英　語
（問　題）
2017年度

＜H29111121＞

注　意　事　項

1. 試験開始の指示があるまで、問題冊子および解答用紙には手を触れないこと。
2. 問題は2〜10ページに記載されている。試験中に問題冊子の印刷不鮮明、ページの落丁・乱丁及び解答用紙の汚損等に気付いた場合は、手を挙げて監督員に知らせること。
3. 解答はすべて、ＨＢの黒鉛筆またはＨＢのシャープペンシルで記入すること。
4. マーク解答用紙記入上の注意
   (1) 印刷されている受験番号が、自分の受験番号と一致していることを確認したうえで、氏名欄に氏名を記入すること。
   (2) マーク欄にははっきりとマークすること。訂正する場合は、消しゴムで丁寧に、消し残らないようよく消すこと。また、マークシートに消しゴムのかすを残さないこと。

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5. 記述解答用紙記入上の注意
   (1) 記述解答用紙の所定欄（2か所）に、氏名および受験番号を正確に丁寧に記入すること。
   (2) 所定欄以外に受験番号・氏名を書いてはならない。
   (3) 受験番号の記入にあたっては、次の数字見本にしたがい、読みやすいように、正確に丁寧に記入すること。

| 数字見本 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

(例) 3825番⇒

6. 解答はすべて所定の解答欄に記入すること。所定欄以外に何かを記入した解答用紙は採点の対象外となる場合がある。
7. 試験終了の指示が出たら、すぐに解答をやめ、筆記用具を置き解答用紙を裏返しにすること。
8. いかなる場合でも、解答用紙は必ず提出すること。
I Read the following article from a science magazine and answer the questions below.

※この問題は、著作権の関係により掲載ができません。
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[Adapted from Lesley Evans Ogden,
"Total white out,"
New Scientist (November 23, 2014)]
Choose the best way to complete these sentences about Paragraphs 1 to 9.

1. In Paragraph 1 the writer
2. In Paragraph 2 the writer
3. In Paragraph 3 the writer
4. In Paragraph 4 the writer
5. In Paragraph 5 the writer
6. In Paragraph 6 the writer
7. In Paragraph 7 the writer
8. In Paragraph 8 the writer
9. In Paragraph 9 the writer

A criticizes the influence of Darwin's ideas on how evolutionary biology has developed in recent years.

B depicts the research facilities recently installed at an American university for studying the conditions influencing how animals change their coats.

C describes how two female researchers capture a young white hare in a snow-covered forest in the depths of winter.

D details not only the variations in when, but also the factors affecting when, snowshoe hares begin to change their coats during both the fall and spring seasons.

E discusses the impact of rapid climate change on one of the small number of species whose coloring changes to white in the winter.

F evokes both the sights and sounds of an early morning scene in a natural setting where a wild animal is found caught in a trap.

G gives an overview of current research into animal camouflage, touching both on how predators see and on why background matching is not the only factor involved.

H notes that, unlike the rock ptarmigan, the snowshoe hare does not alter its behavior to compensate for a lack of fit between its coat and the natural background.

I offers a well-known historical instance of a species adapting to significant physical changes to its habitat caused by human activity.

J praises the cooperation between researchers in America, Canada, and Finland in facing up to the threat to ecological diversity from climate change.

K provides details concerning a species where certain members act to enhance or disguise their white coloring in relation to the mating season.

L suggests that natural selection is likely to permit the snowshoe hare to survive, since there is a good deal of individual variation regarding seasonal changes in coloring.

From the list below, select the most appropriate way to complete sentences concerning each of the following four people referred to in the article.


A belongs to a team of scientists at North Carolina State University which has recently carried out extensive research tracking changes in fur color in wild hares using radio tagging.

B conducted a research project that involved blackening the white feathers of male members of a species of arctic bird during the mating season.

C has collected data that suggests snowshoe hares take considerably longer to change their coloring in the fall than in the spring.

D insists that research concerning an animal's camouflage must take into account the characteristics of the vision of the animal's predators.

E is carrying out a comparative survey of all eleven species which turn completely white in winter in order to provide camouflage to protect them from predators.

F is in charge of futuristic research facilities in the far north of Finland to test changing animal camouflage via a central control system that can vary light and temperature conditions.

G rejects the long-standing theory that pepper moths became darker in color through adaption to changes in their environment due to industrialization.

H writes for a science magazine and accompanies a researcher from North Carolina State University on an expedition to trap snowshoe hares in the Rocky Mountains.
(3) Choose the THREE statements below which DO NOT agree with what is written in the article. You must NOT choose more than THREE statements.

A According to the researcher at a Finnish university, both mammals and birds have difficulty telling the difference between green and colors such as orange and brown.

B Apart from the snowshoe hare, there are only ten other species in the world that change their color to pure white in winter.

C From the beginning of the industrial revolution, it took only ten years for pepper moths with darker wings to become more common than those with lighter-colored ones.

D It took only two days for male rock ptarmigans to remove from their white feathers the supposedly permanent black ink applied during the mating season by a research team.

E More males than females die during the spring among rock ptarmigans in the Arctic, because the males typically keep their white winter feathers longer.

F Should current trends continue, by the late 21st century the average period of mismatch between the snowshoe hare and its environment will increase to almost three months.

G Starting in 2010, the North Carolina State University research team recorded changes in the fur color of wild snowshoe hares in Montana over three winters.

H The two people described making their way through the Montana forest in the opening paragraph are Ogden and Zimova.

(4) Choose the best way to complete each of these sentences, which refer to the underlined words in the passage.

1 Here synchronize means to match


2 Here soot means


3 Here flawed suggests that the researchers' conclusions were


4 Here molt means to


5 Here soil means to


6 Here trigger means


7 Here reflectance refers to how


8 Here extinction refers to when

A an animal adapts. B a habitat disappears. C a species dies out. D the environment gets worse. E the temperature increases.
Read the following passage and answer the questions below.

This is the story of a lost medieval city you've probably never heard about. Benin City, originally known as Edo, was once the capital of a pre-colonial African empire located in what is now southern Nigeria. The Benin empire was one of the oldest and most highly developed states in west Africa, dating back to the 11th century.

The Guinness Book of Records describes the walls of Benin City and its surrounding kingdom as the world's largest earthworks carried out prior to the [1] era. According to estimates by the New Scientist's Fred Pearce, Benin City's walls were at one point "four times longer than the Great Wall of China, and consumed a hundred times more material than the Great Pyramid of Cheops in Egypt."

Situated on a plain, Benin City was enclosed by massive walls in the south and deep ditches in the north. Beyond the city walls, numerous further walls were built that separated the surroundings of the capital into around 500 distinct villages.

Pearce writes that these walls "were all dug by the Edo people and extended for some 16,000 km in all, in a mosaic of more than 500 interconnected settlement boundaries. They took an estimated 150 million hours of digging to construct, and are perhaps the largest single archaeological phenomenon on the planet." [2] any trace of these walls exists today.

Benin City was also one of the first cities to have a system of street lighting. Huge metal lamps, many feet high, were built and placed around the city, especially near the king's palace. Fuelled by palm oil, they were lit at night to provide illumination for traffic to and from the palace.

When the Portuguese first "discovered" the city in 1485, they were [3] to find this vast kingdom made of hundreds of interlocked cities and villages in the middle of the African jungle. They called it the "Great City of Benin," at a time when there were hardly any other places in Africa the Europeans acknowledged as a city. Indeed, they classified Benin City as one of the most beautiful and best planned cities in the world.

In 1691, the Portuguese ship captain Lourenço Pinto observed: "Great Benin, where the king resides, is larger than Lisbon; all the streets run straight and as far as the eye can see. The houses are large, especially that of the king, which is richly decorated and has fine columns. The city is wealthy and industrious. It is so well governed that theft is unknown and the people live in such security that they have no doors to their houses."

In contrast, London at the same time was a city of "thievery, prostitution, murder, bribery, and a thriving black market," according to Bruce Holsinger, professor of English at the University of Virginia.

Benin City's planning and design was done according to careful rules of symmetry, proportion, and repetition now known as fractal design. The mathematician Ron Eglash, author of African Fractals — which examines the patterns underpinning architecture, art, and design in many parts of Africa — notes that the city and its surrounding villages were purposely laid out to form perfect fractals, with similar shapes repeated in each room, and in the house as a whole, and in the [4] of houses in the village in mathematically predictable patterns.

When Europeans first came to Africa, they did not understand the principles underlying the city's design. As Eglash puts it: "It never occurred to them that the Africans might have been using a form of [5] that Europeans hadn't even discovered yet."

At the center of the city stood the king's court, from which extended 30 very straight, broad streets, each about 40 meters wide. These main streets, which ran at right angles to each other, had underground drainage to carry away storm water. Many narrower side and intersecting streets extended off them. In the middle of the streets was grass on which animals fed.

"Houses are built alongside the streets in good order, one close to another," wrote the 17th-century Dutch visitor Olbert Dapper. "Decorated with gables and steps, they are usually broad with long galleries inside, and are divided into many rooms which are separated by walls made of red clay, very well erected."

Dapper also observed that wealthy [6] kept these walls "as shiny and smooth by washing and rubbing as any chalk wall in Holland, and they are like mirrors. The upper floors are made of the same sort of clay. Moreover, every house is provided with a well for the supply of fresh
water."

Family houses were divided into three sections: the central part was the husband's quarters, looking towards the road; to the left the wives' quarters; and to the right the young men's quarters.

Daily street life in Benin City consisted of large crowds going through wide streets, with people colorfully dressed — some in white, others in yellow, blue or green — and the city captains acting as judges to [7] lawsuits, moderating debates in the numerous galleries, and settling minor conflicts in the markets.

The early foreign explorers' descriptions of Benin City portrayed it as a place free of crime and hunger, with large streets and houses kept clean — a city filled with courteous, honest people, and run by a [8] and highly sophisticated bureaucracy.

But what impressed the first visiting Europeans most was the wealth, artistic beauty, and magnificence of the city. The city was split into eleven divisions, each a small copy of the king's court, comprising a series of compounds containing accommodation, workshops, and public buildings — interconnected by innumerable doors and passageways, all richly decorated with the art that made Benin famous.

The exterior walls of the courts and compounds were decorated with horizontal ridge designs and clay carvings portraying animals, warriors, and other symbols of power. Shiny stones were also pressed into the wet clay, while in the palaces, pillars were covered with bronze plaques illustrating the victories of former kings and nobles.

At the height of its greatness from the 12th century — well before the start of the European Renaissance — the kings of Benin City rewarded craftsmen with gifts and wealth, in return for their representation of the kings' great exploits in elaborate bronze sculptures.

"These works from Benin are equal to the very finest European bronzes," wrote Professor Felix von Luschan, formerly of the Berlin Ethnological Museum. "Benvenuto Cellini could not have cast them better. Technically, these bronzes represent the very highest possible [9]."

European nations saw the opportunity to develop trade with the wealthy kingdom, importing ivory, palm oil, and pepper — and exporting guns. At the beginning of the 16th century, word quickly spread around Europe about the beautiful African city, and new visitors flocked in from all parts of Europe. Their glowing testimonies were recorded in numerous voyage notes and illustrations.

Now, however, the great Benin City is lost to history. Its decline began in the 15th century, sparked by internal conflicts linked to the increasing European interference and slave trading at the borders of the Benin empire. Finally, in 1897, Benin City was destroyed by British soldiers. It was looted, blown up, and burned to the ground.

Nowadays, while a modern Benin City has risen on the same plain, the ruins of its former, grander namesake are not mentioned in any tourist guidebook to the area. They have not been preserved, nor has a miniature city or touristic replica been made to keep alive the memory of this great ancient city.

Chief Enojie Aikorioge's house — probably built in the second half of the 19th century — is considered the only substantial reminder of the old Benin City. The house possesses features that match the horizontally fluted walls, pillars, central drain, and carved decorations of ancient Benin.

Curious tourists visiting Edo state in Nigeria are often shown places that might once have been part of the ancient city — but its walls and moats are nowhere to be seen. Perhaps a section of the great city wall, one of the world's largest man-made monuments, now lies bruised and battered, neglected and [10], in the Nigerian bush.

A discontented Nigerian puts it this way: "Imagine if this monument was in Britain, the USA, Germany, Canada or India? It would be the most visited place on earth, and a tourist mecca for millions of the world's people, worth countless billions in annual tourist revenue."

Instead, if you wish to get a glimpse into the glorious past of the ancient Benin kingdom — and a better understanding of this lost city — you are better off visiting the Benin Bronze Sculpture section of the British Museum in central London.

[Adapted from Mawuna Koutonin, "Benin City, the mighty medieval capital now lost without trace," The Guardian (March 18, 2016)]
Choose the ONE way to complete each of these sentences that DOES agree with what is written in the passage.

1. The earthworks of the Benin empire
   A. did not extend beyond the walls of Benin City.
   B. have survived intact to the present day.
   C. included both walls and ditches.
   D. surrounded the Great Pyramid of Cheops.
   E. were constructed mostly with machines.

2. The street lamps in Benin City
   A. aided travel to and from the king’s palace.
   B. were carried by the Edo people.
   C. were constructed entirely of wood.
   D. were fueled by petroleum.
   E. were located only near the king’s palace.

3. The mathematician Ron Eglash
   A. believes that ancient African architecture was disorganized.
   B. collaborated with the Portuguese ship captain Lourenço Pinto.
   C. disagrees with the views of English professor Bruce Holsinger.
   D. invented an architectural method called fractal design.
   E. wrote a book about the patterns in African art and design.

4. Olfert Dapper
   A. complained about the lack of fresh water in Benin City.
   B. noted the absence of accommodation for young women in Benin family houses.
   C. observed that houses in Benin City were much dirtier than those in Holland.
   D. visited Benin City in the same century as Lourenço Pinto.
   E. was impressed by the number of mirrors in the houses in Benin City.

5. Each of Benin City’s eleven divisions
   A. had its own separate bureaucracy.
   B. included a special field where animals could feed.
   C. was based on the design of the king’s court.
   D. was carefully inspected by European visitors.
   E. was designed so that workshops and public buildings were not connected with each other.

6. The bronze sculptures of Benin City
   A. depicted the daily life of the common people.
   B. depicted the great achievements of its kings.
   C. have been preserved in the Berlin Ethnological Museum.
   D. indicate the low social status of artists in the Benin empire.
   E. were surpassed in quality by those of Benvenuto Cellini.

7. Nowadays, works of art from Benin City
   A. are a significant source of tourist revenue for Nigeria.
   B. are being uncovered by tourists and amateur archaeologists.
   C. are on display in central London.
   D. can only be seen in the Nigerian bush.
   E. survive only in tourist guidebooks and miniature replicas.

8. The Benin empire
   A. began and reached a peak in the 11th century, and started to decline in the 15th century.
   B. began in the 11th century, and reached a peak after it started to trade with Europeans at the beginning of the 16th century.
   C. began in the 11th century, had its period of greatness from the 12th century, and started to decline in the 15th century.
   D. began in the 11th century, was first discovered by Europeans in 1485, and reached a peak around the year 1691.
   E. began in the 12th century, was first discovered by Europeans in 1485, and began to decline in the 16th century.
(2) Choose the FIVE statements below which DO NOT agree with what is written in the passage. You must NOT choose more than FIVE statements.

A  Benin City was located in what is now the country of West Africa.
B  The walls of Benin City were longer than the Great Wall of China.
C  Benin City was one of the first cities to have a system of street lighting.
D  When the Portuguese first came to Benin City, they thought that it was dirty, disorganized, and ugly.
E  Benin City was designed according to the principles of what is now known as fractal design.
F  The king's court was located at the western edge of Benin City.
G  The walls of houses in Benin City were constructed of white clay decorated with precious stones.
H  Family houses in Benin City were divided into three sections.
I  Benin City was richly decorated with art.
J  Europeans were impressed by Benin City but reluctant to trade with it.
K  The slave trade played a role in Benin City's decline.
L  Chief Enogie Aikoriogie's house contains typical features of the architecture of ancient Benin.

(3) Choose the best item to fill each of the numbered blanks [ 1 ] to [ 10 ] found in the passage.

1. A ancient  B Asian  C European  D industrial  E medieval
2. A Almost  B Barely  C Merely  D Only  E Totally
3. A amused  B concerned  C frightened  D relieved  E surprised
4. A categories  B chains  C groups  D roofs  E stacks
5. A archaeology  B economics  C geography  D mathematics  E physics
6. A architects  B bankers  C merchants  D residents  E visitors
7. A activate  B dissolve  C resolve  D satisfy  E understand
8. A centralized  B confused  C deep  D limited  E selfish
9. A achievement  B completion  C idea  D reward  E satisfaction
10. A chosen  B forgotten  C incomplete  D unaware  E worried
In recent years, many local and national governments have considered imposing a tax on sugary drinks (Coca-Cola, Pepsi, etc.), because such drinks are thought to be a major contributor to health problems such as being significantly overweight. Would you support or oppose a tax on sugary drinks? Write a paragraph in ENGLISH, providing specific reasons and examples to support your opinion.
### 日本語で

III

### in English

IV