

# N 6 英 語

この冊子は、英語の問題で 1 ページより 8 ページまであります。

## [注 意]

- (1) 試験開始の指示があるまで、この冊子を開いてはいけません。
- (2) 監督者から受験番号等記入の指示があったら、解答用マークシートに受験番号及び氏名を記入し、さらに受験番号・志望学科をマークしてください。
- (3) 解答は所定の解答用マークシートにマークしたものが採点されます。
- (4) 解答用マークシートについて
  - ① 解答用マークシートは絶対に折り曲げてはいけません。
  - ② マークには黒鉛筆(H BまたはB)を使用してください。指定の黒鉛筆以外でマークした場合、採点できないことがあります。
  - ③ 誤ってマークした場合は消しゴムで丁寧に消し、消しくずを完全に取り除いたうえ、新たにマークしてください。
  - ④ 解答欄のマークは横 1 行について 1 箇所に限ります。2 箇所以上マークすると採点されません。あいまいなマークは無効となるので、はっきりマークしてください。
- (5) 試験開始の指示があったら、初めに問題冊子のページ数を確認してください。

ページの落丁・乱丁、印刷不鮮明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。
- (6) 問題冊子は、試験終了後、持ち帰ってください。

1 次の英文を読んで、下記の設問に答えなさい。

(50 点)

The term supernova\* was coined in the 1930s by an astrophysicist\* named Zwicky. Zwicky was capable of insights of the most startling brilliance. In the early 1930s he turned his attention to a question that had long troubled astronomers: the appearance in the sky of occasional unexplained points of light, new stars. Improbably, he wondered if the neutron\*—the subatomic particle that had just been discovered in England by James Chadwick, and was thus both novel and rather fashionable—might be at the heart of things. It occurred to him that if a star collapsed to the sort of densities found in the core of atoms, the result would be an unimaginably compacted core. Atoms would literally be crushed together, their electrons forced into the nucleus\*, forming neutrons. You would have a neutron star. Imagine a million really weighty cannonballs\* squeezed down to the size of a marble\* and—well, you're still not even close. The core of a neutron star is so dense that a single spoonful of matter from it would weigh more than 500 billion kilograms. A spoonful! But there was more. Zwicky realized that after the collapse of such a star there would be a huge amount of energy left over—enough to make the biggest bang in the universe. He called these resultant explosions supernovae. They would be—they are—the biggest events in creation.

On 15 January 1934 the journal *Physical Review* published a very concise abstract of a presentation that had been conducted by Zwicky and his closest collaborator Walter Baade the previous month at Stanford University. Despite its extreme brevity—one paragraph of twenty-four lines—the abstract contained an enormous amount of new science: it provided the first reference to supernovae and to neutron stars; convincingly explained their method of formation; correctly calculated the scale of their explosiveness; and, as a kind of concluding bonus, connected supernova explosions to the production of a mysterious new phenomenon called cosmic rays, which had recently been found by other astrophysicists swarming through the universe. These ideas

were revolutionary, to say the least. The existence of neutron stars wouldn't be confirmed for thirty-four years. The cosmic rays notion, though considered believable, hasn't been verified yet. Altogether, the abstract was, in the words of Kip S. Thorne, one of the world's leading astrophysicists today, "one of the most prescient\* documents in the history of physics and astronomy."

Interestingly, Zwicky had almost ( 1 why 2 no 3 any of 4 of 5 this 6 understanding) <sup>(3)</sup> would happen. According to Thorne, "he did not understand the laws of physics well enough to be able to substantiate his ideas." Zwicky's talent was for big ideas. Others — Baade mostly — were left to do the mathematical sweeping up.

Zwicky was also the first to recognize that there wasn't nearly enough visible mass in the universe to hold galaxies together, and that there must be some other gravitational influence — what we ~~now~~ call dark matter. One thing he failed to see was that if a neutron star shrank enough it would become so dense that even light couldn't escape its immense gravitational pull. You would have a black hole.

When, five years later, the great Robert Oppenheimer turned his attention to neutron stars in a landmark paper, he made not a single reference to any of Zwicky's work, even though Zwicky had been working for years on the same problem in an office just down the corridor. Zwicky's deductions\* concerning dark matter wouldn't attract serious attention for nearly four decades.

(Notes)

supernova (複数形 supernovae) : 超新星

astrophysicist : 天体物理学者

neutron : 中性子

nucleus : 原子核

cannonballs : 砲丸

marble : ビー玉

prescient : 先見の明のある

deductions : 演繹法的推論

(1) 下線部(1)の内容として最も適当なものを下記の中から1つだけ選んで、その番号を解答用マークシートにマークしなさい。

- 1 a marble is no closer to the true image of a neutron star than a cannonball
- 2 the actual size of a neutron star is much more compact
- 3 the core of a neutron star is much more compressed
- 4 a neutron star is far more remote from us

(2) 下線部(2)の内容として最も適当なものを下記の中から1つだけ選んで、その番号を解答用マークシートにマークしなさい。

- 1 there was a more surprising neutron star with a heavier core
- 2 there was a more problematic side to Zwicky's discovery
- 3 there was another way to explain the collapse of a star
- 4 there was another implication in Zwicky's theory

(3) 下線部(3)の( )内の語または語句を意味の通るように並べ換え、その番号を上から順に解答用マークシートにマークしなさい。

(4) 下線部(ア)~(キ)の各語の本文中における意味に最も近いものを下記の中からそれぞれ1つずつ選んで、その番号を解答用マークシートにマークしなさい。

(ア) startling

- |                  |            |              |           |
|------------------|------------|--------------|-----------|
| 1 characteristic | 2 peculiar | 3 remarkable | 4 unusual |
|------------------|------------|--------------|-----------|

(イ) Improbably

- |             |                |               |               |
|-------------|----------------|---------------|---------------|
| 1 Naturally | 2 Surprisingly | 3 Undoubtedly | 4 Unwillingly |
|-------------|----------------|---------------|---------------|

(ウ) literally

- |             |               |
|-------------|---------------|
| 1 actually  | 2 eventually  |
| 3 gradually | 4 wonderfully |

(エ) brevity

- |           |               |        |          |
|-----------|---------------|--------|----------|
| 1 clarity | 2 conciseness | 3 ease | 4 length |
|-----------|---------------|--------|----------|

(オ) convincingly

- |           |                |             |           |
|-----------|----------------|-------------|-----------|
| 1 orderly | 2 persuasively | 3 sincerely | 4 vaguely |
|-----------|----------------|-------------|-----------|

1 alternative      2 developing      3 innovative      4 shifting

1 dull                                  2 monumental  
3 undistinguished                4 unique

$$(\text{ア}) \rightarrow (\text{イ}) \rightarrow (\text{ウ})$$

- (6) 下記の各英文について本文の内容に一致するものには正を、一致しないものには誤をそれぞれ解答用マークシートにマークしなさい。

- 4

- 2** 次の英文の各空所に入れるのに最も適当な語を下記の中からそれぞれ1つずつ選んで、その番号を解答用マークシートにマークしなさい。(14点)

(a) This river is just a sad ( ) of what it used to be, now polluted with no sign of fish.

- 1 prospect      2 reminder      3 reproduction      4 warning

(b) Our longtime political opponent's sudden willingness to ( ) came as a surprise.

- 1 compromise      2 criticize      3 disagree      4 ignore

(c) It's critically important for the government to ( ) the fundamental security issues that our country is facing.

- 1 address      2 bypass      3 disregard      4 overlook

(d) The Prime Minister ( ) more credit for initiating the successful educational reforms.

- 1 deserves      2 owes      3 submits      4 suits

(e) I'm short of cash at the moment. I need to go to a bank and ( ) some money.

- 1 deposit      2 dump      3 raise      4 withdraw

(f) What you have just said is ( ). You're such a nice person.

- 1 alarming      2 boring      3 confusing      4 touching

(g) Although he has a ( ) for being quite intelligent, he sometimes makes a remark altogether lacking in common sense.

- 1 reputation      2 response      3 reward      4 skill

- 3 次の英文はある日本人アニメ映画監督へのインタビュー記事です。これを読んで、意味が通るように(ア)～(エ)の各( )内の語または語句を並べ換え、その番号を上から順に解答用マークシートにマークしなさい。(18点)

**Interviewer:** You've done so much in animation. What are the challenges for you nowadays? Were the spectacular scenes with the waves the biggest challenge on your latest work?

**Director:** The greatest challenge we have right now is that my ( 1 with 2 aged 3 me 4 staff 5 has (ア) 6 along), and so we need to get some fresh blood into our studio. But of course I don't want to fire my old staff, so I want them to stay on, and we are trying to figure out ways where they can continue to work, as well as bring on new staff. So the waves you asked about weren't as ( 1 as (イ) 2 difficult 3 they 4 thought 5 I 6 would) be.

**Interviewer:** I have heard you are extremely famous in Japan. So I'm curious, being in America, I believe you're probably a little bit more anonymous. What have you been able to enjoy with your anonymity here in America?

**Director:** This is a hard-scheduled week, and I'm so ( 1 able (ウ) 2 been 3 enjoy 4 haven't 5 I 6 tired 7 to) much. [laughs] I was surprised that San Francisco was so chilly!

**Interviewer:** If you have a little extra time, ( 1 doing 2 enjoy (エ) 3 the kind of 4 would be 5 what 6 you'd 7 things)?

**Director:** I have to rush back to continue doing the *manga* drawings that I'm doing as sort of a hobby of mine.

- 4 次の会話文の各空所に入れるのに最も適当なものを下記の中から1つずつ選んで、その番号を解答用マークシートにマークしなさい。(18点)

**Salesperson:** Hi, can I help you?

**Female customer:** Hi, I've had poor circulation and I wanted a supplement that would help me.

**Salesperson:** Okay. There are different supplements that are great for circulation. And we actually have a product that has about ten different products in it. So ( ア ) buying ten different bottles, I'd just recommend that.

**Female customer:** Okay. And is that taken in a pill form?

**Salesperson:** Yes. I'd recommend you ( イ ) on the bottle. And you probably know that exercise is also great for circulation.

**Female customer:** Okay. And with the pill, would it just be something I'd have to take once a day, or would it require more?

**Salesperson:** It's twice a day.

**Female customer:** Okay. And then, would that have anything that would be good for my skin in it?

**Salesperson:** Well, it's a great supplement for your skin. It's putting back something that was ( ウ ) and it's just like a piece of a puzzle. So I'd say if you took this and had a lot of water and made sure you got enough oils in your diet, then you're ( エ ).

**Female customer:** Would I have to talk to my doctor before I started taking any of these?

**Salesperson:** I always recommend you ( オ ). I think a good doctor would have an open mind. If he looked it up, he could see that's a natural ingredient that used to be ( カ ) in food that no longer is. So I always recommend talking with your doctor.



- |     |                         |                           |
|-----|-------------------------|---------------------------|
| (ア) | 1 together with         | 2 regardless of           |
|     | 3 instead of            | 4 apart from              |
| (イ) | 1 accept the terms      | 2 complete the forms      |
|     | 3 follow the directions | 4 prepare the ingredients |
| (ウ) | 1 excessive             | 2 missing                 |
|     | 3 painful               | 4 unnecessary             |
| (エ) | 1 on the active list    | 2 on the other side       |
|     | 3 on the right road     | 4 on the cutting edge     |
| (オ) | 1 bring it up           | 2 cut it out              |
|     | 3 take it away          | 4 make it up              |
| (カ) | 1 abundant              | 2 scarce                  |
|     | 3 poisonous             | 4 thin                    |