2019年度　　〔試験時間　60分〕

P 6　英　語

この冊子は，英語の問題で1ページより17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，解答用紙に受験番号と氏名を記入してください。また，解答用マークシートに受験番号と氏名を記入し，さらに受験番号をマークしてください。

(3) 解答は，所定の解答用紙に記入したもの及び解答用マークシートにマークしたものだけが採点されます。

(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(ＨＢ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 解答用マークシートに記載されている解答上の注意事項を，必ず読んでから解答してください。

(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。

（下書き用紙）

（下書き用紙）

1 次の英文を読んで設問に答えなさい。 (16点)

In the twenty-first century 1 million people live and work in the crowded, noisy city of Naples in Italy. Few of them lift their eyes to look up at Vesuvius, the great volcano, which rises nearly 1, 300 meters high to the east of the city.

(A) Dogs started to bark, birds flew away, and a strange silence seemed to fall all over the town. At midday, a great cloud of grey ash rose up from Vesuvius and into the air. That afternoon, with a terrible noise a thousand times louder than thunder, the top of the volcano was blown twenty kilometers into the air, and sheets of flame lit up the darkened sky. Vesuvius was erupting!

(B) Then, on the 24th of August, AD 79, everything changed forever. In the middle of the morning, the earth began to shake; cups fell off tables, and holes appeared in the ground. People remembered the disastrous earthquake that had hit the town seventeen years before. Was this the beginning of another earthquake?

(C) In the year AD 79, nearly 2, 000 years ago, the people of the busy town of Pompeii hurried about their lives without thinking of Vesuvius. Pompeii is twenty kilometers south-east of Naples, and it is only ten kilometers from the great volcano. At that time, Pompeii was a rich town of 20, 000 people with a busy port and market. All around the town were the beautiful homes of rich merchants and their families.

A south-east wind quickly blew the cloud of ash towards the town of Pompeii. People panicked and tried to escape. But for many, it was too late. In two days, the town was covered in four meters of ash and stones. About two thousand people were killed by the cloud of hot gases and ash. Others

were buried in hot mud and stones. It may seem difficult to believe that a city could be buried for 1,700 years. But Pompeii was.(ア) It was not discovered again until 1738. Then, peasants digging at the foot of Mt. Vesuvius came upon some statues.

(1) 段落(A)～(C)をもっとも自然な順序にするとしたら，次の1～6のうちのどれか。もっとも適当なものの番号を**解答用マークシート**にマークしなさい。

1 A－B－C
2 A－C－B
3 B－A－C
4 B－C－A
5 C－A－B
6 C－B－A

(2) 下線部(ア)の後に省略されていると考えられる語句は何か。**解答用紙**に英語で書きなさい。

(3) 本文中で用いられた次の各語のもっとも強く発音する母音と，下の１～４のうちもっとも強く発音する母音が同じものを１つずつ選び，その番号を解答用マークシートにマークしなさい。

(あ) appear

1 despair　2 earring　3 layer　4 lily

(い) disastrous

1 disposition　2 disprove　3 dissatisfy　4 dissolve

(う) merchant

1 careful　2 market

3 surface　4 tremendous

(え) peasant

1 beautiful　2 enemy　3 pretty　4 research

(お) volcano

1 always　2 author　3 cannon　4 tailor

（下書き用紙）

2 次の①～⑥の段落に分けられた科学についてのエッセイを読んで設問に答えなさい。＊印がついている語には本文末に注がついています。 (50点)

① Science is still confronting huge remaining mysteries, like where the universe came from. Other reporters like to point out that there is "No End of Mysteries," as a cover story in *U.S. News & World Report* put it. But some mysteries are probably unsolvable. The biggest mystery of all is the one cited by Stephen Hawking in *A Brief History of Time*. Why is there something rather than nothing? More specifically, what triggered the Big Bang, and why did the universe take this particular form rather than some other form that might not have allowed our existence?

② Scientists' attempts to solve these mysteries often take the form of what I call ironic science (ア) — unconfirmable speculation (イ) more akin to philosophy or literature than genuine science. The science is ironic in the sense that it should not be considered a literal statement of fact. A prime example of this style of thinking is the anthropic principle*, which holds that the universe must have the form we observe because otherwise we would not be here to observe it (ウ). The anthropic principle, championed by leading physicists such as Leonard Susskind of Stanford University, is cosmology's version of creationism*.

③ Another example of ironic science is string theory*, which for more than twenty years has been the leading contender for a "theory of everything" that explains all of nature's forces. The theory's concepts and terms have evolved over the past decade, with two-dimensional membranes replacing one-dimensional strings, but the theory comes in so many versions that it predicts virtually everything — and hence nothing at all. Critics call this the "Alice's Restaurant* problem," a reference to a folk song with the refrain "You can get anything you want at Alice's Restaurant." This problem leads Columbia mathematician Peter Woit to call string theory "not even wrong" in his influential blog of the same title, which refers to a famous put-down* by

Wolfgang Pauli.

④ Although Woit echoes the criticisms of string theory I made in *The End of Science*, he still hopes that new mathematical techniques may stimulate physics. I have my doubts. String theory already represents an attempt to understand nature through mathematical argumentation* rather than empirical* tests. To break out of its current impasse(エ), physics desperately needs not new mathematics but new empirical findings — like the discovery in the late 1990s that the expansion of the universe is accelerating. This is by far(オ) the most exciting advance in physics and cosmology in the last decade, but it has not led to any theoretical breakthrough. Meanwhile, the public has become increasingly reluctant to pay for experiments that can push back the frontier of physics. The Large Hadron Collider will be the world's most powerful particle accelerator when it goes online next year, and yet it is too weak to probe directly the microrealm where strings supposedly dwell.

⑤ Science can't ever come to an end because theories, by their very nature, keep being overturned. Many philosophers — and a surprising number of scientists — accept this line, which essentially(カ) means that all science is ironic. They adhere to the postmodern position(A) that we do not discover truth so much as we invent it; all our knowledge is therefore provisional and subject to change. This view can be traced back to two influential philosophers: Karl Popper, who held that theories can never be proved but only disproved, or falsified, and Thomas Kuhn, who contended that theories are not true statements about reality but only temporarily convenient suppositions.

⑥ If all our scientific knowledge were really this weak and provisional, then of course science could continue forever, with theories changing as often as fashions in clothing or music. But the postmodern stance is clearly wrong. We have not invented atoms, elements, gravity, evolution, the double helix, viruses, and galaxies; we have discovered them, just as we discovered that the Earth is round and not flat.

注：anthropic principle 「人間原理」；
cosmology's version of creationism 「宇宙論版の特殊創造説」；
string theory：a theoretical framework in which the point-like particles of particle physics are replaced by one-dimensional objects called strings；
Alice's Restaurant 米国のフォークソングのシンガーソングライターである Arlo Guthrie が 1967 年に発表した曲；
put-down：a remark intended to humiliate or criticize someone；
argumentation 「論法，論証」；empirical 「実証的な」

(1) 下線部(A)はどのようなことであるか。また，それに対する筆者の考えはどのようなものであるか。日本語で説明し，**解答用紙**に書きなさい。

(2) 段落①の内容に一致するのは次の 1 ～ 4 のうちどれか。もっとも適当なものの番号を**解答用マークシート**にマークしなさい。

1 Some scientists found out how the universe started.
2 Stephen Hawking gave an answer to the cause of the Big Bang.
3 There are some mysteries which science cannot solve.
4 *U.S. News & World Report* pointed out that the universe allowed our existence.

(3) 下線部(ア)で筆者はどのような意味で science が ironic であると言っているのか。その理由として次の 1 ～ 4 のうちもっとも適当なものの番号を**解答用マークシート**にマークしなさい。

1 解明できるわけがない神秘を解明しようとしているので。
2 事実を文字通り述べているとはみなされないので。
3 哲学や文学というよりも純粋な科学に似ているので。
4 観察に基づいた事実のみに立脚しているので。

(4) 下線部(イ)の意味は次の1～4のうちどれか。もっとも適当なものの番号を**解答用マークシート**にマークしなさい。

1 機知に富んだ警句
2 深遠な考察
3 緻密な議論
4 立証できない推論

(5) 下線部(ウ)の見解を支持する人は次の1～4のうちどれか。もっとも適当なものの番号を**解答用マークシート**にマークしなさい。

1 the author
2 Leonard Susskind
3 some reporters
4 Stephen Hawking

(6) 段落③の内容に一致するのは次の1～4のうちどれか。もっとも適当なものの番号を**解答用マークシート**にマークしなさい。

1 Critics are unfavorable to string theory because it practically predicts everything.
2 If a theory explains all of nature's forces, it should be considered true.
3 Peter Woit acknowledges string theory as true because it is not wrong.
4 String theory's terms have changed, but its concepts haven't changed.

(7) 段落④の内容に一致するのは次の1～4のうちどれか。もっとも適当なものの番号を**解答用マークシート**にマークしなさい。

1 Peter Woit shares the author's opinion about mathematics and physics.

2 The author argues that empirical tests are more important than mathematical techniques in physics.

3 The Large Hadron Collider is expected to discover where strings exist.

4 The public would not pay tax because the Large Hadron Collider is the most powerful in the world.

(8) 下線部(エ)と意味が同じものは次の1～4のうちどれか。もっとも適当なものの番号を**解答用マークシート**にマークしなさい。

1 alternative

2 answer

3 dead end

4 solution

(9) 下線部(オ)の意味は次の1～4のうちどれか。もっとも適当なものの番号を**解答用マークシート**にマークしなさい。

1 as great as

2 as small as

3 by a great amount

4 by a small amount

(10) 段落⑤の内容に一致するのは次の１～４のうちどれか。もっとも適当なものの番号を解答用マークシートにマークしなさい。

1 Karl Popper argued that you can neither prove nor disprove theories.

2 Philosophers argue that science can go on forever because we discover truth.

3 Scientists argue that science cannot go on forever because we invent truth.

4 Thomas Kuhn argued that theories cannot be true but can be temporarily convenient.

(11) 下線部(カ)の使われ方は次の１～４のうちどれか。もっとも適当なものの番号を解答用マークシートにマークしなさい。

1 used when discussing the most important points about something

2 used when introducing a fact that you think is interesting

3 used when mentioning the most complicated details about something

4 used when referring to the most difficult questions about something

3 次は，ミュージシャン志望の若者と空腹で倒れていた彼を助けた女性の会話です。空所（ ア ）～（ キ ）を補うのにもっとも適当なものを１～７から選び，その番号を解答用マークシートにマークしなさい。ただし，同じものは２度以上用いないこと。 (14点)

Laura: So, what kind of music do you play?

Alex: （ ア ）

Laura: I said, what kind of music do you play?

Alex: Sorry, it's just that if I don't eat now, I'll die of starvation. Thanks for buying me the meal by the way.

Laura: The music — what kind of music is it?

Alex: Well, it's hard to describe really.

Laura: （ イ ）

Alex: I've got my demo CD here.

Laura: Look, I'll listen to the demo when I get home, and if I see my record producer friend, I'll give it to him. Can he contact you at this address on the CD?

Alex: No, no, I'm not at that address.

Laura: Well, what address are you at? In case he likes it and wants to get in touch with you.

Alex: Well, it's hard to say at the moment. Listen, what about your address? Would it be all right if I use that?

Laura: Is that your way of saying you want my address?

Alex: （ ウ ）

Laura: I'm going to a party tonight. （ エ ）

Alex: Laura, how can I go to a party looking like this? The thing is that, well, I'm going through a bit of a rough time at the moment. I really don't have any money.

Laura: I can lend you some money. If you get cleaned up, you won't look so

bad.

Alex: （ オ ）

Laura: So you'll come to the party?

Alex: （ カ ）

Laura: This is the address of my office. （ キ ） OK?

Alex: See you at seven.

1 Can I hear it?

2 Meet me outside at seven.

3 Pardon?

4 Try and stop me!

5 Well, yes actually.

6 Why don't you come?

7 Wow, thanks a bunch!

4 与えられた語群から，日本語文に相当するのにもっともふさわしい英文を完成し，その番号を**解答用マークシート**にマークしなさい。ただし，同じものは2度以上使わないこと。文頭の語も小文字にしてある。 (20点)

1 何故彼女はそんな話し方をしたの？

(1)(2)(3)(4)(5)(6)(7)(8)?

1 caused	2 her	3 in	4 speak
5 that	6 to	7 way	8 what

2 何があってもやりぬくぞ。

(1)(2)(3)(4)(5)(6)(7)!

1 can	2 doing	3 from	4 nothing
5 stop	6 that	7 us	

3 この提案はやってみる価値があると思う？

(1)(2)(3)(4)(5)(6)(7)(8)?

1 do	2 is	3 proposal	4 think
5 this	6 trying	7 worth	8 you

4 もし研究を続けていたら，私の人生はどうなっていたかしら。

I(1)(2)(3)(4)(5)(6)(7) if I had continued my studies.

1 been	2 have	3 life	4 like
5 what	6 wonder	7 would	

5　風雨にさらされることが長ければ長いほど石はかたくなる。

（　1　）（　2　）the（　3　）（　4　）（　5　）（　6　）the（　7　），the（　8　）it gets.

1　exposed	2　harder	3　is	4　longer
5　stone	6　the	7　to	8　weather