2023（令和 5）年度　福岡女子大学　一般選抜個別学力検査

〔 前期日程試験問題 〕

英　語

【 90 分 】

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　問題は 4 ページから 12 ページにあります。問題は全部で**３題**です。

3　解答用紙には裏にも解答欄があります。

4　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，手を挙げて監督者に知らせてください。

5　試験開始と同時に解答用紙の**受験番号欄に受験番号を記入**してください。

6　試験終了後，**問題冊子は持ち帰ってください。**

問題Ⅰ　次の英文を読み、本文に即して設問に答えなさい。
（＊印がついている語には注があります。）

If you are at all interested in cars, you have probably seen a lot of excitement around electric vehicles. Most of us are familiar with hybrid cars, like the Toyota Prius, which use both electric motors and a traditional internal combustion* engine, or ICE*, to be friendlier to the environment. Unlike hybrids, fully electric cars use only electricity, and when you drive them they don't emit any pollution at all. Because these cars are so fast, quiet, and eco-friendly, they are becoming increasingly popular all around the world. Many people even believe that in the future, （　　Ⓐ　　）. This is wonderful news for car lovers, people interested in technology, and for those who are concerned about the environment. With all of this enthusiasm for electric cars, however, many people may be shocked to learn that electric vehicles have actually been around for a very long time. In fact, some of the earliest vehicles ever made were completely powered by electricity.

The very first electric vehicle was invented by Robert Anderson in Scotland in the 1830s. This vehicle was nothing like the cars we drive today, and it looked more like a wagon that would be pulled （　　Ⓑ　　）. Still, it is incredible to think that people were experimenting with electric vehicles almost two hundred years ago. By the year 1900, when automobiles had become much more advanced, the electric car was quite popular. At this time, about 38% of all new cars were electric, and only 22% of cars were powered by gasoline engines. Gasoline-powered cars could drive for far distances, but they were also noisy, smelly, and required a lot of maintenance. In addition, it was difficult to start a gasoline engine. Today, most cars can be started with the push of a button. In the early 1900s, though, cars with internal combustion engines had to be turned over by hand. Most gasoline-powered cars had a big handle that had to be turned to get the engine running, and turning the handle required a lot of strength. Even worse, if the engine didn't ignite correctly, the person turning the handle could be badly injured.

In comparison to gasoline-powered cars, electric cars were quite easy to use. Anyone could get into an electric car and start driving it right away. Even the earliest electric cars were very quiet, and they were also clean, with none of [(a)]the smoke or oil associated with internal combustion engines. When we think about all of the problems with gasoline engines in the early days of the automobile, it is easy to see why most people preferred electric cars. Just like today, electric cars were an especially popular choice for people living in big cities, where most people didn't drive long distances and it was easy to find a place to charge the car's batteries.

Even in the year 1900, however, electric cars were not the most popular kind of car available. The most popular cars used steam engines, similar to the engines used on early trains. The steam car used fuel to heat water inside a boiler. As the water became hot, it created a lot of pressure, and this pressure was used to power the engine and drive the car forward. Steam cars were also very quiet compared to gasoline cars, and they could drive farther than electric cars. The downside of the steam car was that it needed time for the water to get hot. If you wanted to drive somewhere, you needed to let your steam car heat up for at least a few minutes before you could actually leave.

When compared to gasoline-powered cars, which were loud, dirty, and difficult to use, and steam cars, which required time to heat up, electric cars were a great solution. In the early 1900s, electric vehicles were quite popular, especially in cities. (b)The biggest drawback of early electric cars was the distance they could travel before running out of power. Early electric cars could drive between 50 and 65 kilometers before they needed to be charged. This meant that electric cars were perfect for people who only needed to travel (Ⓒ) distances, but they weren't useful for people who wanted to drive long distances. In 1914, Henry Ford, who created the Ford Motor Company, said that he was working with Thomas Edison to create a new kind of battery that would make electric cars even better. Unfortunately, Henry Ford's and Thomas Edison's plans for an electric car never became reality. As gasoline engines became quieter, more dependable, and easier to use, gasoline-powered cars became much more popular than cars powered by steam or electricity.

One hundred years later, the new battery technology that Edison and Ford were searching for has finally arrived. Modern batteries, like the batteries found in new smartphones and laptops, can hold a lot more power than the batteries that were used even 20 years ago. These new batteries allow electric cars to travel 500 kilometers or more before they need to be charged. This is more than ten times the distance a typical electric car could travel in the early 1900s. Today, only about 2.5% of people in the United States drive an electric vehicle, but that number is growing quickly. Many countries have even promised to stop selling traditional, gasoline-powered cars by a certain date. The European Union, for example, plans to stop the sale of all gasoline-powered cars by the year 2035. No one knows just how much better electric cars will be in the year 2035. However, the traditional, gasoline-powered car is certainly starting to look like a piece of technology from the past.

注

combustion 燃焼

ICE　internal combustion engine の略

【設問】

問１　空欄（　Ⓐ　）に入るもっとも適切な語句を（ア）～（エ）から選んで、記号で答えなさい。

（ア）all cars will be self-driving

（イ）ICE cars will become even cleaner and more reliable than electric cars

（ウ）all cars will be fully electric

（エ）electric vehicles will remain as popular as they are today

問２　以下の語を並べ替えて、空欄（　Ⓑ　）を完成させなさい。

automobile　actual　horse　than　by　an　a

問３　下線部(a)と同じ意味で使われている語を先行する部分から探して英語で書きなさい。

問４　下線部(b)を日本語に訳しなさい。

問５　空欄（　Ⓒ　）に入る適切な語を考えて英語で書きなさい。

問６　本文で言及されている３種類の動力を、1900 年の時点で好まれていた順に日本語で書きなさい。

問７　近年、電気自動車の普及に寄与するどのような技術革新があったか、日本語で説明しなさい。

問８　1900 年代初めの時代について、本文の内容と一致しているものを（ア）～（カ）からすべて選んで、記号で答えなさい。

（ア）Electric vehicles were popular among people who were worried about global climate change.

（イ）Most people who owned a gasoline-powered car injured themselves.

（ウ）Electric cars made less noise than gasoline-powered cars, and starting electric cars took little time and effort.

（エ）Electric cars took longer to start, but could travel farther distances.

（オ）Electric car batteries had become more advanced and there were many places to charge the car’s batteries.

（カ）Steam cars took time to heat up, but they were quiet and capable of driving farther distances than electric cars.

問題Ⅱ　次の英文を読み、本文に即して設問に答えなさい。
（＊印がついている語には注があります。）

Wolves are a wonderful example of how complex the connections in nature can be. For amazingly enough, these predators are able to reshape riverbanks and change the course of rivers.

This is what happened in Yellowstone, the very first national park in the United States. In the nineteenth century, people began to systematically eradicate wolves in the park, primarily in response to pressure from ranchers* in the surrounding area, who were worried about their grazing livestock. The last pack was [(a)]wiped out in 1926. Individual wolves continued to be spotted occasionally until the 1930s, when they, too, were eliminated. Other animals living in the park weren't harmed; on the contrary, some were actually looked after. In harsh winters, for example, rangers even went as far as feeding the elk*.

It wasn't long before the consequences became clear. No sooner was the pressure from [(b)]predators lifted than elk populations began to increase steadily, and large areas of the park were stripped bare by the voracious* animals. Riverbanks were particularly hard hit. The juicy grass by the river disappeared, along with all the saplings* growing there. Now this desolate landscape didn't provide enough food for birds, and the number of species declined drastically. Beavers were among the losers, because they depend not only on water but also on the trees that grow by the river — willows and poplars are some of their favourite foods. They cut them down so they can get at the trees' nutrient-rich new growth, which they devour with relish. Because all the young deciduous* trees alongside the water were ending up in the stomachs of hungry（　Ⓐ　）, the beavers had nothing to gnaw on, and they disappeared.

Riverbanks became wastelands, and without any vegetation to protect the ground, seasonal flooding washed away ever-increasing quantities of soil. Erosion advanced rapidly. As a result, the rivers began to meander* more and follow increasingly winding paths through the landscape. And the less protection from erosion for the underlying layers of soil, the more pronounced that serpentine* tendency, especially in a flat landscape.

（　　Ⓑ　　）continued for decades or, to be precise, until 1995. This was the year that wolves caught in Canada were released in Yellowstone to restore the park's ecological balance. Scientists call what happened in the years that followed, and continues to this day, a trophic* cascade: a change in the entire ecosystem all the way down the food chain. But with the wolf now at the very top, what was let loose could perhaps better be described as a trophic avalanche*.

The wolves did what we all do when we're hungry: they looked for something to eat.

What they found in the park were large numbers of easy-to-catch elk. It seems obvious where this story's heading: the wolves ate the elk and elk numbers declined drastically, which gave little trees a chance to grow again. (c)Does that mean that the key to solving the problem of disappearing trees is to replace elk with wolves? Thankfully, it's not nature's way to simply swap out one animal for another, and here's why. The fewer elk there are, the longer it takes the wolves to find them, and below a certain residual* number, (d)it's no longer worth their while to hunt elk, which means that the wolves must either leave the park or starve.

In Yellowstone, however, in addition to declining elk numbers, there was something else going on. Thanks to the presence of wolves, the elk's behaviour was changing, and that change was triggered by fear. Elk began avoiding（　Ⓒ　）areas along the riverbanks and retreating to places that offered more cover. True, they did come to the water from time to time, but they no longer stayed long; and when they were there, they were constantly scanning the landscape, worried they might spot one of the grey-coated hunters. (e)Such constant surveillance left them little time to get their heads down among the willow and poplar saplings now growing abundantly along the riverbanks. Both trees are so-called pioneer species, and they grow faster than most trees: it's not unusual for them to grow one metre in a single season.

Within a few years, the riverbanks became stable again, slowing the flow of rivers, which in turn carried off less soil. The meandering stopped, though the serpentine curves the rivers had already carved into the landscape remained. Most importantly, the beavers' food sources returned, and the industrious little creatures began to build dams, which slowed the flow of water even more. Increasing numbers of ponds formed, creating small paradises for amphibians*. This blossoming diversity also saw the number of bird species increase substantially.

Peter Wohlleben, *The Secret Network of Nature*（Vintage, 2019）. pp. 5-8

注

rancher 牧場主　elk オオジカ　voracious 大食の　sapling 若木
deciduous 落葉性の　meander 曲がりくねる　serpentine 蛇行した
trophic 栄養の　avalanche なだれ　residual 残りの　amphibian 両生動物

【設問】

問１　下線部(a)と同じ意味を表す語をこの段落から２つ探して、それぞれそのままの形で英語で書きなさい。

問２　下線部(b)は文中の別の語を言い換えたものである。その語は何か、先行する部分から探して英語で書きなさい。

問３　空欄（　Ⓐ　）に入るもっとも適切な語を（ア）～（エ）から選んで、記号で答えなさい。
（ア）beavers　（イ）birds　（ウ）elk　（エ）wolves

問４　空欄（　Ⓑ　）に入るもっとも適切な語句を（ア）～（エ）から選んで、記号で答えなさい。
（ア）This unexplainable series of events
（イ）This sorry state of affairs
（ウ）These perfectly-designed circumstances
（エ）This unsolvable situation

問５　下線部(c)を日本語に訳しなさい。

問６　下線部(d)の理由を日本語で説明しなさい。

問７　空欄（　Ⓒ　）に入るもっとも適切な語を（ア）～（オ）から選んで、記号で答えなさい。
（ア）busy　（イ）dark　（ウ）open　（エ）remote　（オ）safe

問８　下線部(e)は何のために行われるのか、日本語で分かりやすく説明しなさい。

問９　イエローストーン公園で狼がいなくなったあとで起こった変化のうち、狼が戻ってきても回復しなかったものは何か、日本語で答えなさい。

問題Ⅲ　次の文を英語に訳しなさい。

問１　その道は確かに近道だけれど、一人で歩くには危険です。

問２　夕食後、家族全員でその日のできごとを語り合うのが我が家の習慣でした。