学 力 検 査 問 題

外 国 語 （英語）

リーディング・ライティング

（5 問）

平成 24 年 2 月 25 日

自 15 時 20 分

至 17 時 20 分

答案作成上の注意

1　この問題冊子には、リーディング・ライティングの問題があります。総ページは **14 ページ**です。

2　解答用紙は **1 枚**（表裏の 2 ページ）です。解答はすべてその解答用紙に記入しなさい。

3　**受験番号**は、解答用紙の所定の箇所に、必ず記入しなさい。

4　配付した解答用紙は、持ち出してはいけません。

◇M4(729—84)

〔Ⅰ〕 次の英文は、科学における反証可能性(falsifiability)について書かれたものである。反証可能性とは何かを説明した上で、その優れた点と問題点を本文に基づいて、200～220字以内の日本語で要約しなさい。句読点も字数に含めます。

Science and philosophy have always worked together to try to uncover truths about the world and the universe around us. Scientists design experiments and try to obtain results verifying or disproving a hypothesis, but philosophers are the driving force in determining what factors determine the validity of scientific results. Often, they even determine the nature of science itself and influence the direction of viable(注1) research. One of the tenets(注2) behind science is that any scientific hypothesis and resultant experimental design must be inherently falsifiable.

In its basic form, falsifiability is the belief that for any hypothesis to have credence(注3), it must be inherently disprovable before it can become accepted as a scientific hypothesis or theory. For example, if a scientist asks, "Does God exist?" then this can never be science because it is a theory that cannot be disproved. The idea is that no theory is completely correct, but if not falsified, it can be accepted as truth. For example, Newton's Theory of Gravity was accepted as truth for centuries, because objects do not randomly float away from the earth. However, later research showed that, at quantum(注4) levels, Newton's laws break down and so the theory is no longer accepted as truth. The British philosopher Karl Popper saw falsifiability as a black and white definition: if a theory is falsifiable, it is scientific, and if not, then it is unscientific.

According to Popper, many branches of applied science, especially social science, are not scientific because they have no potential for falsification. Anthropology and sociology, for example, often use case studies to observe people in their natural environment without actually testing any specific hypotheses or theories. While such studies and ideas are not falsifiable, most

would agree that they are scientific because they significantly advance human knowledge.

For many of the pure sciences, the idea of falsifiability is a useful tool for generating theories that are testable and realistic. If a falsifiable theory is tested and the results are significant, then it can become accepted as a scientific truth. The advantage of Popper's idea is that such truths can be falsified when more knowledge and resources are available. The major disadvantage of falsifiability is that it is very strict in its definitions and does not take into account that many sciences are observational and descriptive.

(Adapted from "Falsifiability" by Martyn Shuttleworth, 2008)

(注1) viable 実行可能な、発展し得る

(注2) tenets 信条

(注3) credence 信頼、信用

(注4) quantum 量子

〔Ⅱ〕 次の対話を読んで、下の問いに答えなさい。

Mr. Gray: How are your classes going this semester, Taka?

Taka: Great, apart from English! (A)

Mr. Gray: Oh, why do you think that? English is important if you want to get a good job after you graduate.

Taka: (B) At least not in my case—I'm going to work in my father's sushi restaurant after I finish university, and the customers are all Japanese. I'd rather study something more useful.

Mr. Gray: Hmm ... you might not think you need English now, but you don't know for certain. (C)

Taka: Well, I still think we should have the choice about whether we study English or not.

Mr. Gray: I'm sorry, I don't agree. ㋐ Besides, there are many other reasons why you should learn English.

Taka: (D)

Mr. Gray: Well, you like movies, don't you? Wouldn't you like to be able to understand English-language films perfectly?

Taka: Actually, I prefer Japanese movies. (E)

Mr. Gray: OK, what about overseas travel? If your English is good, travel will be much easier and more enjoyable. ㋑

Taka: Not necessarily. There are many countries where English isn't spoken. What about China, for example? (F)

Mr. Gray: But surely you agree that English is the most important global language. ㋒ I think it's necessary for everyone to study it if Japan is truly to become part of the world community. And, another thing, if you know English, you can make friends all over the world and gain an understanding of many different countries and cultures.

Taka: ㋓ I think we should learn about our own culture first, though. Do

you want to see Japanese customs and traditions disappear? And nowadays, many people can't speak their own language properly, let alone English!

Mr. Gray: (G) But in my opinion learning English will help, rather than hinder, the understanding of one's own language and culture.

Taka: (H) Still, I don't think everyone should be forced to study English, especially if they're not good at it—like me!

Mr. Gray: Well, maybe you'll change your mind someday. (I)

問 1 空欄(A)～(I)を補うのに最もふさわしい文を下の ① ～ ⑩ から選び、それぞれ番号で答えなさい。同じ文を繰り返し使用することはできません。

① And in any case, we can always read the sub-titles.

② OK, you've made some good points.

③ I don't think English would get you very far there.

④ I'm worried about that, too.

⑤ It really is a waste of time.

⑥ It's better to be prepared.

⑦ So, what language would you like to learn?

⑧ That's not true for everyone.

⑨ Until then, we'll just have to agree to disagree!

⑩ Yeah? Such as?

問 2 本文中に次の文を補うとすれば、 ㋐ ～ ㋓ のどの位置が最も適切ですか。記号で答えなさい。

I agree that internationalization is important.

問 3　次の４つの文の中から本文の内容を表すものとして最も適切なものを番号で答えなさい。

(1) It should be compulsory for everyone to study English.

(2) English is necessary to understand and enjoy foreign movies.

(3) Learning English can help people gain a better understanding of their own culture.

(4) Chinese is likely to become the most important international language in the future.

このページは白紙です。

〔Ⅲ〕 次の英文を読んで、下の問いに答えなさい。

You couldn't have wished for a more perfect day. My husband, Kevin, and I were at a beachside café where we were enjoying the view across the bay. "Isn't this lovely," he said, reaching across the table to hold my hand.

Before I could respond, his mobile phone interrupted with a loud tune. Instantly he reached for his belt, unhooked his faithful companion and raised it to his ear, without so much as an "excuse me." "Kev Corcoran," he answered (A) a loud, business-like tone. "No. You're right, mate. Not a problem. I'm not doing anything."

Well, technically we *weren't* doing anything. But it's a regular occurrence. My husband, like many people, treats his phone as an extension of his body. He can't go anywhere without it.

I refuse to have one. I figure that if someone needs me for something really important they will find me. Otherwise, I choose to be left in peace to work, do my shopping or take a stroll along the beach. I find it (B) when people have personal conversations on the phone in a shopping center or, worse still, in a public toilet cubicle.

My decision to be without a mobile phone is a cause of concern for some people, particularly as I work in corporate communications. They can't imagine how someone in my position can get (C) without one.

But it's easy. It's not like I am inaccessible. Work is a four-minute drive from my home. Most of the time I am never more than 15 minutes from home. I manage perfectly well using a landline(注1) or message bank(注2) and checking my e-mails regularly.

During a recent day (D), a colleague asked someone for my mobile number. "What?" he exclaimed. It was as though he had been told I was missing my head. "She doesn't have a mobile?"

He was stunned(注3). But I got to enjoy the day without interruptions,

and dealt with his query the next day.

My daughter seems to be heading down the same road as me, but our two teenage sons take after their dad and have phones implanted(注4) in their bodies. The 18-year-old once sent 4,000 text messages during a month-long period. What a waste of time!

However, although I don't know how to send a text message I have decided I need to keep up with SMS(注5) language.

Earlier this year, Kevin received a text message from our eldest son, who was out four-wheel-driving in the mountains. "Lost ATM," it read. I immediately started to panic that he had lost his ATM card. "Please explain," Kevin texted back. "Lost—at the moment," came the reply for the sake of his SMS-illiterate parents.

At least he was able to use his phone to be found in the mountains. But the next time Kevin and I are in a café he can answer his phone with "Busy ATM."

(Adapted from *Reader's Digest*, October 2010)

(注1) landline (携帯電話に対して)固定電話
(注2) message bank 留守番電話サービス
(注3) stunned あ然として
(注4) implant …を埋め込む
(注5) SMS *s*hort *m*essaging *s*ystem(携帯電話の)簡略文字メッセージ送受信システム

問 1 his (mobile) phone と同じ内容を表す語句を本文中から2組抜き出しなさい。

問 2　空欄(　A　)～(　D　)を補うのに最もふさわしい語句を下の(1)～(3)の中から選び、それぞれ番号で答えなさい。

(　A　)	(1)	on	(2)	in	(3)	by
(　B　)	(1)	annoying	(2)	annoyed	(3)	to be annoyed
(　C　)	(1)	to	(2)	off	(3)	by
(　D　)	(1)	off	(2)	with	(3)	around

問 3　筆者はなぜ下線部のようなことを述べているのか。その理由を下に挙げる選択肢から1つ選び、番号で答えなさい。

(1) She is suggesting that there are a lot of people waiting in line to use the ATM machine near the café.

(2) She is suggesting that the next time Kevin receives a phone call in a café, he should tell the caller that the line is busy.

(3) She is suggesting that Kevin will be able to put his new knowledge of SMS language to good use the next time he is in a café.

問 4　次の英文の中から本文の内容と矛盾しないものを1つ選び、番号で答えなさい。

(1) I wasn't bothered when my husband got a phone call at a beachside café, since I wasn't doing anything at the time.

(2) I find it undesirable for the young to spend too much time on text-messaging.

(3) My husband and daughter have adapted to a life in which they behave as if their mobile phones were part of their bodies.

(4) My husband and I are quite familiar with the short forms used in text-messaging.

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〔Ⅳ〕 次の英文を読んで、下の問いに答えなさい。

Numbers make modern life possible. In a world without numbers, we would be unable to build a skyscraper, hold a national election, plan a wedding, or pay for a chicken at the market.

The central role of numbers in our world testifies to the brain's mysterious ability to recognize and understand them, and researchers are trying to find out exactly how that skill works. Traditionally, scientists have thought that we learn to use numbers the same way we learn how to drive a car or to text with two thumbs. In this view, numbers are a kind of technology, a man-made invention to which our all-purpose brains can adapt. History provides some support. The oldest evidence of people using numbers dates back about 30,000 years: bones and antlers scored with notches that are considered by archaeologists to be tallying marks. The Mesopotamians developed basic arithmetic about 5,000 years ago. Zero made its debut in A.D. 876. Arab scholars laid the foundations of algebra in the ninth century, but it was not until the late 1600s that calculus emerged in full flower.

Despite the late appearance of higher mathematics, there is growing evidence that numbers are not a recent invention in any way. Some researchers are showing that our species seems to have an innate skill for math, a skill that may have been shared by our ancestors going back at least 30 million years.

One sign that this skill truly is innate: children enter the world with a head for numbers. Veronique Izard, a cognitive psychologist then at Harvard University, demonstrated this in a study of newborns. She and her colleagues played cooing sounds to babies, with varying numbers of sounds in each trial. The babies were then shown a set of shapes on a computer screen, and the scientists measured how long the babies gazed at it. The length of time babies spend looking at an object reflects their interest, and they consistently looked

longer at the screen when the number of shapes matched the number of sounds they had just heard. For example, a baby who heard "tuuu, tuuu, tuuu, tuuu" would look the longest at four shapes, less at eight, and still less at twelve. Izard's study suggests that newborns already have a basic understanding of numbers. Moreover, their concept of numbers is abstract; they can transfer it across the senses from sounds to pictures.

(Adapted from "A Calculating Mind," by Carl Zimmer, *Discover Magazine*, Spring 2011)

問 1　数を認識する力とは人間にとってどのようなものであるかについて、従来の考え方と最近の考え方とを、本文に基づいてそれぞれ 10 字以内の日本語で表しなさい。

① 従来の考え方

② 最近の考え方

問 2　従来の考え方を裏づける証拠として示されている事柄のうち、3 つを日本語で箇条書にしなさい。

問 3　最近の考え方を証明する研究として Veronique Izard 氏の行った実験結果とそこから分かることは何ですか。本文に基づいて、100 字以内の日本語で説明しなさい。句読点も字数に含めます。

〔V〕 次の〔A〕と〔B〕の問いに英語で答えなさい。

〔A〕 以下に示した表(table)は、Institute of International Education が実施したアメリカへの留学生の数に関する調査結果です。この表について、2008年と2009年を比較し、以下の①～④の4つのポイントと具体的な数値を盛り込んで、90語程度の英語でまとまりのある説明文を書きなさい。数値は1語として数え、コンマやピリオドは語数に含めません。解答欄の最初の(　　)に語数を記入しなさい。

① この表が示しているもの　　② 留学生の総数の変化

③ 中国からの留学生の傾向　　④ 日本からの留学生の傾向

Rank	Place of Origin	2008	2009	Change
1	China	98,235	127,628	29.9%
2	India	103,260	104,897	1.6%
3	South Korea	75,065	72,153	−3.9%
4	Canada	29,697	28,145	−5.2%
5	Taiwan	28,065	26,685	−4.9%
6	Japan	29,264	24,842	−15.1%
—	—	—	—	—
—	—	—	—	—
25	Russia	4,908	4,827	−1.7%
	TOTAL	671,616	690,923	2.9%

Source: Institute of International Education, Opendoors® 2010 fast facts

〔B〕 あなたは、今回、無人島(desert island)に、1週間ほど1人で行くことになりました。十分な飲料水の他に、何か1つだけ持っていくとしたら、あなたは何を持っていきますか。その理由を簡潔にまとめ、100語程度の英語で書きなさい。コンマやピリオドは語数に含めません。解答欄の最初の(　　)に語数を記入しなさい。