

英語

注意事項

1. 解答は解答用紙の所定の欄に記入せよ。
2. この問題用紙および下書き用紙は解答用紙と共に机上に残すこと。

1

次の文章を読んで、下のA～Oの中から本文の内容に合っているものを5つ選び、記号で答えなさい。

Of the 2,000 commercial beekeepers in the United States about half migrate. This pays off in two ways. Moving north in the summer and south in the winter lets bees work a longer blooming season, making more honey—and money—for their keepers. Second, beekeepers can carry their hives to farmers who need bees to pollinate their crops. Every spring a migratory beekeeper in California may move up to 160 million bees to flowering fields in Minnesota and every winter his family may haul the hives back to California, where farmers will rent the bees to pollinate almond and cherry trees.

Migratory beekeeping is nothing new. The ancient Egyptians moved clay hives, probably on rafts, down the Nile to follow the bloom and nectar flow as it moved toward Cairo. In the 1880s North American beekeepers experimented with the same idea, moving bees on barges along the Mississippi and on waterways in Florida, but their lighter, wooden hives kept falling into the water. Other keepers tried the railroad and horse-drawn wagons, but that didn't prove practical. Not until the 1920s when cars and trucks became affordable and roads improved, did migratory beekeeping begin to catch on.

For the Californian beekeeper, the pollination season begins in February. At this time, the beehives are in particular demand by farmers who have almond groves; they need two hives an acre. For the three-week long bloom, beekeepers can hire out their hives for \$32 each. It's a bonanza for the bees, too. Most people consider almond honey too bitter to eat so the bees get to keep it for themselves.

By early March it is time to move the bees. It can take up to seven nights to pack the 4,000 or so hives that a beekeeper may own. These are not moved in the middle of the day because too many of the bees would end up homeless. But at night, the hives are stacked onto wooden pallets, back-to-back in sets of four, and lifted onto a truck. It is not necessary to wear gloves or a beekeeper's veil because the hives are not being opened and the bees should remain relatively quiet. Just in case some are still lively, bees can be pacified with a few puffs of smoke blown into each hive's narrow entrance.

In their new location, the beekeeper will pay the farmer to allow his bees to feed in such places as orange groves. The honey produced here is fragrant and sweet and can be sold by the beekeepers. To encourage the bees to produce as much honey as possible during this

period, the beekeepers open the hives and stack extra boxes called *supers* on top. These temporary hive extensions contain frames of empty comb for the bees to fill with honey. In the brood chamber below, the bees will stash honey to eat later. To prevent the queen from crawling up to the top and laying eggs, a screen can be inserted between the brood chamber and the supers. Three weeks later the honey can be gathered.

Foul smelling chemicals are often used to irritate the bees and drive them down into the hive's bottom boxes, leaving the honey-filled supers more or less bee free. These can then be pulled off the hive. They are heavy with honey and may weigh up to 90 pounds each. The supers are taken to a warehouse. In the extracting room, the farmers are lifted out and lowered into an 'uncapper' where rotating blades shave away the wax that covers each cell. The uncapped frames are put in a carousel that sits on the bottom of a large stainless steel drum. The carousel is filled to capacity with 72 frames. A switch is flipped and the frames begin to whirl at 300 revolutions per minute; centrifugal force throws the honey out of the combs. Finally the honey is poured into barrels for shipment.

After this, approximately a quarter of the hives weakened by disease, mites, or an aging or dead queen, will have to be replaced. To create new colonies, a healthy double hive, teeming with bees, can be separated into two boxes. One half will hold the queen and a young, already mated queen can be put in the other half, to make two hives from one. By the time the flowers bloom, the new queens will be laying eggs, filling each hive with young worker bees. The beekeeper's family will then migrate with them to their summer location.

- A. About half of the commercial beekeepers in the United States have been successful in their beekeeping businesses, but the other half have not.
- B. A migratory beekeeper in California goes to Minnesota every spring in order to catch approximately 160 million bees. Unfortunately, they may bring back only half of them to California because of the winter cold.
- C. Various kinds of ways to move bees have been tried in the United States. One of them is transportation by air, and it has turned out to be affordable.
- D. When February comes, it is customary for farmers who have almond groves to borrow the hives they need from beekeepers in California.
- E. A beekeeper is required to possess at least two hives; one for himself, and the other for a farmer who has almond groves.
- F. In March, beekeepers prepare for migration at night when hives are closed and the bees are generally tranquil. If there are some bees which have a lot of energy, they send a little smoke in order to make them calm and quiet.

G. Beekeepers who transport their hives are charged for placing them in orange groves by farmers who are orange grove owners.

H. The honey produced in orange groves are so fragrant and sweet that some of the beekeepers devote themselves to the hives in orange groves and abandon the hives in almond groves.

I. Being annoyed by the bees' buzzing around the orange groves often makes some farmers sprinkle chemicals on beehives.

J. Since bees have the habit of collecting all sorts of useless honey in the supers, the honey-filled supers are usually sold for nothing.

K. After three weeks of bees' collecting honey, the supers can be taken to a warehouse where rotating blades are used to remove the wax and extract the honey from the combs.

L. Bees that have collected a great deal of honey tend to die soon due to the heaviness of the body.

M. The frames that are put in a carousel take about 0.2 seconds to complete a revolution.

N. The honey taken out of the combs into barrels is usually transported to various parts of the United States by ship, because it costs less than other means of transportation.

O. About 25% of the bees will have a new hive after the honey collection, because their parents are killed by the queen.

2 各英文の空所に補うものとして適切なものをA～Eの中から1つ選び、記号で答えなさい。

(1) () please find some photos we took together while you were staying with us.

A. To enclose	B. Having enclosed	C. For enclosing
D. Enclosing	E. Enclosed	

(2) Under the circumstances the () problem will very likely get worse and worse.

Therefore, the government should implement aggressive economic measures to tackle it.

(3) Within relatively confined areas such as office buildings, airport terminals, and large ships, the movement of people and freight is usually accomplished () of elevators, escalators, and moving sidewalks.

A. on behalf	B. by means	C. on account
D. in spite	E. because	

(4) Today () is often regarded as time left over after caring for needs of existence, such as eating and sleeping, and for subsistence, such as work or education. This leftover time is to be used as each individual chooses. Studies suggest that the average adult spends about 80 to 85 hours weekly for existence and about 35 to 40 hours for subsistence, leaving about 40 to 50 hours of time.

A. livelihood B. absence C. leisure D. eclipse E. presence

(5) Well before Columbus and other Europeans arrived in the Americas, the () of corn had spread across North America. Later, corn became a food staple for European settlers.

A. observation B. publication C. normalization
D. cultivation E. contemplation

3

それぞれの単語の第一アクセントのある音節に下線を引いてあります。ただし、各組に1つ間違った位置に下線が引かれているものがあります。その語を選んで、記号で答えなさい。

(1) A. ar-tic-u-late B. mo-bile C. for-head
D. pa-ral-y-sis E. mi-rac-u-lous

(2) A. ab-rupt-ly B. phe-nom-e-non C. an-noy-ance
D. gla-cier E. un-prec-e-dent-ed

(3) A. uhib-it C. in-sti-tute
D. al-ter-na-tive E. e-lec-tron-ic

(4) A. de-ter-gent B. ad-e-qua-cy C. po-li-ti-cize
D. vol-un-teer E. con-tro-ver-sial

(5) A. e-lim-i-nate B. en-thu-si-as-tic C. guar-an-tee
D. poi-son-ous E. res-i-due

4

(a)～(d)に単語の意味が英語で書いてあります。それぞれに相当する単語をA～Eの中から選んだ場合、選ばれずに残る単語が1つあります。その残った単語を記号で答えなさい。

(1) (a) a very small living thing that causes infectious illnesses
(b) a machine with an engine that is used to take people or things from one place to another, such as a car, bus, or truck
(c) a piece of equipment fastened to the back of people who jump out of planes, which make them fall slowly and safely to the ground
(d) a person harmed, injured, or killed as a result of a crime, accident, or other event, or action

A. parachute B. virus C. comet D. victim E. vehicle

(2) (a) a person who resides or is present in a house at a given time
(b) a person who always expects that bad things will happen
(c) a person who is walking, especially along a street or other place used by cars
(d) a police officer whose job is to discover information about crimes and catch criminals

A. pessimist B. detective C. pedestrian D. decipher E. occupant

(3) (a) a famous person, especially in entertainment or sport
(b) a person who travels a long distance to work every day
(c) a person who buys goods or services from a shop or company
(d) a person who designs buildings and in many cases also supervises their construction

A. veterinarian	B. commuter	C. architect
D. celebrity	E. customer	

(4) (a) come close or be similar to something in quality, nature, or quantity
(b) the main building or offices used by a large company or organization
(c) a bird or mammal, or an imitation of one, used by hunters to attract other birds or mammals
(d) a question that is deliberately confusing and usually has a humorous or clever answer

A. headquarters	B. approximate	C. exposure
D. riddle	E. decoy	

(5) (a) a deep hole in the ground that people dig so that they can remove coal, gold, tin and so on

(b) the ending of a fixed period for which a contract is valid

(c) the use of drugs to control and try to cure cancer

(d) one of the two organs in your back that separate waste products from your blood and make urine

5 日本語文の意味を表すように、カッコ内に与えられた語(句)を並べ替えて正しい英文を書きなさい。ただし、足りない単語が1つあるのでそれは自分で補うこと。また、文頭に来るべき語も小文字で始めて示してあります。必要なら、文の途中にカンマを補いなさい。

(1) この国では20歳以下の人のタバコや酒は禁止です。

(smoke or drink, 20 years, not, to, under, of age, are, are, those, allowed) in this country.

(2) 交通渋滞に巻き込まれる可能性があるので、青木さんは会議に遅れないように早めに家を出ました。

Because (a traffic jam, late, caught, be, getting, would, he, so that, of, of, for, Mr. Aoki, the possibility, in, left his house early) the meeting.

(3) 綾子は一人暮らしに慣れていないので、家の中の仕事をどのようにしたらよいのかについて困ってしまうことがあります。

Since Ayako is (she, not, often, alone, is, do, living, at, as to, to, how, a loss, accustomed) household chores.

(4) 私は海外の病院でボランティアとして楽しい経験をしたので医者になりたいという気持ちが強くなりました。

My (a volunteer, an overseas hospital, fueled, for, at, my, experience, enthusiasm, enjoyable) becoming a doctor.

(5) 憲二は人気があるどころか、明らかにたくさんの敵がいます。

Far (Kenji, popular, host, evidently, has, of, a, being) enemies.

6 次のインタビューの記事の空所に補うものとして適切なものをA～Eの中から1つ選び記号で答えなさい。

Interviewer: Dr. Brown, global warming was the threat of the 1980s but it seems to have fizzled out of people's minds — why do you think that is?

Dr. Brown: Yes, in a way you're right. I think scientists have become occupied with the task of trying to find out whether it really is happening and, if so, whether it's caused by human activity.

Interviewer: A greenhouse effect is, after all, a natural phenomenon...

Dr. Brown: Yes, as we know, naturally occurring gases float above us, acting as insulations that prevent heat (1) radiated into space.

Interviewer: And the fear is that the insulation might get thicker...

Dr. Brown: Yes...and because of this, the earth might get warmer.

Interviewer: The latest prediction we've heard is that temperature will increase by about a third of a degree every ten years. What are your feelings?

Dr. Brown: Well...this prediction is difficult to (2). You see the global climate is the result of a web of influences. Who is to say that a simple action such as adding carbon dioxide to the atmosphere will not have several effects which might even cancel each other out?

Interviewer: And I understand that the prediction is hard to verify whatever...

Dr. Brown: Precisely.

Interviewer: Why is that?

Dr. Brown: Because the earth's temperature surges and subsides naturally. In fact the best way of detecting global temperature change is to measure the temperature of the oceans as accurately as possible.

Interviewer: And this avoids the sort of seasonal fluctuations of the temperature of land mass.

Dr. Brown: Yes — in fact an understanding of the oceans is crucial to understanding how the global climate works. The ocean transports heat around the globe. It's like a great reservoir of heat — a tiny change in sea surface temperature denotes a huge change in the amount of heat it is storing.

Interviewer: And now, I understand you are looking at ways of (3) of ocean temperature.

Dr. Brown: Yes. For a long time, we've measured it by placing thermometers in buoys bobbing in the oceans and also when ships draw water through their engines.

Interviewer: It's also been done by satellite, hasn't it?

Dr. Brown: Yes. But now data from a more promising system is being collected. This is the European along-track scanning radiometer or ATSR, a much simpler name. The ATSR orbits the earth above us.

Interviewer: And what stage (4) with this?

Dr. Brown: Well it's been up there two and a half years now. It's an infra-red detector that senses the earth's temperature with great accuracy and this is what we need... we have to be able to separate out random changes in temperature.

Interviewer: I believe there are other advantages as well?

Dr. Brown: There are several... Every few days it covers the entire earth. So it produces (5) of data. It measures the temperature from two angles, which allows correction for any effects that the intervening atmosphere may be having on its readings. Its field of view has a width of 500 km and it measures the temperature to 0.3 degrees centigrade.

Interviewer: And it should go on for years?

Dr. Brown: Yes.

Interviewer: Thank you, Dr. Brown, for talking to us today...and now over to...

7 次の英文の空所に補うものとして適切なものをA～Eの中から1つ選び、記号で答えなさい。

All over the world, libraries have begun the Herculean task of making faithful digital copies of the books, images and recordings that preserve the intellectual effort of human kind. For armchair scholars, the work promises to bring (1) information to the desktop that the present Internet may seem amateurish in retrospect.

Librarians see three clear benefits to going digital. First, it helps them preserve rare and fragile objects without (2) access to those who wish to study them. The British Library, for example, holds the only medieval manuscript of *Beowulf* in London. Only qualified scholars were allowed to see it (3) Kevin S. Kiernan of the University of Kentucky scanned the manuscript with three different light sources (revealing details not normally apparent to the naked eye) and put the images up on the Internet for anyone to peruse. Tokyo's National Diet Library is similarly creating highly detailed digital photographs of 1,236 woodblock prints, scrolls and other materials it considers national treasures so that researchers can scrutinize them without handling the originals.

A second benefit is convenience. Once books are converted to digital form, patrons can retrieve them in seconds rather than (4). Several people can simultaneously read the same book or view the same picture. Clerks are spared the chore of reshelfing. And libraries could conceivably use the Internet to lend their virtual collections to those who are unable to visit in person.

The third advantage of electronic copies is that they occupy millimeters of space on a magnetic disk rather than meters on a shelf. Expanding library buildings is increasingly costly. The University of California at Berkeley recently spent \$46 million on an underground

addition to house 1.5 million books — an average cost of \$30 per volume. The price of disk storage, (5), has fallen to about \$2 per 300-page publication and continues to drop.

(1) A. lots of wealthy B. a number of wealthy C. such a wealth of
D. so wealthy an E. all the wealth of

(2) A. denying B. making C. claiming
D. having E. admitting

(3) A. where B. until C. because
D. in case E. so that

(4) A. thirds B. the Internet C. the library
D. minutes E. digital

(5) A. in short B. by chance C. so to speak
D. in contrast E. to be exact