

工 学 部

入 学 試 験 問 題

B日程2月21日

英 語

注 意 事 項

1. 試験監督者の指示があるまで、問題冊子を開かないこと。
2. 問題冊子に落丁、乱丁があった場合は、試験監督者に申し出ること。
3. 試験監督者の指示に従って、解答用紙の受験番号欄に受験番号を記入し、その下のマーク欄にもマークすること。
4. 受験番号が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る。
5. マーク方式の解答方法は、下の『解答上の注意』をよく読むこと。
6. 試験終了後、問題冊子は持ち帰ること。

解 答 上 の 注 意

マーク方式での解答例

〔英語〕 解答群より、③をマークするときは、次の〔例〕のように解答欄の③にマークする。

〔例〕

1	①	②	●	④	⑤	⑥	⑦	⑧	⑨	⑩
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英 語

I. 以下の英文を読み、問A・問B・問Cに答えよ（なお、*印を付した語句には注がある）。

In 1716 British astronomer Edmond Halley published a ten-page essay which called upon scientists to unite in a project spanning the entire globe* — one that would change the world of science forever. On 6 June 1761, Halley predicted, Venus* would traverse* the face of the sun — for a few hours the bright star* would appear as a perfectly black circle. He believed that measuring the exact time and duration* of this rare celestial* encounter would that astronomers needed in order to calculate the distance between the earth and the sun.

The only problem was that the so-called transit of Venus is one of the rarest predictable astronomical events. Transits always arrive in pairs — years apart — but with an interval of more than a century before they are then seen again. Only once before, Halley said, in 1639, had an astronomer called Jeremiah Horrocks observed the event. The next pair would occur in 1761 and 1769 — and then again in 1874 and 1882.

Halley was sixty years old when he wrote his essay and knew that he would not live to see the transit (unless he reached the age of 104), but he wanted to ensure that the next generation would be fully prepared. Writing in the journal of the Royal Society, the most important scientific institution in Britain, Halley explained exactly why the event was so important, what these “young Astronomers” had to do, and where they should view it. By choosing to write in Latin, the international language of science, he hoped to increase the chances of astronomers from across Europe acting upon his idea. more people he reached, the greater the chance of success. It was essential, Halley explained, that several people at different locations across the globe should measure the rare heavenly rendezvous* at the same time. It was not enough to see Venus’s march from Europe alone; (7) astronomers would have to travel to remote locations in both the northern and southern hemispheres* to be as far apart as possible.

By the time Halley called upon his fellow astronomers to view the transit of Venus, the position and movements of planets were no longer seen as ordained arbitrarily* by God but as ordered and predictable, and based on natural laws. But man still lacked the knowledge of the actual size of the solar system*. Astronomers knew, for example, that the distance between the earth and Jupiter* was five times that of the distance between the earth and the sun. The only problem was that no one had been able to quantify* that distance in more specific terms.

This idea of calculating exact distances in space was a bold concept too, considering that clocks were still not accurate enough to measure longitude* precisely, and there was no standardized measurement on Earth: an English mile was a different length from a mile in German-speaking countries — which also varied between northern Germany and Austria. A “*mil*” in Sweden was more than ten kilometers, in Norway more than eleven, while a French “league” could be three kilometers but also as much as four and a half. (1) In France alone there were 2,000 different units of measurement — which varied even between neighboring villages. In light of this, the idea of merging* hundreds of observations taken by astronomers across the world to find one common value seemed outrageously .

(出典：Andrea Wulf, *Chasing Venus: The Race to Measure the Heavens*, 2013, pp. xvii-xxiv, adapted 一部改変)

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注：globe 地球 Venus 金星 traverse ~を横切る
the bright star = Venus duration 経過時間 celestial 天上の
heavenly rendezvous = celestial encounter hemisphere 半球
ordained arbitrarily 恣意的に定められる solar system 太陽系
Jupiter 木星 quantify ~を数量化する longitude 経度
merge ~を統合する

問A. 文中の ~ に入れるのもっとも適当なものを、①~④の中から選び、解答欄にマークせよ（なお、同じ数字の空欄には同じものが入る）。

- | | | | | |
|--------------------------------|-------------------|----------------------|--------------------|--------------|
| <input type="text" value="1"/> | ① use the process | ② remove the results | ③ provide the data | |
| | ④ attain the goal | | | |
| <input type="text" value="2"/> | ① fifty | ② a hundred | ③ twelve | ④ eight |
| <input type="text" value="3"/> | ① As | ② The | ③ While | ④ For |
| <input type="text" value="4"/> | ① as yet | ② as if | ③ as well | ④ as to |
| <input type="text" value="5"/> | ① economic | ② normal | ③ ambitious | ④ scientific |

問B. 6.~15. の各文が本文の内容に合っていれば解答欄の①にマークし、合っていなければ解答欄の②にマークせよ。

6. Edmond Halley had predicted the next transit of Venus more than a century before it actually occurred.
7. Halley was born in 1656, so he didn't see the previous transit of Venus, which occurred in 1639.
8. Halley planned to observe the transit of Venus in cooperation with the next generation of astronomers.
9. Halley wrote his ten-page essay in Latin because he wanted it to be read by astronomers all over Europe.
10. Halley thought that observation from Europe was not enough to know the exact distance between the earth and the sun.
11. People once believed that the position and movement of planets were decided by God.
12. The distance between Jupiter and the sun is five times longer than the distance between the earth and the sun.
13. Highly accurate clocks were not necessary to measure longitude precisely.
14. A "mile" had the same length in northern Germany and Austria.
15. A French "league" could be four and a half kilometers as well as three.

問C. 文中の下線部 (ア) (イ) を和訳せよ。解答は解答用紙裏面の記述解答欄に記入せよ。

II. 次の1.～5.の日本語の意味の英文を、書き出しの語句に続けて下にある語句を並べかえて作るとした場合、に入れるべきものはどれか。解答欄にマークせよ。

1. 髭を剃っている最中に大事なことを思い出すことがよくある。

It often _____ 16 _____ 17 _____ shaving.

① while ② things ③ happens ④ important ⑤ I remember ⑥ that

2. 気がつくとスマホを何時間も見ている。

I _____ 18 _____ 19 _____ hours.

① at ② myself ③ my smartphone ④ looking ⑤ find ⑥ for

3. どのくらい長くバスを待っているのですか？

How _____ 20 _____ 21 _____ the bus?

① waiting ② long ③ been ④ you ⑤ for ⑥ have

4. 空いた時間を有効活用することが成功への鍵だ。

To _____ 22 _____ 23 _____ the key to success.

① good ② of ③ is ④ make ⑤ spare time ⑥ use

5. ジョンはクラスで3番目に背が高い生徒だ。

John _____ 24 _____ 25 _____ the class.

① third ② tallest ③ the ④ in ⑤ student ⑥ is

III. 次の1.～5.の英文の意味が通じるためには、の中にどのような語を入れたらよいか。下の語群から選び、解答欄にマークせよ。

1. The seven o'clock train arrived exactly 26 time.

2. I visited England for the first time 27 ten years.

3. The coffee shop is open 28 midnight.

4. I've been sitting 29 the desk for two hours to finish my homework.

5. They enjoyed dancing 30 the music.

[語群：① in ② at ③ to ④ above ⑤ on ⑥ until]

IV. 1. ~ 5. の英文の説明に該当する英単語を下の語群〔①～⑩〕から選び、解答欄にマークせよ。

1. an occupied area

=

2. the lowest part of a thing

=

3. a situation where things are not in order

=

4. a situation where no sounds or words are heard

=

5. a set of promises you make and keep when you do business with someone

=

[語群 : ① border ② bottom ③ noisiness ④ contract
 ⑤ silence ⑥ territory ⑦ comment ⑧ below
 ⑨ profit ⑩ confusion]

V. 36. ~ 40. の英単語の一番強く発音する箇所はどこか。解答欄にマークせよ。

36. po · lice · man
 ① ② ③

37. ref · er · ee
 ① ② ③

38. in · cred · i · ble
 ① ② ③ ④

39. ap · pro · pri · ate
 ① ② ③ ④

40. im · me · di · ate · ly
 ① ② ③ ④ ⑤