

英 語 (70分)

I 注意事項

- 1 試験開始の合図があるまで、この問題冊子の中を見てはいけません。
- 2 この問題冊子は23ページあります。ただし、出題ページは下記のとおりです。
4～23ページ
- 3 試験中に問題冊子の印刷不鮮明、ページの落丁・乱丁および解答用紙の汚れ等に気づいた場合は、手を挙げて監督員に知らせなさい。
- 4 解答用紙には解答欄以外に次の記入欄があるので、その説明と解答用紙の「記入上の注意」を読み、それぞれ正しく記入し、マークしなさい。
 - ① 受験番号欄
受験番号を記入し、さらにその下のマーク欄にマークしなさい。正しくマークされていない場合は、採点できないことがあります。
 - ② 氏名欄
氏名・フリガナを記入しなさい。
- 5 試験開始後30分間および試験終了前5分間は退出できません。
- 6 この表紙の受験番号欄に受験番号を記入しなさい。この問題冊子は試験終了後回収します。

II 解答上の注意

- 1 解答はすべて解答用紙の所定の欄へのマークによって行います。たとえば、3 と表示のある問いに対して②と解答する場合は、次の〈例〉のように解答番号3の解答欄の②をマークします。

〈例〉

解答 番号	解 答 欄									
	1	2	3	4	5	6	7	8	9	0
3	①	●	③	④	⑤	⑥	⑦	⑧	⑨	⑩

受 験 番 号			

(問題は次ページから始まる)

1 次の各問に答えなさい。

A 次の英文を読み、問に答えなさい。

Beowulf is an epic poem, the roots of which lie in the seventh century. It is widely taught as the first important work of English literature. Although it was virtually ignored for many centuries, it gained attention in the nineteenth century as a source of historical information about the Anglo-Saxon era. It was not until the mid-to-late twentieth century, however, that the poem became highly regarded as a work of literature. Since that time, it has had a significant influence on prominent writers like W.H.Auden and Geoffrey Hill.

Although *Beowulf* was first composed in written form by an unknown Anglo-Saxon poet around 700 AD, its roots are much older, as 1 . It is thought that the work actually dates back to several hundred years before it was written down, as the Danish and Swedish royal family members in the poem are based on actual historical figures that ruled around the beginning of the sixth century. When the *pagan Scandinavian and Anglo-Saxon societies, underwent a large scale *conversion to Christianity, *Beowulf* began to be re-told by Christians, who attempted to attribute Christian thoughts, motives, and actions to the characters in the work. The poem is unique in its blending of 2 values.

When the Anglo-Saxons and Scandinavians invaded Britain during the sixth century, they brought with them several closely related Germanic languages, which together came to make up Old English. It was in this language that the original *Beowulf* was written, although most students read one of the versions that has been translated into modern English, 3 since most would not understand the *archaic form of the language. Because of its use of Old English, the language and structure of the work is significantly different than poetic works, which succeeded those written in Old English.

4 , which employs the use of *rhyme at the end of certain lines, Old English poetry made use of *alliteration by including several words that began with the same

sound. In this way, the poets linked the first part of the line with the second, and when spoken, the first syllables of the alliterative words would be stressed. Old English poems also frequently employed *kennings — simple objects described using poetic phrases. For example, an Old English poet might refer to the sea as a “swan road” or a “whale road,” while a king might be called a “ring giver.”

The main character in the poem is Beowulf, and the story encompasses 50 years of his life, ending with his final battle and death. Beowulf is represented as a hero throughout the work, which is divided in two distinct sections. One follows the adventures of Beowulf in his youth and the other in his advanced age. As a young boy, he earns respect for his feats of strength and courage, and also for his values of loyalty, courtesy, and pride, all of which are prescribed under the Germanic heroic code. However, it is when he kills the monster Grendel and his mother that he becomes a true hero among his people and eventually

5

.

The second part of the story *circumvents much of Beowulf's life and career and focuses on the end of his life. His final encounter is with a dragon, which he ultimately defeats. However, the wounds he sustains during his battle lead to his death, leaving his people without a king. Beowulf's downfall is sometimes viewed as selfish, as he can be seen as acting for his own personal glory and leaving his people in danger. On the other hand, the encounter can be viewed as

6

 in that it was prescribed by fate, also a prominent theme in the work. Finally, Beowulf can be seen as merely displaying the requisite qualities and values of the warrior culture in which he lives. Regardless of whether his actions were ultimately right or wrong, the people of the *slain king mourn his death and celebrate him as a perfect hero.

Notes:

pagan 「異教徒の」 conversion 「改宗」 archaic 「古い」 rhyme 「韻」

alliteration 「頭韻法」 kenning 「詩で用いられる比喩表現」

circumvent 「～を避ける」 slain 「殺された」

問1 1 ~ 6 の空所を補うのに最も適切なものを、下の①~④の中からそれぞれ1つ選びマークしなさい。

- 1 ① it was passed down orally for many years
② it is supposed that the language used by the poet was obscure
③ the existence of the poet was highly dubious
④ there is some evidence that another poet wrote it long before

- 2 ① academic and aesthetic
② economic and social
③ pagan and Christian
④ Scandinavian and Anglo-Saxon

- 3 ① as is often the case ② as many of us can see
③ which is fortunate ④ which they find demanding

- 4 ① In the case of conventional literature
② In contrast to traditional poetry
③ Similar to the ordinary literary world
④ Far from being ancient poetic work

- 5 ① resigns himself to his fate as a brutal hero
② returns to power as a reward for being one
③ turns into a kind of "monster" himself
④ assumes his rightful place as their king

- 6 ① a treasured dream ② a well-deserved award
③ an unexpected end ④ an unavoidable event

問2 次の 7 ・ 8 の各問の答えとして最も適切なものを、下の①～④の中からそれぞれ1つ選びマークしなさい。

7 According to the passage, which of the following sentences is TRUE?

- ① It was in the nineteenth century that *Beowulf* came to be revalued, but not due to its great artistic value.
- ② During the time when a lot of people became Christians in Anglo-Saxon societies, *Beowulf* continued to be read only by pagans.
- ③ Those who have only a basic knowledge of Old English may well understand *Beowulf* in all its entirety.
- ④ There are different interpretations, about whether Beowulf's defeat of Grendel was right or wrong.

8 Which of the following ideas can be drawn from the passage?

- ① One of the most excellent features of *Beowulf* can be found in its coherence of style, structure, and plot.
- ② *Beowulf* is a good example of where the main character has all the properties needed to be a true hero.
- ③ The elements of Christianity added later may have made *Beowulf* more complicated than its original version.
- ④ The influence of Christianity on *Beowulf* is so limited that it should be evaluated according to non-Christian traditions.

B 次の英文を読み、問に答えなさい。

Particles from outer space have 9 a mysterious void deep inside the Great Pyramid of Giza, the largest pyramid in Egypt.

Researchers made the discovery using high-tech devices that are typically used only for experiments in particle physics. (That's the study of particles smaller than atoms.) The detectors *scouted for particles streaming from outer space through the ancient structure's thick stone. (A) This search turned up a previously unknown empty space, or void. That unknown chamber is the first major structure discovered inside the roughly 4,500-year-old Great Pyramid since the 19th century.

The team described its new finding online on November 2nd in the journal *Nature*.

Peter Der Manuelian is an expert on ancient Egypt at Harvard University in Cambridge, Mass. Although he was not engaged in the work, he says the newfound void is "a significant discovery." Precisely what it means, however, is still not clear, he adds.

The Great Pyramid is the only one of the ancient Seven Wonders of the World (B) that still stands. It was built as a burial tomb for Pharaoh Khufu (FAIR-oh KOO-foo). The newfound void may make up one or more rooms or corridors in the pyramid. But the researchers can't tell yet, for sure. Why? The particle detectors revealed only 10, not details of its shape. Learning more about the pyramid's architecture could offer new insights into one of the world's largest, oldest and most famous monuments.

"Imagine you're an archaeologist and you walk into this room no one has walked in for more than 4,000 years," says Nural Akchurin. He's a physicist at Texas Tech University in Lubbock who wasn't engaged in the study. "That's huge," he says — "incredible!"

Researchers *probed the inside of the Great Pyramid using devices that sense *muons. These are particles smaller than atoms. That's why they're called *subatomic* particles. Muons are by-products of particles called *cosmic rays*, and when they strike atoms in the Earth's atmosphere, they form muons. Those muons then rain nonstop

onto Earth at nearly the speed of light. They *streak easily through open air. Rock, however, can absorb or *deflect them.

That made them [11] for researchers who wanted to learn more about what lies inside the Great Pyramid. The scientists placed muon detectors near the base of the structure and in areas deep within it. Then they counted the number of muons [12] . By comparing the different results, they could find where empty spaces were inside the ancient pyramid.

For instance, imagine a detector inside the pyramid picked up slightly more muons from the north than the south. That would suggest there was slightly less rock on [13] to intercept the incoming muons. And this would hint at an empty space in that direction.

Using muons to image a huge, dense structure like the Great Pyramid “is not an easy game,” Akchurin notes. The monument’s rock filters out 99 percent of incoming muons before they reach detectors. So [14] .

The first type of detector was a highly sensitive film. The researchers laid some of the film out in a space inside the pyramid called the Queen’s chamber. They put more of it in the corridor next to the chamber. As muons zipped through it, they produced a *chemical reaction* that created silver trails. Those trails revealed which direction the particles had come from.

A surprisingly large number of muons came through a region above the Grand Gallery. This sloping corridor runs through the center of the pyramid, from north to south. The newfound cavity appears to be at least 30 meters (about 98 feet) across. That’s about the size of the Grand Gallery itself.

“Our first reaction was a lot of excitement,” says Mehdi Tayoubi. He is one of the study’s authors, and a cofounder of the Heritage Innovation Preservation Institute in Paris. “We said: ‘Wow! We got something big.’”

Tayoubi’s team confirmed its discovery with [15] . They generate electrical signals as muons pass through them. The researchers had placed them inside the Queen’s chamber and outside at the base of the pyramid.

Akchurin hopes his group’s finding will (C) pave the way for muon imaging of other

- 15
- ① observations recently made in outer space
 - ② observations from two other types of muon detectors
 - ③ materials obtained through physical transformation
 - ④ materials from deep inside the ancient pyramids

問2 下線部(A)～(C)の意味に最も近いものを、下の①～④の中からそれぞれ1つ選びマークしなさい。

(A) 16

- ① The search was never carried out inside the new space
- ② The search was once carried out inside the void
- ③ Before the search, a new space was discovered
- ④ After the search, a new void was discovered

(B) 17

- ① that is calm and quiet
- ② that remains to be revealed
- ③ that exists on the earth
- ④ that has not been moved

(C) 18

- ① lead to more complicated muon imaging
- ② create a desirable situation for muon imaging
- ③ provide new methods of muon imaging
- ④ enable people to appreciate muon imaging

問3 次の 19 ・ 20 の各問の答えとして最も適切なものを、下の①～④の中からそれぞれ1つ選びマークしなさい。

19 Which of the following is TRUE about muons?

- ① Muons are the smallest particles ever known.
- ② Muons are very easy to detect in drops of rain.
- ③ Muons are made in the process of cosmic rays hitting the Earth.
- ④ Muons can travel through air but not through rock.

20 According to the passage, which of the following sentences is TRUE?

- ① The muon detectors revealed the significance of empty spaces inside the Great Pyramid.
- ② The muon detectors may hold the promise of exploring mysteries in places where digging might be out of the question.
- ③ Researchers found out exactly what the rooms and corridors inside the Great Pyramid were like by using the muon detectors.
- ④ By using the muon detectors, researchers have solved almost all mysteries.

英語の試験問題は次に続く。

2 次の各問に答えなさい。

A 次の会話文を読み、問に答えなさい。

Jack : Hi, Beth. I know you're an intelligent person, but (1)how natural is your intelligence?

Beth : I believe you're intelligent too, but that question is pretty stupid. If intelligence is not natural, what else can it be?

Jack : It can be the opposite of natural — artificial.

Beth : Hey, are you calling me a robot?

Jack : No, you're not a robot. Robots don't think, they just follow programs. You and I are thinkers and our thoughts go in all directions.

Beth : Oh,

 We're not robots. So which do you like more, natural or artificial intelligence?

Jack : That, in a nutshell, is what I'm trying to decide. AI is in the news all the time these days and its achievements are amazing. It wins board games against human beings, it does household chores — and in robot form it smiles, talks and makes people like it.

Beth : Yes, it does all that and more, and in the future it will be taking the lead in human decision-making. But ...

Jack : But somehow I find it cold and scary. I would prefer to watch two real people playing chess even if the standard is not so high. Civilization is not intended for machines but for people, and our aim should be to improve our natural qualities. AI, no matter how amazing it is, should — and must — always take second place.

Beth : Yes, Jack, I agree. I think you've hit the nail on the head. Human potential is far greater than that of any machine.

Jack : It looks as if we're both coming down on the side of naturalness as opposed to artificiality. There's a place for artificial stuff, but that must always be second place, right?

Beth : Right. That's our opinion now, and who knows what other people may think in the future. But today, in our battle between the natural and the artificial, the natural wins.

問 1 Why does Jack ask Beth the underlined part (1)? 21

- ① Because he wants to know whether she thinks she is more intelligent than him.
- ② Because he wants to remind her that he is more intelligent than anyone else.
- ③ Because by asking her an interesting question, he wants to invite her to talk about intelligence.
- ④ Because by asking her an embarrassing question, he wants to tell her who can beat artificial intelligence.

問 2 Fill in 22 by choosing the most appropriate expression from those below. 22

- | | |
|--------------------|--------------------|
| ① are you kidding? | ② that's a relief. |
| ③ what a joke! | ④ far from it! |

問 3 Which of the following statements is NOT TRUE? 23

- ① Jack and Beth both admit that artificial intelligence can do better than humans in various situations.
- ② Robots can smile, talk, and seem friendly to humans, but it makes Jack and Beth feel nervous.
- ③ Jack thinks it more interesting to watch humans play board games with each other rather than with computers.
- ④ It is evident to everyone what other people will think of artificial intelligence in the future.

B 次の(1)・(2)の英文について、(1)ではア～エを、(2)ではア～カを、論理的に意味が通るように並べかえたものとして最も適切な選択肢を、①～④の中からそれぞれ1つ選びマークしなさい。

(1)

24

Researchers say the hole in the ozone layer over Antarctica has shrunk in the last 15 years. The layer shields the Earth from harmful ultraviolet rays.

ア. Chlorofluorocarbons and other gases damaged the ozone layer.

イ. They found the hole shrank by four million square kilometers between 2000 and 2015. That's bigger than India.

ウ. They were used in dry-cleaning solvents, refrigerators and aerosol sprays.

エ. Scientists from the Massachusetts Institute of Technology, the University of Leeds and others published their findings in the journal *Science*.

Most countries have restricted emissions of those gases after signing the Montreal Protocol in 1987. The researchers say those efforts have put the planet on a path towards healing.

① アーウーエーイ

② アーイーエーウ

③ エーウーアーイ

④ エーイーアーウ

(2) 25

Aspirin may work well for fighting minor headaches, but it may not be the best choice for dealing with migraines.

ア. This has the effect of blocking the migraine.

イ. Therefore, doctors have searched for other ways to treat migraines.

ウ. By using a drug which acts like the natural chemical serotonin in the brain, they can stop the cells from releasing proteins.

エ. From brain research, doctors have learned that certain cells in parts of the brain release proteins during a migraine attack.

オ. Now drug companies are producing even better products developed from this idea.

カ. Doctors have found that after treating a migraine sufferer with aspirin, the next migraine attack becomes stronger.

However, the most effective of these drugs must be taken as liquid and put directly into the bloodstream. The drug is not yet available as a pill.

① カ－イ－エ－ウ－ア－オ

② エ－ウ－ア－イ－オ－カ

③ カ－ウ－ア－エ－オ－イ

④ エ－イ－カ－ア－ウ－オ

C 次の英文において、 ～ の空所を補うのに最も適切なものを、以下の①～⑧の中からそれぞれ1つ選びマークしなさい。ただし、文頭に来るものも書き出しは小文字となっている。

Years of low rainfall and poor agricultural practices, such as livestock overgrazing, have transformed the Sahel region of Africa into a semi-arid desert. The lack of fertile soil along the almost 8,000-kilometer stretch extending east-west across the breadth of the continent from Senegal on the Atlantic coast to Eritrea on the Red Sea coast, is making it increasingly hard for the residents, who depend on farming, to survive.

In 2007, to try to combat the increasing desertification of the area south of the Sahara, leaders from 11 African countries came up with the radical idea of planting a “Great Green Wall” of trees on the edge of the desert. Though the idea sounded good on paper, . Also, many areas of the proposed “wall” had no residents, which meant there was no one to look after the saplings.

But the inhabitants of what are some of the poorest places on the planet were not easily deterred. using simple water harvesting methods and planting drought-resistant acacia trees and other hardy native species. In addition to acting as windbreaks and reducing soil erosion, the tree roots help retain moisture, filling the dried out wells with fresh drinking water. The shade from the tree canopy helps maintain humidity, reducing the water needed for the crops, while the decomposed fallen leaves enrich the soil.

Though the “Great Green Wall” is now more a metaphor than an actual tree wall, . Since 2007, Ethiopia has restored 37 million acres of degraded land while Nigeria has reclaimed 12 million acres. In Senegal, 11 million trees have created 931 miles of firewalls and helped restore 61,000 acres of land. The residents also see animals like antelopes and hares, as well as birds, that had disappeared for over 50 years, slowly starting to return.

. Where money and produce were scarce, and conflicts over dwindling resources were becoming more frequent, jobs and food security are now a possibility. Many women have been employed working in gardens that can now grow in the

improved soil conditions, and kids can attend school instead of spending the day searching for water.

Though significant progress has been made, 30 . Estimated to cost about \$8 billion, the project, funded by the World Bank, United Nations, African Union, and the UK Botanical Gardens, is not expected to be completed until 2030. However, 31 . With the trees come food, jobs and hope for residents, who currently face very bleak futures. Many also hope that when complete, this new “Wonder of the World” will slow the alarmingly high numbers of Africans trying to migrate to Europe, aboard unsafe rafts, in search of a better life.

- ① several measures have been taken to protect the ecosystem
- ② the “Great Green Wall” is still just about 15 percent underway
- ③ they made the “impossible” possible by finding cheap and efficient ways to restore their land
- ④ the effort and hefty price are well worth it
- ⑤ the impact of the hodgepodge of replanting projects it inspired has been significant
- ⑥ it was not easy to implement given the dry and rocky landscape
- ⑦ it has proved to be an ideal solution to the problem
- ⑧ the ecological benefits have corresponding economic perks

- 3 日本文の意味に合うように () 内の語 (句) を正しく並べかえ, 3 番目と 7 番目に来る番号をマークしなさい。ただし, 文頭に来る単語も書き出しは小文字となっている。

- (1) 彼は, その会社が破産の危機に瀕している事実を暴露したと言われている。

3 番目 7 番目

He (① said ② disclosed ③ was ④ the company ⑤ to ⑥ is ⑦ have ⑧ that ⑨ the fact) on the verge of bankruptcy.

- (2) あなたと同じく私も, 更なる危険を冒す気にはなれません。

3 番目 7 番目

(① run ② any ③ risk ④ not ⑤ to ⑥ I'm ⑦ more than ⑧ willing ⑨ another) you are.

- (3) 今まで他人があなたにしたいかなる悪事に対しても, それに応じて行動してはいけない。

3 番目 7 番目

(① act ② to you ③ upon ④ others ⑤ evil ⑥ don't ⑦ have done ⑧ so ⑨ whatever) far.

- (4) 十代の若者の中には, 友人に携帯メールを送るのに大半の時間を費やしている者がいる。

3 番目 7 番目

(① some teenagers ② sending ③ their friends ④ to ⑤ their time ⑥ most ⑦ of ⑧ spend ⑨ text messages).

- (5) 彼がフランス文学に精通していることは周知の事実だ。

3 番目 7 番目

(① in ② he ③ it's ④ home ⑤ common knowledge ⑥ French literature ⑦ that ⑧ at ⑨ is).

(6) 彼の投機事業に投資するなんて、地雷を踏むようなものだよ。

3 番目 42 7 番目 43

(① as well ② a landmine ③ business venture ④ as
⑤ you ⑥ invest in ⑦ step on ⑧ might ⑨ his).

(7) 適正な査定をしていたら、アスベストが危険なレベルにある可能性が明らかに
なっていただろう。

3 番目 44 7 番目 45

(① potentially dangerous ② asbestos ③ proper assessments
④ revealed ⑤ have ⑥ that ⑦ would ⑧ the levels of
⑨ were).

(8) 彼が見せた勇気は相当なものだったので、友人たちほぼ全員が強い感銘を受けた。

3 番目 46 7 番目 47

Such (① he ② showed ③ were deeply impressed ④ almost
⑤ the bravery ⑥ his friends ⑦ all ⑧ that ⑨ was).

(9) 全ての人々が平和に暮らせる時がやってくるだろうと信じている。

3 番目 48 7 番目 49

(① live peacefully ② a time ③ come ④ all people
⑤ I ⑥ when ⑦ can ⑧ will ⑨ believe).

(10) 副作用について知れば知るほど、治療の有用性と副作用の危険性とのバランスをと
ることが容易になる。

3 番目 50 7 番目 51

The more you know about the side effects, (① the usefulness ② easily
③ between ④ of the treatment ⑤ weigh ⑥ the trade-off
⑦ more ⑧ you can ⑨ the) and the risks of the side effects.

- (6) 部活にとっぷり浸かる多くの高校生は、そうでない高校生に比べて自由時間が少ない。

Many high school students who are 57 club activities have little free time compared with those who aren't.

- | | |
|---------------------------|-------------------------------|
| ① greatly participated by | ② profoundly disinterested to |
| ③ deeply involved in | ④ intensely parted of |

- (7) 残念ながら、あなたは今回私たちのプロジェクトに参加していただけなくなりましたことをお知らせいたします。

We regret 58 you will not be asked to take part in our project this time.

- | | |
|--------------------|----------------------|
| ① informing you of | ② to inform you that |
| ③ telling that | ④ to tell to |

- (8) ホワイト氏は誠実で信頼できるので、だれも彼の無実を疑わない。

Since Mr. White is honest and trustworthy, 59 his innocence.

- | | |
|-------------------|-------------------------|
| ① no one doubts | ② nobody believes |
| ③ everyone thinks | ④ every person suspects |

- (9) 彼は宝くじに当たったので、私はその賞金で新車を買うことを勧めた。

He won the lottery, so I 60 a new car with the money he had won.

- | |
|-----------------------------------|
| ① suggested he should have bought |
| ② suggested that he buy |
| ③ suggested him to buy |
| ④ suggested he would buy |

- (10) その寺院は火事で焼けてしまったが、出火原因はまだ判明していない。

The temple was destroyed by a fire, 61 has yet to be determined.

- | | |
|----------------------|----------------------|
| ① the cause which | ② which the cause of |
| ③ the cause of which | ④ which the cause |

