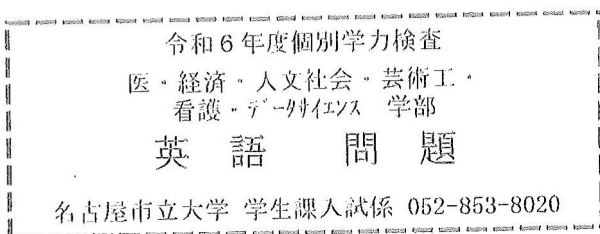


## 令和6年度・個別学力検査

# 英 語 (前)

### 注 意 事 項

1. 試験開始の合図があるまで、この問題冊子を開いてはいけません。
2. この冊子は18ページあります。
3. 試験開始後、落丁・乱丁・印刷不鮮明の箇所があれば申し出なさい。
4. 試験開始後、すべての解答用紙に氏名(カタカナ)及び受験番号を記入しなさい。  
受験番号が正しく記入されていない場合は、採点できないことがあります。また、氏名(カタカナ)及び受験番号以外の文字、数字などは、絶対に記入してはいけません。
5. 解答はすべて解答用紙に、それぞれの問題の指示にしたがって記入しなさい。
6. 解答は特に指示のない限り日本語で書きなさい。
7. この冊子のどのページも切り離してはいけません。ただし、余白等は適宜利用してかまいません。
8. 試験終了後、問題冊子は持ち帰りなさい。





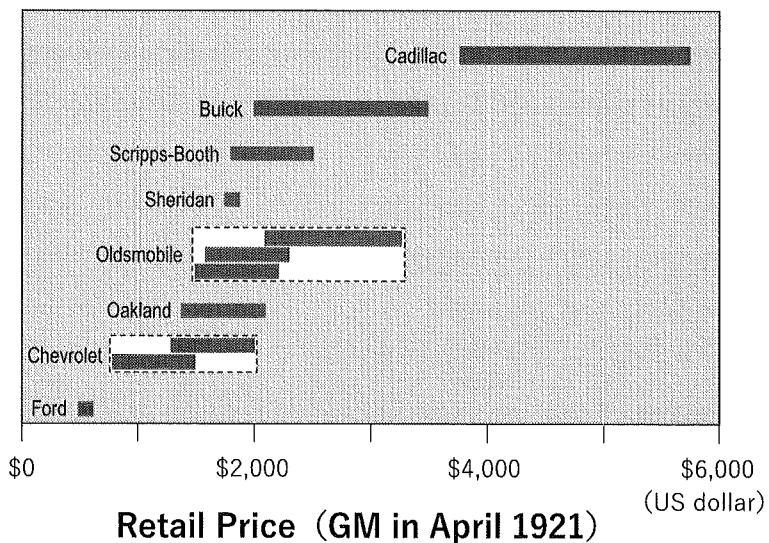


**問題 I**

次の文章を読み、下の問いに答えなさい。なお、\*のついている語句については、文末の(注)を参照しなさい。

In 1921, Ford Motor\* held 62 percent of the U.S. automobile market, having built a giant enterprise around the Model T\*. Ford's success came mainly from the Model T's low price, achieved by world-class industrial engineering of each aspect of automobile manufacturing.

General Motors\* was smaller than Ford Motor and had been assembled through a number of acquisitions. In April 1921, the company's president, Pierre du Pont, asked Alfred Sloan (then vice president of operations) to undertake a study of (ア) for the company. At that moment, the company produced ten lines of vehicles that together held about 12 percent of the automobile market. As can be seen in the following diagram, GM's Chevrolet\*, Oakland\*, Oldsmobile\*, Sheridan\*, Scripps-Booth\*, and Buick\* divisions all offered automobiles in the (イ) range. None produced a car that competed with Ford's \$495 Model T. Plus, the Chevrolet, Oakland, and Oldsmobile divisions were at the loss.

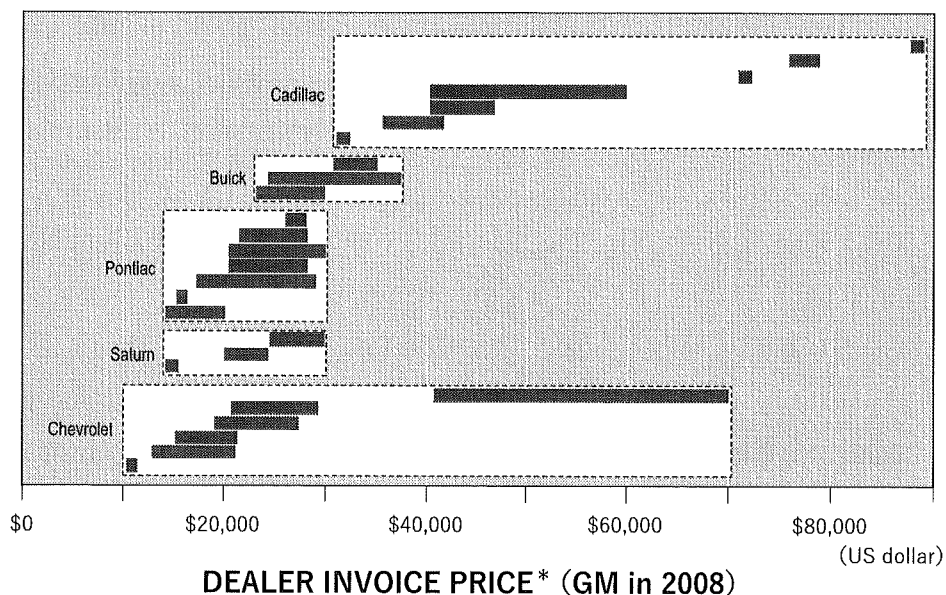


Two months later, Sloan presented his ( ア ) to the executive committee. Sloan insisted that “General Motors’ car line should be ( ウ ), that each car in the line should properly be conceived in its relationship to the line as a whole.” More specifically, he wanted “quality competition against cars below a given price tag, and price competition against cars above that price tag.” Sloan’s plan not only cut the prices of the cars in the line, it gave each brand a unique range of prices to work within. This new policy dramatically reduced the amount of intracompany\* competition and product clutter\*. Under Sloan’s concept, there was no fuzziness\* or confusion about the difference between a Chevrolet, a Buick, and a Cadillac\*.

The executive committee adopted Sloan’s plan, sold Sheridan Motors, and dissolved Scripps-Booth. Sloan became president in 1923. Oakland became Pontiac\* five years later. By 1931, General Motors had become the largest automaker and one of the leading corporations in the world. Throughout the 1940s and ’50s, Sloan’s concept became a part of American culture. Walking through a suburban neighborhood, you could tell who lived in each house by the car parked out in front: ordinary people drove Chevrolets, the chief a Pontiac, the manager a Buick, and the CEO a Cadillac.<sup>(1)</sup>

Sloan’s ( ア ) is an example of design, of order imposed on chaos\*. Making such a policy work takes more than a plan on a piece of paper. Each quarter, each year, each decade, ( エ ). Without constant attention, the design decays. Without active maintenance, the boundaries between each product become uncleared, and coherence\* is lost.

By the 1980s, Sloan’s design had faded away — a vivid illustration of the power of entropy.<sup>(2)</sup> General Motors had uncleared its brands and divisions. The 2008 product lineup at General Motors is shown in the following diagram. As can be seen, at a price point of ( オ ), General Motors offered nine vehicles.



The loss of coherence in General Motors' product line dramatically increased the amount of internal competition among its brands. Business leaders tend to see competition as a cleansing wind, blowing away waste and abuse. But the world is not that simple. If you invest in advertising or product development to take business away from a competitor, that may increase the corporate pie. <sup>(3)</sup> But if you invest to take business sister brand\* or division, that may make the whole corporate pie smaller. Not only are the investments in advertising and development partially wasted, but you have probably pushed down the prices of both brands.

出典：Richard Rumelt, *Good Strategy/Bad Strategy*, Profile Books, 2011 (一部  
 改変)

(注)

Ford Motor：フォード・モーター

Model T：モデルT

General Motors (GM)：ゼネラルモーターズ

Chevrolet：シボレー

Oakland：オークランド

Oldsmobile：オールズモビル

Sheridan：シェリダン

Scripps-Booth：スクリプスブース

Buick：ビュイック

intracompany：社内の

clutter：乱雑

fuzziness：曖昧さ

Cadillac：キャデラック

Pontiac：ポンティアック

chaos：混沌

coherence：一貫性

dealer invoice price：販売業者の請求価格

sister brand：姉妹ブランド

問 1 1921年の時点で General Motors が抱えていた経営上の問題を説明するものとして、下記から正しいものをすべて選びなさい。

- ① General Motors had too few brands, so its market share pie was smaller than that of Ford.
- ② Authority was concentrated in Mr. Sloan's hands, so no one could voice an opinion.
- ③ General Motors did not sell lower-priced vehicles compared to Ford.
- ④ General Motors was troubled by the employee strikes that occurred every year.
- ⑤ General Motors was losing money on three brands.
- ⑥ General Motors was competing not only with its rivals but also with its own brands to acquire customers.
- ⑦ Even when Mr. Sloan presented his ideas for reforming the company, the president and board of directors did not appreciate them.
- ⑧ General Motors produced vehicles with overlapping price range under each of its brands.

問 2 空欄(ア)に当てはまるもっとも適切な語句を下記から選びなさい。

- ① financial policy
- ② labor policy
- ③ product policy
- ④ customer policy

問 3 空欄(イ)に当てはまるもっとも適切なものを下記から選びなさい。

- ① \$ 1,400-\$ 1,800
- ② \$ 1,800-\$ 2,200
- ③ \$ 2,200-\$ 2,600
- ④ \$ 2,600-\$ 3,000

問 4 空欄(ウ)に当てはまるもっとも適切な語句を下記から選びなさい。

- ① integral
- ② competitive
- ③ customer-first
- ④ low-cost



問 5 下線部(1)の内容の説明として、もっとも適切なものを下記から選びなさい。

- ① If you look at the cars parked in residential areas, you will notice that almost all of them are General Motors cars.
- ② If you look at the cars parked in residential areas, you can see that Ford's and General Motors' car shares are roughly even.
- ③ If you look at the cars parked in a residential area, you can tell the occupational status of the people who live there.
- ④ If you look at the cars parked in a residential area, you will notice the rise in popularity of General Motors.

問 6 空欄(エ)に当てはまる文章として、もっとも適切なものを下記から選びなさい。

- ① corporate leadership must maintain the complex model design.
- ② corporate leadership should keep an eye on the design of their rival companies.
- ③ corporate leadership must work to maintain the coherence of the design.
- ④ corporate leadership should produce as few models as possible.

問 7 下線部(2)の説明として、もっとも適切なものを下記から選びなさい。

- ① A state in which things are not managed properly.
- ② A state in which competition is controlled.
- ③ A state in which branding is handled effectively.
- ④ A state in which employees behave as they please.

問 8 空欄(オ)に当てはまるもっとも適切なものを下記から選びなさい。

- ① \$ 15,500      ② \$ 25,500      ③ \$ 35,500      ④ \$ 45,500

問 9 下線部(3)を 60 文字以内で和訳しなさい。

**問題Ⅱ**

次の文章を読み、下の問いに答えなさい。なお、\*のついている語句については、文末の(注)を参照しなさい。

Twelve years ago, a cycling accident left Gert-Jan Oskam, now 40, with paralysed legs and partially paralysed arms, after his spinal cord\* was damaged in his neck. But these days, Oskam is back on his feet and walking, (ア) a device that creates a 'digital bridge' between his brain and the nerves below his injury.

The implant\* has been life-changing\*, says Oskam. “Last week, there was something that needed to be painted and there was nobody to help me. So I took the walker and the paint, and I did it myself while I was standing,” he says.

(A)

The device — called a brain-spine interface — builds on previous work by Grégoire Courtine, a neuroscientist\* at the Swiss Federal Institute of Technology in Lausanne and his colleagues. In 2018, they demonstrated that, when (イ) intensive training, technology that stimulates the lower spine with electrical pulses\* can help people with spinal-cord injuries to walk again.

(B)

Oskam was one of the participants in that trial\*, but after three years, his improvements had plateaued\*. The new system makes use of the spinal implant that Oskam already has, and pairs it with two disc-shaped\* implants inserted into his skull so that two 64-electrode grids\* rest against the membrane\* covering the brain.

When Oskam thinks about walking, the skull implants detect electrical activity in the cortex\*, the outer layer of the brain. This signal is wirelessly\* transmitted and decoded\* by a computer that Oskam wears in a backpack, which then transmits the information to the spinal pulse generator\*.

(C)

The previous device “was more of a pre-programmed\* stimulation\*” that generated robotic stepping\* movements, says Courtine. “Now, it’s completely different, because Gert-Jan has full control over the parameter\* of stimulation, which means that he can stop, he can walk, he can climb up staircases.”

“The stimulation before was controlling me and now I am controlling stimulation by my thought,” says Oskam. “When I decide to make a step, the simulation will kick in, as soon as I think about it.”

(D)

After around 40 rehabilitation sessions using the brain-spine interface, Oskam had regained the ability to voluntarily\* move his legs and feet. That type of voluntary movement was not possible after spinal stimulation alone, and suggests that the training sessions with the new device prompted further recovery in nerve cells that were not completely severed\* during his injury. Oskam can also walk short distances without the device if he uses crutches\*.

Bruce Harland, a neuroscientist at the University of Auckland in New Zealand, says that this continued improvement in spinal function is great news for anyone with a spinal-cord injury, “because even if it’s a longer-term\* chronic injury, there’s still a few different ways that healing could happen”.

“It’s certainly a huge jump” towards improved function for people with spinal-cord injuries, says neuroscientist Anna Leonard at the University of Adelaide in Australia. And, she says, there is still room for other interventions — such as stem cells\*—to improve outcomes further. She adds that although the brain-spine interface restores walking, other functions such as bladder\* and bowel control are not targeted by the device. “So, there’s certainly still room for other areas of research that could help progress improvements in outcomes for these other sort of realms,” she says.

(E)

Antonio Lauto, a biomedical\* engineer at Western Sydney University, Australia, says that less-invasive\* devices would be ideal. One of Oskam's skull implants was removed after about five months ( ウ ) an infection\*. Nevertheless, Jocelyne Bloch, the neurosurgeon\* at the Swiss Federal Institute of Technology who implanted the device, says that the risks involved are small ( エ ) the benefits. "There is always a bit of risk of infections or risk of haemorrhage\*, but they are so small that it's worth the risk," she says.

Courtine's team is currently recruiting three people to see whether a similar device can restore arm movements.

出典：Nature 2023 618: 18

(注)

spinal cord：脊髄

implant：植え込み型の装置

life-changing：人生が変わるような

neuroscientist：神経科学者

pulse：パルス(持続時間の短い電流)

trial：臨床試験

plateau：停滞期に入る

disc-shaped：平らな円形の

electrode grids：電極を格子状に並べたもの

membrane：膜組織

cortex：大脳皮質

wirelessly：無線で

decode：暗号を解く，信号を解読する

generator：発生装置

pre-programmed：前もって決められた

stimulation : 刺激

robotic stepping : ロボットのような歩き方

parameter : パラメーター, 設定値

voluntarily : 自発的に

sever : 切断する

crutch : 松葉杖

longer-term : 長期にわたる

stem cell : 幹細胞

bladder : 膀胱(ぼうこう)

biomedical : 生物医学的な

less-invasive : より侵襲性の低い(より患者に与える負担の少ない)

infection : 感染

neurosurgeon : 脳神経外科医

haemorrhage : 出血

問 1 空欄(ア)～(エ)に入る最も適切な熟語を下記の語群から選び答えなさい。各熟語は1回のみ使用できる。

(語群) thanks to, because of, compared with, combined with

問 2 1段落目の下線部[digital bridge]を最も適切に説明する段落を1つ選び、その全体を和訳しなさい。

問 3 次の小見出しを挿入する場合、最も適切と考えられる段落の間を(A)～(E)の中で1つ選びなさい。

(小見出し) Enhanced rehabilitation

問 4 下記の選択肢の中で本文の内容に最もよく一致するものを1つ選び、記号で答えなさい。

- (a) Gert-Jan Oskam は 40 歳の時に自転車事故で頸部の脊髄を損傷し、脚は完全に、腕は部分的に麻痺した状態になった。
- (b) この記事が書かれた時点で、Gert-Jan Oskam の頭蓋内には 64 個の格子状に並べられた電極が植え込まれていると考えられる。
- (c) 装置を頭蓋内に挿入する新しいシステムは、利益よりもリスクの方が大きい。
- (d) この記事で紹介されている新しいシステムと類似の装置で膀胱や腸の制御を取り戻せる可能性があり、臨床試験の募集が開始されている。
- (e) 新しいシステムで装着する植え込み型の装置は、感染症のリスクを考えて、約 5 カ月ごとに更新する必要がある。

問 5 下記の選択肢の中で本文の内容に最もよく一致するものを1つ選び、記号で答えなさい。

- (a) In 2018, a study was launched to help people with spinal-cord injuries walk again using lower spine stimulation with electrical pulses.
- (b) The stimulation before was controlling Oskam and now the stimulation is giving him even more precise thought.
- (c) Oskam could probably not regain the ability to move his legs and feet voluntarily with spinal stimulation alone.
- (d) Although skull implants may cause infection and bleeding, such risks can simply be overlooked.
- (e) Other treatments like stem cells are necessary for Oskam to regain the ability to walk without devices.

問 6 以前のシステムと比較して新しいシステムが優れている点を2つ本文より抜き取り、それぞれ 50 文字以内で説明せよ。



### 問題Ⅲ

次の文章を読み、下の問に答えなさい。なお、\*のついている語句については、文末の(注)を参照しなさい。

What is Design?

Whether in relation to fashion, software, information, or an array of household products, the term *design* regularly enters our vocabulary to describe some of the most common aspects of our everyday experience. As used throughout this book, the definition of *design* acknowledges two primary meanings found in the *Oxford English Dictionary*. The first refers (ア) the elements of a work of art and an awareness of the order and arrangement of those elements. In this sense the *design* of a writing table consists (イ) the size and proportion of its individual parts, the textures, grains, colors, or other characteristics of the materials used, the motifs\* or patterns, if any, used in its decoration, and the overall contrasts or harmonies among these various elements. Thus an analysis of design may reveal the intricacies\* or ease of construction, address issues of use such as durability\*, efficiency, or convenience, consider the exploration and transformation of materials, and the relative complexity or simplicity of the arrangement of forms.

Defined in this manner *design* is common to all of the visual arts, both fine and applied, and indeed the same sorts of criteria\* may be analyzed with respects to a wide variety of objects, from painting and sculptures to engravings, the front-page of a website, or an electric toaster, each based (ウ) least in part upon a range of choices or possibilities within a given medium or production technique in relation to an intended audience or viewer. Also linked to this meaning of the term are the series of foundation courses entitled *Design* that are generally required of college and university students majoring in the visual arts in the United States and abroad. Versatility\* is often a theme in such courses, where students analyze and manipulate\* basic abstract elements like shapes, colors, textures, and patterns common to a wide



range of media in both fine as well as in applied art.

A second broad meaning of *design* refers ( ㄟ ) the conception for the completed form of an object, often a sketch, model, or set of instructions that is a preliminary stage in the process that leads to a finished product. In some cases artists or craftsmen execute their own designs. In other cases they experiment directly with materials and processes in the creation of prototypes\* that are produced or modified for production. In still other cases, ( ㄨ ) instance when we purchase a pair of *designer* jeans, we presume that this article of clothing, while the result of methods of mechanized\* and specialized mass production, represents in some way the distinctive creative flair\* of the designer. As in the first meaning, the conceptual stage in the development of a finished work is common to all of the visual arts: after all, preliminary sketches precede the completion of many kinds of objects; indeed, acknowledging this meaning of *design* within a broad range of artistic activities that involve the interaction between ideas and the manipulation of material remains essential to an understanding of the term.

### What Makes Design “Modern”

For most historians an increasing separation between *design* as conception, and the subsequent production of that design, is critical for an historical understanding of the term in its specifically modern context. In this view<sup>(2)</sup> modern design is the result of acceleration\* in the division of labor and the introduction of mechanized production during the nineteenth century. A number of authors have equated\* these emerging circumstances with the development of an international style in the twentieth century embodying\* the dictum\* “form follows function”. Other writers stress that modern design emerged as part of a capitalist economic system that placed control of expanding production in the hands of industrialists\* and manufacturers and that frequently determined particular approaches to design as well as new

techniques of marketing and advertising in order to stimulate consumption. In the latter view the modern context for *design*, while implying a continuing relationship with the visual arts broadly defined, tends to concentrate upon mass-produced goods and printed materials included under the label of decorative art, applied art, industrial art, and graphic art rather than upon fine arts, where designing and making are more frequently performed by the same individual and are more clearly related to that individual's initiative and discretion. (オ) a result, the study of modern design often focuses upon economic conditions that inform its practice.

出典：David Raizman, *History of Modern Design: Graphics and Products since the Industrial Revolution*, Laurence King Publishing, UK, 2003.

(注)

motif：モチーフ，作品の題材

intricacy：複雑さ

durability：耐久性

criteria：(判断・批評の)基準

versatility：多機能性

manipulate：巧妙に取り扱う

prototype：原型

mechanize：機械化する

flair：才能，センスのよさ

acceleration：加速

equate：同一視する

embody：具現化する

dictum：格言

industrialist：実業家

問 1 下線部(1)を和訳しなさい。

問 2 空欄(ア)～(オ)に入る最も適切な語を下記の選択肢の中から一つ選びなさい。各語は1回のみ使用できる。なお大文字・小文字も文に即した形で書きなさい。

[ as at for of to ]

問 3 下記の選択肢の中で本文の内容と一致しないものを一つ選び、記号で答えなさい。

- (a) *design* を専攻する学生はまずこの語の多様な意味を学ぶ必要がある。
- (b) *design* という語は視覚芸術における純粋美術と応用美術に共通して使用される。
- (c) オックスフォード英語辞典によると、*design* という語には二つの主要な意味がある。
- (d) 近代において、概念としての *design* と製品としての *design* の分離は決定的なものになった。

問 4 下記の選択肢の中から本文の内容と最も一致するものを一つ選び、記号で答えなさい。

- (a) As the meaning of *design* varies, the author insisted that the academic purpose to analyze *design* is to reveal its diversity.
- (b) The author of this essay chose not to use the *Oxford English Dictionary's* definition of *design* and created a new definition of *design*.
- (c) According to this essay's definition, we can regard that a definition of *design* includes the concept of visual arts, even if its notion, material, usage, and relevant technique are diverse.
- (d) When college and university students study about the nature of *design*, they have to ignore the intention of designers because the academic purpose of researching *design* is to reveal its diverse forms and meanings.

問 5 下線部(2) “In this view modern design is the result of acceleration” とあるが、近代デザインは 19 世紀に何が加速した結果だと述べられているのか。日本語で二つ答えなさい。



問題IV

Read the topic carefully. Write your answer in English in 120–150 words.

As a student, what do you think the good points and bad points are of using artificial intelligence (AI), in education?



