試験開始の指示があるまで、この問題冊子の中を見てはいけません。

令和 6 年度

一般選抜 試験問題

英語・数学（120分）

出題科目	ページ	解答方法
英　語	4～18	左の2科目を解答しなさい。 解答時間の配分は自由です。
数　学	20～25	

Ⅰ注意事項

1　ページの脱落や重複、印刷の不鮮明な箇所があった場合には、直ちに手を挙げて監督者に知らせなさい。

2　受験番号および解答は必ず解答用紙の所定の欄に記入しなさい。

3　この問題冊子の余白は適宜利用してもかまいません。

4　質問、中途退室など用件のある場合は、手を挙げて知らせなさい。

5　退室時は、問題冊子は閉じ、解答用紙は裏返しにしなさい。

6　試験に関わるすべての用紙は、持ち帰ることはできません。

Ⅱ解答上の注意

1　「**解答上の注意**」が、裏表紙に記載してあるので、この問題冊子を裏返して必ず読むこと。ただし、問題冊子を開いてはいけません。

◇R6M

英　語

（解答はすべて解答用紙に記入すること）

第１問　次の英文を読み、下の問い（**問１・問２**）に答えよ。

"Unlike the old days, when we had our young children playing outside much of the day, now we concentrate them in little spaces," says Birgit Winther — "optimal circumstances for [1] viruses." While many kids with colds stay home from school (the average schoolchild takes 11 days off for colds each year), others hop on the bus anyway. It's now common knowledge that epidemics of colds start up [2] the start of school in late summer and early fall. "Some 17 days after children return to school, we see a peak in occurrence of respiratory [3] three to four times the background rate," notes Sebastian Johnston of Imperial College London. "People go on vacation, come home with viruses, and the schoolchildren [4] them with all their friends." According to the Centers for Disease Control and Prevention, there are more than 52 million cases of the common cold each year [5] Americans under the age of 17.

In a study of the occurrence of viruses on elementary school classroom surfaces in 2009, Charles Gerba, a microbiologist at the University of Arizona, found that half of the surfaces tested [6] for virus. Frequently used fomites were the most [7] : desktops, faucet handles, paper towel dispensers, and entrance doorknobs. (Teachers' desks are also germ havens, Gerba discovered in a [8] study, harboring up to 20 times more [9] per square inch compared with desks of people in other professions — the reason my sister, a special education teacher in Maryland, slathers her desk with cleanser and washes her hands [10] 30 times a day.)

(出典 Jennifer Ackerman. *Ah-Chool: The Uncommon Life of Your Common Cold.* Hachette Book Group, 2010.)(一部改変)

（注） fomite,（感染の）媒介物; haven, 隠れ場

問1 英文の [1] ～ [5] に入れるのに最も適当なものを、下の①～⑦から１つずつ選べ。

① among	② infections	③ isolating	④ leave
⑤ share	⑥ spreading	⑦ with	

問2 英文の [6] ～ [10] に入れるのに最も適当なものを、下の①～⑦から１つずつ選べ。

① contaminated	② exceptions	③ microbes	④ more
⑤ positive	⑥ previous	⑦ some	

第２問　次に与えられた語について、１～３（ 11 ～ 13 ）は下線部の発音が同じものを、４～６（ 14 ～ 16 ）は第１アクセント（第１強勢）の位置が同じものを、それぞれ下の①～④から１つずつ選べ。

1．stomach 11

① document　② global　③ profile　④ sponge

2．hurt 12

① dreary　② pearl　③ swear　④ weary

3．broad 13

① board　② coach　③ foam　④ moan

4．co・coa 14

① ad・vice　② ca・reer　③ in・sect　④ rou・tine

5．ben・e・fit 15

① al・ler・gic　② ap・pe・tite　③ con・tin・ue　④ un・der・go

6．cer・tif・i・cate 16

① ar・ti・fi・cial　② bi・ol・o・gy

③ ed・u・ca・tor　④ in・ter・view・er

第3問 次の1～5の文の [17] ～ [21] に入れるのに最も適当なものを、それぞれ下の①～④から1つずつ選べ。

1. Communication problems [17] in the workplace.

① are often risen　② often arise

③ often raise　④ will often rise

2. We can manage for now, but [18] this situation persists we will need more staff.

① as　② because

③ if　④ unless

3. This country's economy has grown [19] an average of more than 7% a year.

① by　② in

③ to　④ up

4. Violence in the city has decreased [20] in recent years.

① by marks　② markedly

③ on the mark　④ remarkable

5. The girl found [21] despite her strong motivation.

① difficult to learn　② difficulty by learning

③ learner difficulty　④ learning difficult

第4問 次の対話文の [22] ～ [24] に入れるのに最も適当なものを、それぞれ下の①～⑨から1つずつ選べ。

Bugsy: Did you know that some bat species are listed under the Endangered Species Act?

Terri: No. Are bats in danger?

Bugsy: Their numbers are declining because of a disease called white-nose syndrome.

Terri: What's the disease like? Does it infect humans?

Bugsy: It's a disease caused by a fungus. It appears on the nose and wings of the bat and usually looks like soft white fur. It's known to only affect bats.

Terri: I don't like bats very much. Why should we worry about them?

Bugsy: Well, bats play an important role in maintaining a healthy ecosystem. Most bats are insectivores, which means they eat bugs. In a single night, bats can eat up to half their body weight in insect prey. This is good news for farmers because [22]. By some estimates, the animals help farmers in the United States save more than $3 billion a year in pest control.

Terri: Really? So [23].

Bugsy: Absolutely. In 2006, cave explorers photographed hibernating bats with a white substance on their noses. Biologists began noticing that the animals were getting sick and dying from the fungus.

Terri: What happens if a bat gets sick?

Bugsy: When the fungus attacks a bat's skin, the animal becomes more active than normal, wasting energy. As a result, millions of bats have died because they can't survive the winter.

Terri: That sounds terrible. Is there any way we can help them?

Bugsy: There's currently no cure for white-nose syndrome. However, scientists are developing strategies to help bats survive. One study found that [24].

Terri: Seems like I need to change my attitude about bats.

Bugsy: Yeah, bats are not at all scary. As they're an important part of the environment, more people should be aware of them.

① they are as blind as a bat
② they eat bugs that damage crops
③ ultraviolet light can kill the fungus
④ bats are sources of viruses worldwide
⑤ irrigation is indispensable for farming
⑥ there are quite a few myths about bats
⑦ bats outnumber the residents in some areas
⑧ there are three species that feed primarily on blood
⑨ they are important both ecologically and economically

第５問　次の問い（問１～４）のパラグラフ（段落）には、まとまりをよくするために取り除いた方がよい文が一つある。取り除く文として最も適当なものを、それぞれ下線部①～④のうちから１つずつ選べ。

問１　25

English has a huge vocabulary. Early English developed from Germanic languages, which gave it its most common words, such as *the, is, of, go, you, man,* and *woman.* ①English has always taken words from other European languages, too, including Latin (*attract, design,* and *invent*) and Greek (*alphabet, mathematics,* and *theater*). ②After 1066, when invaders from France came to power in England, English gained many French words, such as *officer, crime,* and *service.* ③The French people are proud of their long tradition of poetry, prose, and drama. ④Since that time, English has welcomed words from many other languages — Spanish, Arabic, Turkish, Urdu, Chinese, and Japanese, to name just a few.

(出典 *Password 4* Third Edition. Pearson Education, 2017.)(一部改変)

問２　26

The earliest pictures of wheels on vehicles are on Mesopotamian paintings from 3000-2700 BCE. These wheels were made of solid wood and turned on a simple axle. Around 2000 BCE the Egyptians started using spokes on their chariot wheels. ①The chariot apparently originated in Mesopotamia in about 3000 BCE. ②These wheels needed less wood, so they were cheaper to make. ③They were also much lighter and could travel faster. The wheel was soon used by different groups of people across Europe and Asia. ④By 500 BCE, many types of wheeled vehicles were in use, from fast chariots to large, slow carts. The wheels they used are much like the wheels we use today.

(出典 *The Wheel.* Cambridge University Press, 2014.)(一部改変)

問3 27

Although it is called Central Park, New York City's great green space has no "center" — no formal walkway down the middle of the park, no central monument or body of water, no single orienting feature. ①This "decentering" was precisely the intent of the park's innovative design. ②The design includes the use of recycled materials and reflects an overarching goal of inclusion. Made to look as natural as possible, Frederick Law Olmsted's 1858 plan for Central Park had as its main goal the creation of a democratic playground — a place with many centers to reflect the multiplicity of its uses and users. ③Olmsted designed the park to allow interaction among the various members of society, without giving preference to one group or class. ④Thus, Olmsted's ideal of a "commonplace civilization" could be realized.

(出典 *501 Critical Reading Questions.* LearningExpress, LLC., 2004.)(一部改変)

問4 28

We appear to choose our mates based on standards of beauty that we imprint on, or form an attachment to, early in our lives. One study involved snow geese. These birds occur in the wild in either of two colors, called the white phase and the blue phase. ①Canadian researchers wanted to know if snow geese are born with an inherited preference for white or blue mates, or if they learn which phase to prefer as they grow up. ②They hatched goose eggs in an incubator, then placed the goslings, or infant geese, with foster parents. ③When these infants grew up, they preferred mates of the same color as their foster parents. ④This demonstrates some mammals have an inborn preference for the color blue. But goslings that grew up in a mixed flock of both blue and white birds showed no preference for one color of mate over another.

(出典 *The Third Chimpanzee for Young People.* Seven Stories Press, 2014.)
(一部改変)

第6問 次の1～3の文において、それぞれ下の①～⑦の語句を並べ替えて空所を補い、最も適当な英文を完成させよ。解答は 29 ～ 37 に入れるものの番号のみを答えよ。

1. Public parks _____ 29 _____ 30 _____ 31 _____ dwellers.

① life of ② of ③ green spaces ④ enhance
⑤ city ⑥ and ⑦ the quality

2. People need to live _____ 32 _____ 33 _____ 34 _____ environment.

① and ② nature ③ in ④ the
⑤ harmony ⑥ conserve ⑦ with

3. Health and social _____ 35 _____ 36 _____ 37 _____.

① independence ② older people ③ care ④ to maintain
⑤ to help ⑥ need ⑦ services

第７問 次の英文を読み、下の問い（**問１・問２**）に答えよ。

In November of 2001, in the shadow of the first royal pyramid at Saqqara (built around 2630 B.C.E. not far from Cairo), archaeologists made (A)an amazing discovery. Under more than 16 feet (5 meters) of sand was a tomb that had been hidden since 2000 B.C.E. The hieroglyphs — ancient Egyptian writing — on the walls of the tomb indicated that surgery was practiced in ancient Egypt. This is the first possible hard proof that surgery was actually performed so early.

The tomb belonged to Skar, the chief physician of one of Egypt's rulers of the 5th dynasty. It contained about 30 bronze medical implements, the oldest ever found, including scalpels, needles, and a spoon.

Egyptologists — historians who study ancient Egyptian culture — have known for a long time that Egyptians possessed the knowledge of surgery. The first suggestion that surgery may have been practiced in ancient times was discovered in the Egyptian city of Luxor in 1862.

In the 19th century, the American trader Edwin Smith spent much of his time in the Luxor markets. He was always looking for ancient artifacts that he could sell for an easy profit. Smith even described himself as "an American farmer of Luxor." Many Egyptologists consider him to have been a dishonorable character.

Often, Smith was quite happy to buy a well-made fake, and he did not worry about reselling it as the real thing. However, (B)he knew his business, and he treated one ancient Egyptian document, a papyrus that looked genuine, very differently. Since he was able to read hieroglyphs, he could see that this was a description of medical practices and therefore highly unusual.

Although he could have gotten a good price for the papyrus, for unknown reasons Smith decided to keep it, and it remained in his family for more than 70 years. It was only when it was fully translated in the 1930s

that its full significance was recognized. Today, it is known as the Edwin Smith Surgical Papyrus.

This papyrus is a detailed — although incomplete — summary of surgical treatments for wounds, starting with head injuries and working down the body. There are 48 case studies recorded in the papyrus, and a modern surgeon would be familiar with the way each case is described.

The papyrus goes into great detail describing each individual trauma: how one would look at it, diagnose it, examine it, and finally treat it. It describes how to sew together a wound. For liquid-filled tumors, it recommends cauterization, the use of heat to destroy damaged tissue and close up blood vessels. Today, a similar technique is used, with an electric current taking the place of heat.

Even more important are the neurological insights that the Edwin Smith papyrus gives; it contains the first descriptions of the meninges (the membranes that cover the brain), the external surface of the brain, and the brain-spine fluid. It also notes that brain injuries are connected with changes in the function of other parts of the body, especially in the legs.

The papyrus was copied in about 1700 B.C.E. from an ancient composite manuscript. In addition to the original author's text, written between 3000 and 2500 B.C.E., the papyrus contained 69 explanatory notes added a few hundred years later. The scribe who copied it made many errors, some of which he corrected in the margins. He had copied at least 18 columns of it, when, at the bottom of a column, he paused in the middle of a word and left the papyrus unfinished for all time.

Other clues that tell us that the Egyptians had discovered the principles of surgery can be found in the way they prepared their dead. For instance, the mummy of the great pharaoh Ramses II, now in Cairo Museum, was surgically altered by having a small bone and a quantity of seeds inserted into his nose. In life, this had been his most prominent feature. The Egyptian

surgeons ensured that, in death, (C)it remained just as prominent.

The mummy of Queen Nunjmet was also enhanced. Her cheeks and belly were stuffed with bandages, resin, and a cheesy substance. Today, plastic surgeons would use materials such as silicon to fill out various body parts.

So the Egyptians used surgery on the dead. And, as the Edwin Smith papyrus shows, they had the skills to perform such operations on the living. But did they? The mummies don't reveal any evidence that proves (D)this one way or the other.

(出典 *Well Read 3.* Oxford University Press, 2007.)(一部改変)

(注) scalpel, 外科用メス; ancient artifact, 古代の人工遺物; trauma, 外傷; tumor, 腫瘍; neurological, 神経学的な; brain-spine fluid, 脳脊髄液; resin, 樹脂; cheesy, チーズのような; plastic surgeon, 形成外科医

問1 本文の内容に合うように，次の1～4の文の [38] ～ [41] に入れるのに最も適当なものを，それぞれ下の①～④から1つずつ選べ。

1. The underlined part "(A)an amazing discovery" refers to [38].
   ① an entirely new type of hieroglyphs
   ② the newly discovered pyramid at Saqqara
   ③ the finding that Skar had many medical instruments
   ④ the evidence of ancient Egyptians performing surgery

2. The underlined part "(B)he knew his business" implies that [39].
   ① Smith knew a lot about his specialty
   ② Smith knew how to sell well-made fakes
   ③ Smith knew what to sell in the Luxor markets
   ④ Smith knew how to make a papyrus look genuine

3. The underlined part "(C)it" refers to [40].

① a bone

② his life

③ his nose

④ Cairo Museum

4. The underlined part "(D)this" refers to [41].

① whether all the operations were successful

② whether all mummies had been operated on

③ whether the ancient Egyptians altered the appearance of the dead

④ whether the ancient Egyptians performed surgery on living patients

問2 次の1～6の文について、[42] ～ [47] の答えとして最も適当なものを、それぞれ下の①～④から1つずつ選べ。

1. When did Egyptologists begin to suspect that the Egyptians had knowledge of surgery? [42]

① In the mid-18th century.

② In early 19th century.

③ In the latter half of the 19th century.

④ In November of 2001.

2. Which of the following is true about Edwin Smith? [43]

① He helped archeologists in Egypt find ancient artifacts.

② He had the ability to read ancient Egyptian documents.

③ He succeeded in selling the papyrus on surgery for a high price.

④ He was trusted by many Egyptologists for his academic knowledge.

3. Which of the following is true about the Edwin Smith Surgical Papyrus? 44

① It contains records of over 70 surgical cases.

② It describes how to close up blood vessels by applying heat.

③ The document has only been fully translated in recent years.

④ Surgeons today would have difficulty understanding its contents.

4. We can infer from the Edwin Smith Surgical Papyrus that 45 .

① the brain-spine fluid was used as a form of medicine

② the original author included 69 explanatory notes in the text

③ at the time of writing it wasn't known how to sew up a wound

④ the Egyptians knew that a brain injury could cause leg paralysis

5. Which of the following is NOT true about the Edwin Smith Surgical Papyrus? 46

① The original text consisted of over 18 columns.

② It was copied from an older composite manuscript.

③ The scribe who did the copying was totally unaware of his mistakes.

④ The writer of the papyrus failed to make a complete copy of the original.

6. Which of the following is true about the ancient Egyptians? 47

① They regularly performed surgery on pharaohs.

② Their bones were much smaller than modern people's.

③ They artificially improved the appearance of Queen Nunjmet's mummy.

④ They used the same substance that modern surgeons use to fill in body parts.