

大問1 要約・段落問題

(A) 次の英文の内容を,挙げられた例にも触れながら,90~100字の日本語に要約せよ。ただし,句読点も字数に含め,“science fiction”は「SF」(2字)と表記せよ。英文は次ページまで続いているので注意すること。

Science fiction not only is good fun but also serves a serious purpose, that of expanding the human imagination. We can explore how the human spirit might respond to future developments in science, and we can imagine what those developments might be.

There is a two-way trade between science fiction and science. Science fiction suggests ideas that scientists include in their theories, but sometimes science turns up notions that are stranger than any science fiction. Black holes are an example, greatly assisted by the inspired name that the physicist John Archibald Wheeler gave them. Had they continued with their original names of “frozen stars” or “gravitationally completely collapsed objects,” there wouldn't have been half so much written about them.

One thing that science fiction has focused attention on is travel faster than light. If a spaceship were restricted to flying just under the speed of light, it might seem to the crew that the round trip to the center of the galaxy took only a few years, but 80,000 years would have passed on Earth before the spaceship's return. So much for going back to see your family!

Fortunately, Einstein's general theory of relativity allows the possibility for a way around this difficulty: one might be able to bend, or warp, space and time and create a shortcut between the places one wanted to visit. It seems that such warping might be within our capabilities in the future. There has not been much serious scientific research along these lines, however, partly, I think, because it sounds too much like science fiction. One of the consequences of rapid space travel would be that one could also travel back in time. Imagine the complaint about the waste of taxpayers' money if it were known that the government were supporting research on time travel. For this reason, scientists working in this field have to hide their real interest by using technical terms like “closed timelike curves” that really mean time travel. Nevertheless, today's science fiction is often tomorrow's science fact. The science behind science fiction is surely worth investigating.

(100字ボックス)

(B) 次の英文を読み、以下の問いに答えよ。

(a) First proposed early in the 20th century, the idea of obtaining resources from asteroids continues to attract attention. (b) The basic notion is to get material from near-earth asteroids, that is, those having orbits that come close to our planet. (c) This group is distinct from the main belt asteroids, which orbit between the planets Mars and Jupiter. (d) Materials from the asteroids could be used in space to support space flight, space stations, or even a moon base. (e) The resources could also be brought back to earth for use here.

ア The first resource of interest is likely to be water from the near-earth asteroids that are either C-type (carbon-rich) asteroids or the cores of dead comets. イ Together these probably make up half or more of the near-earth asteroid population. ウ That water would be used to make hydrogen and oxygen for rocket fuel. エ Of course, that water and oxygen would also then be available to support human life in space. オ These substances are very common not only on earth but in asteroids as well, and they could be used as structural materials in space.

Whether the resources sought in space are materials or energy, technology for obtaining them still needs to be developed. While the technology needed to travel to near-earth asteroids is now available — in fact, the amount of rocket power and fuel needed to visit some of these bodies is less than it takes to go to the moon — the technology necessary to mine them and either process or bring back the asteroids' resources has not been developed. It is also not clear how difficult and costly this would be, nor is it known if the task could be done by robots or would require human supervision. Although some space agencies have explored asteroids with robots and the possibility of human missions has been discussed as well, no specific plans for mining asteroids have yet been made.

注: asteroid 小惑星 cobalt コノミノレト helium-3 ヘリウムの同位体の一つ
to mine, mining 鉱石などを採掘すること nuclear fusion 核融合
orbit 軌道(を回る) platinum プラチナ, 白金

(1) 第一段落の文(a)～(e)のうち、取り除いても大意に影響を与えないものを一つ選び、その記号を記せ。

(2) 以下の文は、第二段落のア～オのどの位置に補うのが最も適切か。その記号を記せ。

Another resource that could be used in space is almost certainly metals such as iron and cobalt.

(3) 上の文章で空白になっている第三段落から第六段落には、次のア～オのうちの四つの段落が入る。それらを最も適切な順に並べた場合に、不要となる段落、一番目に来る段落、三番目に来る段落はどれか。それぞれの記号を記せ。

ア Most early asteroid-mining concepts required humans to visit the asteroids and mine them, but some of the newer ideas involve strictly robotic missions. One option would be simply to bring pieces of the asteroid back to the earth and crash them in some remote area where a processing plant would be set up. Another possibility would be processing the materials on the asteroid itself.

イ Yet another potential resource would be precious metals that could be brought back to the earth. The most promising metals to obtain from asteroids would include the platinum-group metals, which are rare and costly on earth and could be used here for many industrial applications. Planetary astronomers believe the average asteroid should have much higher amounts of these metals than typical rocks on the earth or even on the moon.

ウ But while it might be too expensive to bring back materials from space, economists also point to some very interesting opportunities associated with the generation of electrical power in space for use on earth. For example, solar-power satellites could be placed in high earth orbits to beam solar power down to the ground in the form of microwave energy. Helium-3 taken from the surface of the moon might also be economically attractive for nuclear fusion on the moon with the power beamed down to the earth.

エ Similarly, solar collectors may be built on the moon out of native materials to send their power back to the earth. The construction of solar-power plants in space could in principle be made much cheaper if the high-mass, low-tech components of the plants are made in space using materials made from asteroids or even the moon. Farther away, the supply of helium-3 in the giant planets (especially Uranus and Neptune) is so vast that schemes for obtaining fuel for nuclear fusion from their atmospheres could power the earth until the sun dies of old age.

オ Some economists, however, question whether asteroid materials could be brought back to the earth profitably. A sudden increase on earth in the supply of platinum-group metals from space, for example, without a similar increase in demand could cause the price of the metals to drop drastically, thereby eliminating profits and discouraging further investment. Another possible import — rare substances used in laboratory analysis — not only has a limited market, but demand for such substances is expected to decrease in the future as analytical techniques improve.

(4) 上の文章全体との関係を考えて、最後の段落の要点として最も適切なものを一つ選び、その記号を記せ。

ア The challenges of space travel

イ A dream still waiting to be realized

ウ The costs and benefits of asteroid-mining

エ The risks to our planet posed by near-earth asteroids

オ Obtaining asteroid resources: By humans or by robots?

大問2 英作文・語法問題

- (A) 現在,全世界で約3,000から8,000の言語が話されていると言われている。もしそうではなく、全世界の人々がみな同じ一つの言語を使用しているとしたら、我々の社会や生活はどのようになっていたと思うか。空所を50～60語の英語で埋める形で答えよ。答えが複数の文になってもかまわない。

If there were only one language in the world, _____

- (B) 以下の例に従って、次の(1)～(8)の括弧内の単語の形を変え、文脈に合うように空所を一つで埋めよ。

(例) The organization issues three publications every week: a magazine, a newspaper, and a catalog. (publish)

(例) Our new neighbors seemed unfriendly at first, but they turned out to be very nice. (friend)

(1) The bridge was _____ by the earthquake and had to be closed for repairs. (weak)

(2) The witnesses _____ yesterday about how the accident occurred, so the police are still investigating it. (agree)

(3) She had to cancel her _____ in the gym after she injured herself. (member)

(4) The composer's new symphony is a unique _____ of cheerful melodies and sad harmonies. (combine)

(5) Because the residents of the neighborhood worked together very _____, they were able to reduce crime in the area. (effect)

(6) For the past month, the leader of the opposition party has been _____ the prime minister for wasting government money. (critic)

(7) On Tuesday, the country celebrated the 50th anniversary of the day it became _____ from Britain. (depend)

(8) It may be necessary to consult a _____ who can show us how to interpret the data correctly. (special)

大問3 リスニング問題

放送を聞いて問題(A),(B),(C)に答えよ。

注意

- ・聞き取り問題は試験開始後45分経過した頃から約30分間放送される。
- ・放送を聞きながらメモを取ってもよい。
- ・放送が終わったあとも、この問題の解答を続けてかまわない。

聞き取り問題は大きく三つに分かれている。(A),(B),(C)はそれぞれ独立した問題である。

(A)と(B)は放送を聞いてその内容について答える問題である。

(C)は音声を聞いて書き取る問題(ディクテーション)である。

(A),(B),(C)のいずれも二回ずつ放送される。

(A) これから放送する講義を聞き、(1)～(5)の問いに対して、それぞれ最も適切な答えを一つ選び、その記号を記せ。

(1) Which of the following is NOT mentioned as a reason why some people associate libraries with death?

- ア People in libraries speak quietly.
- イ Trees are killed in order to make printed books.
- ウ Libraries contain many books about ancient history.
- エ The authors of many library books died a long time ago.

(2) According to the speaker, what, essentially, is a "book"?

- ア Anything that is alive.
- イ Anything that is printed on paper.
- ウ Any idea that can be expressed in words.
- エ Any collection of words that can be remembered.

(3) Which of the following does the speaker NOT mention?

- ア People who told stories by drawing pictures.
- イ People who sang songs about current events.
- ウ People who used body gestures to tell stories.
- エ People who retold stories that they had heard.

(4) Why does the speaker regard the Internet as a library?

- ア Because it is accessible to anyone.
- イ Because it contains a large collection of "books."
- ウ Because it preserves "books" for future generations.
- エ Because it contains information from throughout the world.

(5) According to the speaker, why is the Internet "alive"?

- ア Because it is constantly changing.
- イ Because it conveys up-to-the-minute information.
- ウ Because it contains the words of many living people.
- エ Because its links are like the nerves in a human brain.

(B) これから放送するのは、二人のアメリカ人JimとAliceの会話である。引き続いて、その日本人の友人Shotaがある同窓会で行ったスピーチが放送される。それらを聞き、(1)～(5)について、放送の内容と一致するものがある場合はそれをア、イ、ウから選び、また一致するものがない場合はエを選んで、の記号を記せ。

(1) Jim and Alice felt sad because

- ア they feared what might happen after graduation.
- イ they thought that they hadn't studied as much as they should have.
- ウ they believed that they hadn't done their club activities as well as they could have.
- エ いずれも一致しない。

(2) Before graduation, Jim thought

- ア that he wanted to spend the rest of his life traveling.
- イ that he wanted to travel and then look for a job again.
- ウ that he wanted to spend the rest of his life working in the mountains.
- エ いずれも一致しない。

(3) Shota says

- ア that his club activities influenced his career choice.
- イ that his friends Jim and Alice influenced his career choice.
- ウ that his experience in the United States influenced his career choice.
- エ いずれも一致しない。

(4) Shota has returned to the United States

- ア during his trip around the world.
- イ to visit his former classmates Jim and Alice.
- ウ in order to attend the reunion of his high school class.
- エ いずれも一致しない。

(5) Alice

- ア is in Japan temporarily.
- イ continues to work on Wall Street part-time.
- ウ had to quit her job at a college in order to move to Japan.
- エ いずれも一致しない。

(C) 以下の文章が放送と一致するように空所(1)～(6)を埋めよ。

Sometimes we learn by imitation. We look around for somebody who is doing (1) in a way that we admire or at least accept. And then we take that person as an example to follow.

Now, of course, we call that person a role model, but inventing that term (2) on the part of sociologists. They began by talking about reference groups, the “groups whose behavior serves as a model for others.” There are also reference individuals, “particular people that we imitate.”

In the 1950s, the sociologist Robert K. Merton (3) people who serve as patterns for living and role models, whom we imitate in specific roles like studying insects, playing basketball, or parenting. We find the latter term in an article about the “student-physician” in 1957: “By the time students enter law or medical school, (4) were made earliest are most likely to have a role model.”

Today, Merton's careful distinction is long forgotten by everyone, except perhaps sociologists. Nowadays role models can model whole lives (5). We seek good role models to follow and criticize those who are bad role models. And we know that when we grow up, for better or worse, (6) role models, too.

大問4 文法・和訳問題

(A) 次の英文(1)～(5)には、文法上、取り除かなければならない語が一語ずつある。解答用紙の所定欄に該当する語を記せ。

- (1) Discovery is not the sort of process about finding which the question “Who discovered it?” is appropriately asked.
- (2) Discovering a new phenomenon is necessarily a complex event, one of which involves recognizing both that something is and what it is.
- (3) Science does and must continually try to bring theory and in fact into closer agreement, and that activity can be seen as testing or as a search for confirmation or disconfirmation.
- (4) Discovery makes it possible for scientists to account for a wider range of natural phenomena or to account with greater precision for some of those were previously unknown.
- (5) Newton's second law of motion, though it took centuries of difficult factual and theoretical research to achieve, behaves for those committed to Newton's theory seem very much like a purely logical statement that no amount of observation could prove wrong.

(B) 次の英文の下線部(1)、(2)、(3)を和訳せよ。(2)については、Theyが何を指すか明らかになるように訳すこと。

Stars are made for profit. In terms of the market, stars are part of the way films are sold. (1)The star's presence in a film is a promise of what you will see if you go to see the film. In the same way, stars sell newspapers and magazines, and are used to sell food, fashions, cars and almost anything else.

This market function of stars is only one aspect of their economic importance. (2)They are also property on the strength of whose name money can be raised to make a film; they are an asset to the stars themselves, to the studios and agents who control them; they are a major part of the cost of a film. Above all, they are part of the labour that produces films as commercial products that can be sold for profit on the market.

Stars are involved in making themselves into commercial products; they are both labour and the thing that labour produces. They do not produce themselves alone. The person is a body, a psychology, a set of skills that have to be worked up into a star image. (3)This work of making the star out of the raw material of the person depends on how much the essential qualities of that material are respected; make-up, hairstyle, clothing, dieting, and bodybuilding can make use of the original body features to a variety of degrees, skills can be learned, and even personality can be changed. The people who do this labour include the stars themselves as well as make-up artists, hairdressers, dress designers, dieticians, personal trainers, acting, dancing and other teachers, photographers, gossip columnists, and so on.

(1).....
.....

(2).....
.....

(3).....
.....

大問5 読解問題

次の文章は、William Porterという人物の伝記の一部である。これを読んで以下の問いに答えよ。

When William Porter left Houston, never to return, he left because he was ordered to come immediately to Austin and stand trial for stealing funds while working at the First National Bank of Austin.

Had he gone he would certainly have been declared innocent. “A (1) of circumstances” is the judgment of the people in Austin who followed the trial most closely. Not one of them, so far as I could learn after many interviews, believed him guilty of doing anything wrong. It was well known that the bank, (2)long since closed, was terribly managed. Its customers, following an old practice, used to enter, go behind the counter, take out one hundred or two hundred dollars, and say a week later: “Porter, I took out two hundred dollars last week. See if I left a note about it. (3)I meant to.” It was impossible to keep track of the bank's money. The affairs of the bank were managed so loosely that Porter's predecessor was driven to retirement, his successor to attempted suicide.

There can be no doubt that Porter boarded the train at Houston with the intention of going to Austin. I imagine that he even felt a certain sense of relief that the trial, which had hung as a heavy weight around his neck, was at last to take place, and his innocence publicly declared. His friends were confident of his innocence. (4)If even one of them had been with Porter, all would have been different. But when the train reached Hempstead, about a third of the way to Austin, Porter had had time to imagine the scenes of the trial, to picture himself a prisoner, to look into the future and see himself marked with suspicion. (5)His imagination outran his reason, and when the night train passed Hempstead on the way to New Orleans, Porter was on it.

His mind seems to have been fully made up. He was not merely saving himself and his family from a public shame, he was going to start life over again in a new place. His knowledge of Spanish and his ignorance of Honduras made the little Central American republic seem just the place to escape to. His letters to his wife from Honduras show that he had determined to make Central America their home, and that a school had already been selected for the education of their daughter.

How long Porter remained in New Orleans, on his way to Honduras, is not known. It is probable that he merely passed through New Orleans on his way to Honduras and took the first available boat for the Honduran coast, arriving at Puerto Cortez or Trujillo. At any rate, he was in Trujillo and was standing at the dock when he saw a man in a worn dress suit step from a newly arrived boat. “Why did you leave so hurriedly?” asked Porter. “Perhaps for the same reason as

yourself,” replied the stranger. “What is your destination?” inquired Porter. “I left America to keep away from (6)my destination” was the reply.

The stranger was Al Jennings, the leader of one of the worst gangs of train robbers that ever existed in the American Southwest. He and his brother Frank had chartered a boat in Galveston, and the departure had been so (7) their dress suits and high hats for plainer clothing. Jennings and his brother had no thought of continuing their career of (8) in Latin America. They were merely putting distance between them and the detectives already on their trail. Porter joined them and together they circled the entire coast of South America. This was Porter's longest voyage and certainly the strangest.

In these wanderings together Jennings probably saw deeper into one side of Porter's life than anyone else had ever seen. In a letter to a friend, he writes: “Porter was to most men a difficult character but when men have gone hungry together, eaten together, and looked death in the face and laughed, it may be said they have (9) each other. Again, there is no period in a man's life that shows his unique characteristics so much as terrible hunger. I have known that with our friend and could find no fault. If the world could only know him as I knew him, the searchlight of investigation could be turned on his beautiful soul and find it as spotless as a beam of sunlight after the storm-cloud had passed.”

Porter's letters to his wife came regularly after the first three weeks. The letters were enclosed in envelopes directed to Mr. Louis Kreisle, in Austin, who handed them to Porter's wife. “Mrs. Porter used to read me selections from her husband's letters,” said Mrs. Kreisle. “They told of his plans to bring Mrs. Porter and Margaret to him as soon as he was settled. He had a hard time but his letters were cheerful and hopeful and full of (10 a) for his wife. Mrs. Porter's parents were, of course, willing to provide for her and Margaret but she did not want to be dependent. She said she did not know how long they would be separated, so she planned to do something to earn some money. She began taking a course in a business college but (10 b) interfered. When Christmas came she made a lace handkerchief, sold it for twenty-five dollars, and sent her husband a box containing his overcoat, fine perfumes, and many other delicacies. I never saw such (10 c). The only day she remained in bed was the day she died.”

Porter did not know till a month later that this box was packed by Mrs. Porter when her temperature was 104°F (40t). As soon as he learned it, he gave up all (10 d) of a Latin American home and started for Austin, determined to give himself up and to take whatever punishment fate or the courts had in store for him.

(1) 空所(1)を埋めるのに最も適切な単語を次のうちから一つ選び、その記号を記せ。

ア Victim イ nature ウ creature エ punishment

(2) 下線部(2)の言い換えとして最も適切な表現を次のうちから一つ選び、その記号を記せ。

ア as long as it was closed
イ which had been closed at long last
ウ which had been closed for a long time
エ because it had been closed a long time ago

(3) 下線部(3)の意味として最も適切なものを次のうちから一つ選び、その記号を記せ。

ア 確かな記憶がある。
イ よく調べてもらいたい。
ウ そのつもりだったが、忘れたかもしれない。
エ そういう意味だったので、誤解しないでほしい。

(4) 下線部(4)を和訳せよ。ただし、themとallが意味する内容を明らかにすること。

.....

(5) 下線部(5)に描かれているPorterの心理について、最もよく当てはまるものを一つ選び、その記号を記せ。

ア He was afraid of the trial even though he thought that he was likely to be declared innocent.
イ He was afraid of the trial because he had reason to believe that his guilt would be apparent.
ウ He was afraid of the trial even though he couldn't remember why he had stolen funds from the bank.
エ He was afraid of the trial because people wouldn't understand his reasons for stealing funds from the bank.

(6) 下線部(6)は具体的に何を指すと考えられるか。最も適切なものを次のうちから一つ選び、その記号を記せ。

ア prison イ robbery ウ the bank エ his home

(7) 下に与えられた語を正しい順に並べ替え、空所(7)を埋めるのに最も適切な表現を完成させよ。ただし、下の語群には、不要な語が一つ含まれている。

exchange, had, had, not, sudden, they, time, to, with

.....

(8) 空所(8)を埋めるのに最も適切な単語を次のうちから一つ選び、その記号を記せ。

ア crime イ travel ウ escape エ finance

(9) 空所(9)を埋めるのに最も適切な表現を次のうちから一つ選び、その記号を記せ。

ア no use for イ knowledge of ウ despaired for エ worried about

(10) 空所(10a)～(10d)を埋めるのに最も適切な表現を次のうちから選び、それぞれの記号を記せ。同じ記号は一度しか使えない。

ア hope イ affection ウ ill health エ will power

大問1

(A) SFと科学の関係は双方向的で、ブラックホールの名がSF作品を刺激したり、逆にSF的との批判を恐れてタイムトラベルの科学的研究がしにくいこともある。だがSFは未来の科学を触発するものである。(94字)

(B) (1) (c) (2) オ (3) 不要:ア 1番目:イ 3番目:ウ (イーオーウーエ) (4) イ

大問2

(A) (If there were only one language in the world,) the world today might be one huge nation under a single government, having a uniform way of communicating with one another, but there would be no cultural diversity and variation of thoughts, which we now greatly enjoy. (53 words)

(別解例1)

(If there were only one language in the world,) there would be fewer conflicts in the world. This is partly because we would be able to better communicate with each other, and thus avoid the bright side of it using only one language would help people cooperate to create an ideal world. (59 words)

(別解例2)

(If there were only one language in the world,) society would become homogeneous and therefore more structured and stable. There would be no language barrier that would disturb the unity of ethnicities that would disturb the peace or cause wars. There would be more communication and equality, and less confusion. (53 words)

(B)
(1) weakened (2) disagreed (3) membership (4) combination
(5) effectively (6) criticizing(criticizing) (7) independent (8) specialist

大問3

(A) (1)ウ (2)エ (3)ア (4)イ (5)ア
(B) (1)エ (2)イ (3)ア (4)エ (5)ア
(C) (1) what we want to do
(2) took years of hard work
(3) made a destination between
(5) as well as particular skills
(6) we can expect to become

大問4

(A) (1) finding (2) of (3) in (4) were (5) seem
(B) (1) ある映画にスターが出ていれば、その映画を見に行く観客にとっては一定の保証となる。
(2) スターはまた、そのネームバリューによって映画製作の資金を調達できる資産でもある。
(3) ひとりの人間という原料からスターを造り上げるこの作業は、その原料の本来の資質をどれだけ重んじるかにかかっている。

大問5

(1) ア
(2) ウ
(3) ウ
(4) もしもポーターの友人のうちひとりでもついていけば状況はすべて変わっていただろう。
(5) ア
(6) ア
(7) sudden they had not had time to exchange
(8) ア
(9) イ
(10) a イ b ウ e エ d ア