

1 と 2 は放送を聞いて答える問題です。放送は2分後に始まりますので、それまでに問題と解答用紙に目を通しておきなさい。なお、放送を聞きながら、問題用紙の余白にメモを取ってもかまいません。

1 〈放送を聞いて答える問題〉

アセアン校外学習における先生の説明を聞いて、指示に従って解答用紙に必要事項を書き入れなさい。説明は1回しか放送されませんので、注意して聞きなさい。

2 〈放送を聞いて答える問題〉

これから流れる3種類の英文について、質問が1問または2問出されます。それぞれの質問に最も適切な答えを1つ選び、(A)～(D)の記号で答えなさい。放送は2回流れます。

- (1) (A) To celebrate his father's birthday.
(B) To celebrate Halloween.
(C) To celebrate two of his best friends' birthdays.
(D) To celebrate his parents' birthdays.
- (2) (A) It will be held in a small house.
(B) Tom's parents will help decorate the house.
(C) It will be held for two days.
(D) It will be held in October.
- (3) (A) They ask their classmates for help.
(B) They ask their teacher for help.
(C) They help each other.
(D) John can teach languages to the speaker.
- (4) (A) They are going to study in different places.
(B) They have different tastes in music.
(C) They are good at the same things.
(D) They have known each other for five years.
- (5) (A) Sheep's wool is warmer than alpaca's wool.
(B) Alpaca's wool is used for clothes.
(C) Llamas are bigger than alpacas.
(D) Llamas live with other llamas.

3 次の A・B の問いに答えなさい。

A 意味の通る英文になるように、各文の () に最も適切な答えを次の(A)~(D)から 1 つ選び、記号で答えなさい。

- (1) The T-shirt was too (), so I could not buy it.
(A) rich (B) favorite (C) cheap (D) expensive
- (2) A: This soup needs more flavor. Will you () me the salt?
B: Here it is.
(A) pass (B) hold (C) touch (D) catch
- (3) A: I want a new watch, but the store is far away from my house.
B: You () go there. You can buy one online.
(A) mustn't (B) don't have to (C) will (D) should
- (4) Many students in our school went to the library () for the exam.
(A) study (B) studied (C) is studying (D) to study
- (5) You should tell him the truth as soon as ().
(A) can (B) able (C) possible (D) could

B 各設問の下の日本語に合うように、各文の () に当てはまる英単語を書きなさい。

- (6) Do you know () to make a cheese cake?
チーズケーキの作り方を知っていますか?
- (7) I have lived in this city () I was eight.
私は 8 歳のときからこの街に住んでいる。
- (8) He was born () September 22, 2004.
彼は 2004 年 9 月 22 日生まれだ。
- (9) Who is the girl () with Alex over there?
向こうでアレックスと話している女の子は誰ですか?
- (10) She can cook () than her sister.
彼女は妹より上手に料理をすることができる。

4 次の英文を読み、(1)～(5)の質問に最も適切な答えを1つ選び、(A)～(D)の記号で答えなさい。

Mars* is an empty planet, but that can change. Someday, it may have farms. Fruits and vegetables can be grown there.

Growing food on Mars has always seemed hard. It is not like Earth. However, scientists think they have found a way to do it. They studied putting sheets of material* on the ground. The sheets can change the cold, dry ground of the planet into land for farming. The sheets are made of aerogel. The aerogel is mostly air. The sheets work in a way similar to Earth's greenhouse effect. The heat from the sun is kept on Earth by gases in the Earth's atmosphere*.

On Mars, the sheets will warm the ground. They will melt* ice to keep plants alive. They are important to give people food on Mars. Food will not have to come from Earth.

Robin Wordsworth worked on the sheets at Harvard University. He said the sheets could let people live on another planet. The area covered could be small or large, he said.

Stephen Hawking was a scientist who died in 2018. He said people must (ア)spread beyond Earth. If we do, growing food in other worlds will be needed. However, the conditions on Mars are not good. The planet is cold and dry. The ground may have toxic* parts, and the air does not have much nitrogen*. (イ)Plants need nitrogen to grow.

The sheets do not solve all of the problems. Still, they can help create a place for plants. The plants will grow only under the sheets. So there is less worry about damaging the rest of Mars with new life, Wordsworth said. The sheets will block the plants.

The scientists studying the sheets included some from NASA, the U.S. space group. Others were from the University of Edinburgh in Scotland. The scientists worked with sheets about an inch thick*. Those allowed light to pass through for the plants. They also trapped enough heat to melt ice on Mars.

Placing the sheets over icy parts of Mars can help plants survive there, the scientists wrote. Their study was printed in the magazine, *Nature Astronomy*. The sheets can be on the ground to grow water plants. They also can be hanging. That will give room for plants to grow on land below them.

Wordsworth said, “You can imagine this being used in a number of ways. It can be used for visitors to Mars. Later it can be for people who live there.”

注) Mars : 火星 material : 物質 atmosphere : 大気 melt : 溶かす toxic : 有毒の nitrogen : 窒素
inch thick: 1 インチ(約 2.5 センチメートル) の薄さの

(1) What does the phrase (ア)spread beyond mean in this context?

- (A) cover larger area in
- (B) move away from
- (C) move together to
- (D) control movement of

(2) What is one reason why it is hard to grow food on Mars?

- (A) It is because there is not enough space.
- (B) It is because the planet is hot and dry.
- (C) It is because the land may have dangerous parts.
- (D) It is because the air has a lot of nitrogen.

- (3) Why do scientists want to find a way to grow plants on Mars?
- (A) It is because Mars has better sunlight and water for growing plants.
 - (B) It is because NASA wants to find a way to give more food to their staff in space.
 - (C) It is because people who will visit Mars can grow food without getting it from Earth.
 - (D) It is because people who live on Earth can have more food for the growing population.
- (4) Look at the underlined sentence (ㄱ). Choose one thing that is not necessary for plants to grow.
- (A) water
 - (B) ice
 - (C) light
 - (D) air
- (5) According to Robin Wordsworth, how will the sheets help keep us from harming Mars?
- (A) The sheets will block the plants from spreading.
 - (B) The sheets allow light and heat through for the plants.
 - (C) Some scientists from NASA are studying the sheets.
 - (D) More visitors can go to Mars under the sheets.

5 次の英文を読み、(1)～(5)の質問に最も適切な答えを1つ選び、(A)～(D)の記号で答えなさい。

A woman was born in 1867 in Warsaw, Poland. Her father was a Professor* of Physics*. At an early age, she showed great learning motivation. This made her continue her studies after high school. She was shocked, when she learned that the university in Warsaw was closed to women. However, there was a famous university in Paris, called the Sorbonne that women could enter. To get a higher education, she left Poland and she went to the university. She knew that she wanted to become a scientist.

During her stay in France, she read a lot of books on math and physics. She was lucky to spend time with some of the greatest scientists of her day. In 1894, she met Pierre. He was a scientist and the two of them fell in love. They married a year later and spent many years working together in science research. In 1903, the Nobel Prize in physics was awarded to the couple for their work in radiation*. She became the first woman to be awarded the prize.

Shortly after they discovered radium*, her husband, Pierre was killed in a horse-drawn wagon* accident. The woman was very sad about this. She started feel better when she was asked to take over her husband's work as a physics professor at the Sorbonne. She was the first woman to be a professor at this world-famous university. In 1911, she got another Nobel Prize in chemistry field for her discovery of radium. She was the first person to win two Nobel Prizes. She became very famous. Scientists came from all over the world to study with her. Soon doctors found that radiation could help cure cancer*.

In 1934, she became sick and died from long exposure* to radium in her work. Many people respect her because she never gave up her work in her difficult times. She worked very hard to show the mysteries of science to the world.

注) professor : 教授 physics : 物理(の) radiation : 放射線 radium : ラジウム horse-drawn wagon : 馬車
cancer : がん exposure : 身をさらすこと

(1) Why did the woman move to France?

- (A) It was because she wanted to raise her child in France.
- (B) It was because she learned that women couldn't study in the university in Warsaw.
- (C) It was because she found that Sorbonne University was the best university to study more.
- (D) It was because she found a job at Sorbonne University.

(2) What was the cause of the woman's husband's death?

- (A) A car crash
- (B) A horse-drawn wagon accident
- (C) Heavy exposure to radium
- (D) Long hours of working

(3) When did the woman recover after her husband's death?

- (A) It was when she became a physics professor.
- (B) It was when she won the Nobel Prize.
- (C) It was when she discovered radium.
- (D) It was when she became famous.

(4) What is not true about the woman?

- (A) She was the first woman who became a university professor in Warsaw.
- (B) She was the first person to get two Nobel Prizes.
- (C) Her research in radium helped many people with cancer.
- (D) Her death was caused by radium which she was researching.

(5) Who is the woman?

- (A) Malala Yousafzai
- (B) Helen Keller
- (C) Marie Curie
- (D) Mother Theresa

6 次の (1)~(4) の質問に対するあなたの考えを英文で簡潔に書きなさい。

(1) What do you want to do when you become a high school student?

Write down your opinion with a reason.

(2) What topic do you want to choose if you work on research?

Write down your idea with a reason.

(3) More and more people are using cashless payment these days.

Write down your opinion with a reason.

(4) From 2020, English education in elementary schools will change.

Do you agree or disagree with this change? Write down your opinion with a reason.

7 グレタ・トゥーンベリ (Greta Thunberg) さんを筆頭に、学校を休む (strike from school) ことで気候変動 (climate change) に関する社会的関心を高める行動をする若者が現れています。このような活動のよい点 (good point) と悪い点 (bad point) を書き、その上であなた自身の意見を 40 語以上の英語で述べなさい。