文章を読んで設問に答えなさい。[*印のついた語句は注を参照しなさい。](79点)

The Konya Plain stretches for hundreds of miles across central Turkey. Almost 60 years ago, in a remote spot some 30 miles from the regional capital of Konya, a team of archaeologists began exploring two small hills. A fork in a local footpath and the two mounds themselves gave the site its modern name. Fork (*çatal* in Turkish) and mound (*höyük*) combine to form Çatalhöyük*. Today the site is regarded by UNESCO as the most significant human settlement documenting early settled agricultural life. (a)

Founded over 9,000 years ago on the bank of a river that has since dried up, Çatalhöyük is believed to have been home to an egalitarian* Stone Age society who built distinctive homes, arranged back-to-back without doors or windows. They went in and out through openings in the roof. On the inside, they left wall paintings and enigmatic figurines*. These dwellings also played an important role in their funerary practices. Residents buried the dead under their homes. (X) its peak, the town housed as many as 8,000 people, who supported themselves through agriculture and raising livestock. (b)

(あ) (い) (う) fascinating details (え) (お) what life in a Stone Age town was (か), the site chronicles* a critical moment in human history: when people were starting to abandon nomadic* ways. Prior to the settlement at Çatalhöyük, humanity had been wanderers for hundreds of thousands of years. Çatalhöyük marks a time when people embarked on one of the earliest experiments in “urban” living. (d) Çatalhöyük’s earliest occupation has been dated to 7400 B.C., as part of the westward spread of settled farming associated with the Neolithic, or New Stone Age. (申略) The eastern mound was inhabited for (c)

as many as 1,500 years. Its later period coincided with the Copper Age, which began around 5500 B.C. In this later phase, the eastern mound was abandoned, and the western mound developed. Pottery decorated with colored paint, a feature associated with the Copper Age, has been found on this later, western mound.

Much of the economic, social, and ritual life of Çatalhöyük was organized around the home. The houses, all very similar in size, sheltered families of five to ten people. A typical home had no windows, one main room, and two ancillary* rooms for storage or domestic work. The walls were made of adobe* and covered with plaster. They measured some 20 inches thick and stood more than eight feet tall.

The use of clay and plaster as building materials made archaeologists' work easier. Floors, walls, and art had to be renewed continually. In some buildings more than 450 layers of fine plastering have been documented on just four inches of wall. Each of these layers provides information about the period when the building was constructed and (Y) occasion gives subtle details about the occupants' daily lives, such as the marks left by baskets or rugs on floors. (中略)

The occupants of Çatalhöyük grew grains and legumes*, kept sheep and goats, and hunted wild animals such as bison, deer, elk, boar, and birds. The surrounding countryside offered wild food sources, such as apples, almonds, pistachios, fish, and waterfowl* eggs. Building materials such as plaster and mud were also readily available near the settlement itself. Archaeologists were surprised to find that homes were not located close to their fields, which was unexpected for an agricultural community of several thousand people. (中略) One possible explanation lies in the high demand for plaster and clay in the village. If people had lived closer to their farmland, they would have been forced to travel to get clay to build their homes. The cane baskets they used to transport it were

unsuited to hauling vast quantities over large stretches of territory. It was easier to transport their harvests and store them. Traveling was evidently not a problem, as the citizens of Çatalhöyük engaged in long-distance trade. Archaeologists found baskets of date palm* leaves that originated from Mesopotamia or the Levant*. Shells suggest they traded with peoples near the Red Sea* or the Mediterranean. (中略)

(Z) date, no monumental constructions (temples, grand communal buildings, or burial grounds) ^(g) have been found at Çatalhöyük. Archaeologists believe this lack suggests a remarkably egalitarian society — at least in its earlier stages. Some buildings with more burials and more elaborate architecture have been identified, notable for the presence of bull's horns on pedestals* or other elements. However, the people who lived in these homes did not control food production, nor were their burials more elaborate than others. ^(v) It is thought they served to keep the historical and cultural memory of the community alive. (中略)

There are also many mysteries surrounding why the site was eventually abandoned. Evidence suggests that the social system gradually broke down due to cultural shifts and climate change. In the later period, archaeologists detected an increase in the differences dividing social classes. Homes were ^(h) no longer the center of ritual and social relations and became centers of production and consumption. Archaeologists are still searching for explanations. Only 4 percent of the entire surface area of Çatalhöyük has been studied, which means that there are thousands of unexcavated* buildings that perhaps hold the answers to these and many other questions about the “urban” dwellers of Çatalhöyük.

(By Cristina Belmonte, writing for *National Geographic History*,
March/April, 2019)

- [注] Çatalhöyük チャタルヒュユク (遺跡名)
 egalitarian 平等主義の
 enigmatic figurines なぞめいた小さな彫像
 chronicles (chronicle 記録にとどめる)
 nomadic 移動生活の
 ancillary 補助の
 adobe アドーブ粘土
 legumes マメ科植物
 waterfowl 水鳥
 date palm ナツメヤシ
 the Levant レバント地方
 the Red Sea 紅海
 pedestals 台座
 unexcavated 未発掘の

II - A 空所(X)～(Z)に入るもっとも適切なものを次の1～4の中からそれぞれ一つ
 選び、その番号を解答欄に記入しなさい。

- | | | | | | | | | |
|-----|---|------|---|-----|---|----|---|----|
| (X) | 1 | At | 2 | For | 3 | In | 4 | On |
| (Y) | 1 | at | 2 | for | 3 | in | 4 | on |
| (Z) | 1 | From | 2 | On | 3 | To | 4 | Up |

II - B 下線部 (a)~(h) の意味・内容にもっとも近いものを次の 1 ~ 4 の中からそれぞれ一つ選び、その番号を解答欄に記入しなさい。

(a) documenting

1 recording 2 reforming 3 rejecting 4 returning

(b) dwellings

1 doors 2 houses 3 people 4 walls

(c) livestock

1 animals 2 children 3 grains 4 vegetables

(d) embarked on

1 abandoned 2 began 3 resumed 4 stopped

(e) coincided with

1 occurred a long time after 2 occurred at the same time as
3 occurred in addition to 4 occurred slightly before

(f) sheltered

1 accommodated 2 hid
3 placed 4 produced

(g) communal

1 detached 2 public 3 renovated 4 specific

(h) detected

1 demanded 2 overlooked 3 traced 4 valued

II - C 波線部 (ア)～(ウ) の意味・内容をもっとも的確に示すものを次の 1～4 の中からそれぞれ一つ選び、その番号を解答欄に記入しなさい。

(ア) Çatalhöyük's earliest occupation has been dated to 7400 B.C.

- 1 Çatalhöyük ceased to exist in 7400 B.C.
- 2 Çatalhöyük was not populated in 7400 B.C.
- 3 Çatalhöyük was inhabited from around 7400 B.C.
- 4 Çatalhöyük was only conquered prior to 7400 B.C.

(イ) hauling vast quantities over large stretches of territory

- 1 carrying a large amount of clay over long distances
- 2 getting stretched out after excessive, long-term use
- 3 trading various agricultural products for a long time
- 4 transporting trade goods to distant countries

(ウ) nor were their burials more elaborate than others

- 1 and their earlier burials varied greatly from each other
- 2 and their tombs were decorated much more than others'
- 3 and they were buried in an obviously poorer fashion than others
- 4 and they were not buried in a more sophisticated way than others

II - D 二重下線部の空所(あ)～(か)に次の 1～6 の中から選んだ語を入れて文を完成させたとき、(あ)と(え)と(か)に入る語の番号を解答欄に記入しなさい。同じ語を二度使ってはいけません。選択肢は文頭に入るものも含め、すべて小文字にしてあります。

(あ)(い)(う) fascinating details (え)(お) what life in a Stone Age town was (か), the site chronicles a critical moment in human history

- | | | | |
|-------------|---------|--------|--------|
| 1 as | 2 aside | 3 from | 4 like |
| 5 revealing | 6 to | | |

II - E 本文の意味・内容に合致するものを次の1～8の中から三つ選び、その番号を解答欄に記入しなさい。

- 1 Çatalhöyük, which is considered to be an extremely important archeological site, was named after local landscape features.
- 2 People who lived in Çatalhöyük entered their houses from the back, which was decorated with a large number of enigmatic figurines.
- 3 Çatalhöyük shows us how people lived in the Neolithic Age, and it tells us when humanity became wanderers instead of settling in one place.
- 4 In the Copper Age, people in Çatalhöyük left the eastern hill, although they had resided there for a long time, and the western hill became prosperous instead.
- 5 Houses in Çatalhöyük usually had primitive windows and four rooms with clay walls that were about 20 inches thick and more than eight feet tall.
- 6 Çatalhöyük people had access to various kinds of food, including the apples, almonds, and pistachios that were cultivated in their fields.
- 7 Those who lived in houses that had more complex styles and more burials in them are thought to have been responsible for preserving the memory of the community's deeds.
- 8 After archeologists finished excavating Çatalhöyük, it became clear why homes had stopped being the center of ritual and social relations.

II - F 本文中の太い下線部を日本語に訳しなさい。

If people had lived closer to their farmland, they would have been forced to travel to get clay to build their homes.

〔Ⅲ〕 次の対話を読んで設問に答えなさい。(50点)

(Heidi arrives slightly late to a public lecture and sits down next to Miguel.)

Heidi: Goodness! I'm glad it hasn't started. I was so afraid I was going to be late.

Miguel: Well, I think you are late. But they just announced that there's going to be a ten-minute delay.

Heidi: _____ (a) _____ I'm so excited! I've never seen Timothy Truffle before, but I've been a fan of his for years.

Miguel: I think most people here are in the same position. _____ (b) _____ Isn't it amazing that he's not even on YouTube? Apparently he did make a few appearances on television in the past, but that was over twenty years ago.

Heidi: _____ (c) _____

Miguel: Oh yes, definitely! My parents moved to the United States seventeen years ago, when I was fifteen. Professor Truffle's book *Living in English* had just come out then. [僕が新しい文化に慣れようとしていたときに、あの本はとても助けになったんです。] Have you read many of his books?

Heidi: Yes! _____ (d) _____ My parents gave me *What Teenagers Want to Know (And Are Afraid to Ask)* for my fourteenth birthday, and it really helped me get through my teenage years. _____ (e) _____ I thought his last book, *Reality in an Age of Virtual Reality*, was a masterpiece. It changed my thinking about many aspects of life.

Miguel: I've heard a lot of people say the same thing. It's going to be amazing to see him. I wonder what he looks like?

Heidi: I've heard he's enormous, but still manages to move gracefully, rather like a sumo wrestler.

Miguel: _____ (f) _____ Someone told me that he's tall and very slim and eats just one meal a day, mostly tofu and vegetables.

Heidi: Wow! Well that's a *Reality in an Age of Virtual Reality* sort of puzzle. Who can you believe?

Miguel: Well we're about to find out. _____ (g) _____

Public Announcement: Ladies and Gentlemen, we sincerely apologize for the disappointment, but we've just learned that Professor Truffle is unwell today, so he is unable to give his talk, "Fruit Symbols in Spanish Cinema." We will reschedule the lecture as soon as possible and everyone with a ticket for today's event will automatically be invited to the rescheduled talk. Once again, we offer our sincere apologies.

Miguel: Oh well! The mystery continues!

Heidi: Yes, what a shame. I just hope they reschedule it on a date when I'm free.

Miguel: Me too. Shall we exchange email addresses? Then, if one of us can't make it, we can always send a report to the other.

Heidi: _____ (h) _____

Ⅲ－A 空所 (a)～(h) に入るもっとも適切なものを次の 1～10の中からそれぞれ一つ選び、その番号を解答欄に記入しなさい。同じ選択肢を二度使ってはいけません。選択肢の中には使われないものが二つ含まれています。

- 1 About six I think.
- 2 I don't know how I missed it.
- 3 Lucky me, then.
- 4 So you're obviously a fan!
- 5 That's a great idea!
- 6 That's not what I heard!
- 7 That was the only occasion.
- 8 Then later I sort of followed his career.
- 9 They've never actually seen him.
- 10 You know, for ourselves.

Ⅲ－B 本文中の [] 内の日本語を英語で表現しなさい。

僕が新しい文化に慣れようとしていたときに、あの本はとても助けになったんです。