I　次の英文を読んで，下の問いに答えなさい。

No other field of science than geology has found it necessary to construct its own special scale of time. There is no formalized biological time scale, or chemical time scale. All other fields of study simply use the intervals of time known to us all: seconds, minutes, hours, days, years. Geologists, on the other hand, talk about periods and epochs, eras and zones, stages and series: the subdivisions of what is known as (1) the geological time scale. The measurement of time is clearly indispensable to the study of geology, and it is also a source of great error, confusion, and even heartbreak for all geologists and other earth scientists trying to wrest the truth from our planet's rocky cover.

Geologists became concerned with time for (2) two quite different reasons. Early geologists found that they could find economically valuable minerals and fuels more easily if they could understand the structure of the Earth's surface. They quickly realized that, to do this, they needed some way to date rocks. They were also very curious about how many thousands or millions of years old the Earth is.

Finding the age of the Earth was a quest that had long been entrusted to (3) theologians, who searched not in the structures of the Earth itself, but among the sacred writings of human prophets. Their answers varied between a few thousand years and infinity. The Hindu tradition weighed in at slightly less than two billion years, while some Hebrew and Christian calculations resulted in values of less than ten thousand years. Initially the differences didn't really matter, for the question was of no practical importance. But with the onset of the Industrial Revolution in the eighteenth century, and the resulting thirst for metals and fuels, all that changed.

The first people to grapple with scientific approaches to understanding the age of any rock — and therefore the age of the Earth — were engineers working in the mining regions, who needed a better system of understanding the apparently chaotic piles of rock forming the surface of the Earth. They gradually realized that

if the various rock units could be dated by their relative ages, a correlation could be established between rocks that might lie some distance apart. In this way, some order could be recognized among the geological chaos. But how could rocks be accurately dated?

Eighteenth-century European geologists believed that a rock's type was the best clue to its age. They assumed that all rocks of a specific type, such as all granites, had been formed at the same time. By the early 1800s, however, they had come to believe, correctly, that the composition or mineral content of a rock is virtually independent of its age.

With their main dating tool discredited, geologists were in despair. But then a new way of finding the age of at least some types of rock was found: the use of the strange, petrified remains of animals and plants that were often to be found in certain rocks: fossils.

Fossils had long been known to science, but until the close of the eighteenth century they had never been viewed as anything other than curiosities with no scientific value. But a very practical Englishman, armed only with hammer and chisel, changed that view forever.

William Smith was a surveyor employed by the engineers building Britain's expanding system of canals in the last years of the eighteenth century, and he became interested in the fossils he routinely encountered in the course of his work. As he examined the cut excavated along the canal routes he realized that he was seeing the same succession of fossil types in the rocks.

Many scientists before Smith had recognized that fossils from a lower succession of rock layers, or strata, were often different from the fossils found in younger, overlying strata. But prior to Smith no one had recognized that the succession of fossils in strata was often the same from region to region. Here was the stroke of genius: it was not any individual fossil that determined age, but the characteristic succession of many fossils, and the fact that the same groups of

fossils occur in the same sequence, (4) no matter where they are found in a given region. This allowed Smith to correlate strata in rocks that were some distance apart, and not obviously related.

At first, Smith's great discovery was known only to his own circle of acquaintances. But gradually word of this new system spread, and by the second decade of the nineteenth century geologists began to realize that specific types of rocks could be formed at any time, but specific fossils were formed only at particular times in the history of the Earth.

Here, then, was (5) a powerful new tool. It could not determine the actual age of a rock in years. But it could be used to make a very accurate determination of which rock was younger and which was older — in other words, their relative age. For most practical purposes, this was enough. It enabled the structure of the Earth's surface to be understood and mapped, and this led in turn to the discovery of its underground secrets and mineral treasures.

1. 下線部(1)の the geological time scale について，本文の記述に合っているものを一つ選び，その記号を解答欄に記入しなさい。

(a) It is ultimately something that is not very important to the field of geology.

(b) It is part of a system of measuring the age of the Earth's surface based on seconds, minutes, hours and days.

(c) It is a set of subdivisions which has assisted scientists in their attempts to discover the truth about the Earth's constitution.

(d) It is a special time scale that has been used in many scientific fields including geology.

2. 下線部(2)の two quite different reasons とは何ですか。二つの理由をそれぞれ日本語で解答欄に記入しなさい。

3. 下線部(3)の theologians について，本文の記述に合っているものを一つ選び，その記号を解答欄に記入しなさい。

(a) People who attempted to discover the age of the Earth by looking at the Earth's structure.

(b) People who used religious documents to determine the age of the Earth.

(c) People who saw a need to adopt a scientific approach to the dating of rocks in the Earth's surface.

(d) People who entrusted the search for the age of the Earth to geologists.

4. 産業革命が始まったことでどうなりましたか。本文の記述に合っているものを一つ選び，その記号を解答欄に記入しなさい。

(a) Engineers working in mining regions took interest in fossils because they were still in use.

(b) Raw materials were so much in demand that the structure of the Earth became a matter of practical importance.

(c) Geologists figured out the age of the Earth by examining the surface of the Earth.

(d) Not only geologists but also theologians started to argue about the age of the Earth.

5. 化石について，本文の記述に合っているものを一つ選び，その記号を解答欄に記入しなさい。

(a) Fossils from more recent ages are found in deeper strata.

(b) Fossils found in different regions are definitely formed at different times.

(c) Fossils have a special utility because they are curiosities.

(d) Fossils are thought to be a good measure for scaling the age of rocks.

6. ウィリアム・スミスについて，本文の記述に合っているものを一つ選び，その記号を解答欄に記入しなさい。

(a) William Smith found fossils to be a nuisance in building canal systems.

(b) William Smith found no success in excavating fossils along the canal routes.

(c) William Smith found that his discovery was only useful to his own circle of acquaintances.

(d) William Smith found that fossils could help us see the relation between strata in different areas.

7. 下線部(4)の no matter where they are found in a given region を，they が示す内容を明らかにして日本語に訳し，解答欄に記入しなさい。

8. 下線部(5)の a powerful new tool について，本文の記述に合っているものを一つ選び，その記号を解答欄に記入しなさい。

(a) Fossils can be used to tell the accurate age of the strata in which they are found.

(b) Fossils do not help determine the relative age of the strata in which they are found.

(c) Fossils make it possible for us to understand and map the Earth's structure.

(d) Underground secrets and mineral treasures still remain hidden from our knowledge.

9. 次の文章の中から本文の記述に合っているものを三つ選び，その記号を解答欄に記入しなさい。

(a) 岩石の年代を正確に測定するための鍵(かぎ)となるのはミネラルの含有量である。

(b) 岩石の厳密な古さを確定することはできないにしても，複数の岩石の相対的な古さを測定することは可能である。

(c) 測量器具が破壊されて，地質学者たちは落胆した。

(d) 地球の正確な年齢が測定できるようになったことが，産業革命の成立に重要な役割を果たした。

(e) 地球の年齢を正確に測定するための鍵となるのは岩石の種類である。

(f) 年代の測定なしに地質学は成立しない。

(g) 地球の年齢を正確に知ることは，宗教上の論争において重要な意味を持っていた。

(h) 地球の歴史においては，特定の時期には特定の種類の岩石が形成されてきた。

(i) 地球が誕生してから数千年しかたっていないという主張も過去には存在した。

Ⅱ　次の英文を読んで，下の問いに答えなさい。

One day, I heard my son mention that a formerly inseparable companion and he were no longer friends. "How do you know?" I inquired. He looked at me with that look reserved for parents and little sisters, not believing that anyone could even ask such a ridiculous question. "You just know, Mom. Everybody knows that kind of stuff."

"Everybody" usually means everybody in his particular sphere of existence, so I decided to explore this wellspring of ten-year-old understanding. The next day I polled seventy-five local fourth and fifth graders, asking each to define "best friend." My son was right. Everybody knew. There wasn't one blank paper. And just in case you've forgotten what everyone knows at age ten, I'd like to share some of these valuable insights.

Secrets are a big factor in friendships. Best friends have secrets, but always share them with each other. They never, never tell them to anyone else, however. I guess that gets a bit tricky if you stop being best friends with someone and have already shared all of your secrets — maybe you need to make up new ones (1) to share with your current friend.

The secrets you share have to be true though, because most of the kids agreed that best friends never lie. They also never cheat, take your stuff, hit you, or use bad words. In addition, best friends listen to your problems, are there when you need them, and sit with you when you're sad. (2) There's nothing like having a friend sit with you when you're sad.

And friends never hurt your feelings, tell you to shut up, or ignore you either. When you are feeling down, a best friend believes in you and tries to make you feel better.

Although the qualities of mercy and understanding seem highly valued by these friend-experts, I found one young lady's comments most revealing: "A best friend should be nice and share, should not be mean and fight, and you should never give that person more than two chances."

I think it would be a wonderful world if we could all have best friends who were giving and kind, who shared some delicious secrets and never lied. And we certainly could all benefit from having a friend who was not mean and would sit beside us when we are sad. But I think those of us who have lived well beyond the age of ten would have to take issue with at least two points: There are times when everyone needs to shut up and go to sleep and we all need many more than two chances!

(3)

1. なぜ筆者は75人の子供にアンケートを行ったのですか。本文の記述に合っているものを一つ選び，その記号を解答欄に記入しなさい。

(a) To find out why his son lost his best friend.

(b) To find out how many fourth and fifth graders were ten years old.

(c) To find out who had best friends.

(d) To find out what they knew about friendship.

2. Secretsについて，本文の記述に合っているものを一つ選び，その記号を解答欄に記入しなさい。

(a) Secrets are very important between people who want to be best friends.

(b) Secrets are not a problem when you change best friends.

(c) Secrets are always shared by best friends and with other people as well.

(d) Secrets do not have to be true because children can say anything to each other.

3. 下線部(1)のonesは，何をさしていますか。英語一語で答え，解答欄に記入しなさい。

4. 下線部(2)を日本語に訳し，解答欄に記入しなさい。

5. 下線部(3)は，どのようなことを言っていますか。本文の記述に合っているものを一つ選び，その記号を解答欄に記入しなさい。

(a) Adults should live up to ten-year-old children's ideal friendships.

(b) Ten-year-old children are correct about only two points.

(c) Ten-year-old children sometimes need to take issue with adults' opinions.

(d) Adults find it difficult to live with children's ideal friendships.

Ⅲ　放送を聞き，指示に従って解答用紙に解答を記号で記入しなさい。

Example Dialogue

Example Question

A. Two.　　B. Three.　　C. Five.　　D. Six.

PART　I

Dialogue A

Question 1

A. Two hamburgers, french fries, and a milk tea.

B. A double burger, french fries, and an oolong tea.

C. A hamburger, french fries, and a cola.

D. A cheeseburger, french fries, and a lemon tea.

Dialogue B

Question 2

A. It's cool.　　B. It's fine.　　C. It's cloudy.　　D. It's foggy.

Question 3

A. It'll be warm.　　B. It'll be windy.

C. It'll be freezing.　　D. It'll be wet.

Dialogue C

Question 4

A. A toy shop.　　B. An office.

C. A parking lot.　　D. A driving school.

Question 5

A. Light-colored.　　B. Blue.　　C. Green.　　D. Red.

Dialogue D

Question 6

A. Sunday, August 12th and Monday the 20th.

B. Monday, August 20th and Saturday the 25th.

C. Monday, August 20th and Sunday the 26th.

D. Sunday, August 12th and Monday the 27th.

Question 7

A. $1086.　　B. $1680.　　C. $1860.　　D. $1068.

Dialogue E

Question 8

A. 1 minute.　　B. 2 minutes.

C. 10 minutes.　　D. 20 minutes.

Question 9

A. Beyond the Central Library, the Fine Arts Building, and a pond.

B. Between the Central Library and the Fine Arts Building.

C. Between the Central Library and a white tower.

D. On the other side of a bridge.

Dialogue F

Question 10

A. A high temperature and chills.

B. A backache and hunger.

C. Sleepiness and a stomachache.

D. High blood pressure and a sore throat.

Dialogue G

Question 11

A. Because the class is very tough.

B. Because there are many foreign students in the class.

C. Because he is interested in human relations.

D. Because he gets to talk about many serious topics.

Question 12

A. Population.

B. Disease.

C. Globalization.

D. International security.

PART Ⅱ

Passage A

Question 13: William is

A. a small boy. B. a bully. C. a robot. D. an angel.

Question 14: The female speaker is most likely

A. a feminist.

B. an operator.

C. a parent.

D. a newscaster.

Passage B

Question 15: The ratio of the number of words we speak to the number of words we listen to in a minute is

A. 1 : 4. B. 3 : 1. C. 4 : 1. D. 1 : 3.

Question 16: Valuable information is given by three messages,

A. mathematical, physical, and visual.

B. visual, verbal, and vocal.

C. visual, non-verbal, and informative.

D. verbal, auditory, and visual.

Passage C

Question 17: The passage suggests that racism in Hong Kong is

A. a matter of skin color.

B. a legal issue.

C. a social problem.

D. a feature of mainland China.

Question 18: In a certain incident, a servant was

A. killed in cold blood.

B. kicked and beaten up.

C. locked in a house.

D. badly burned.

Question 19: The fundamental reason for racism lies in

A. stupidity.

B. bloody-mindedness.

C. cultural difference.

D. human nature.

Passage D

Question 20: The female engineer hopes to take us to

A. the sun.

B. Mars.

C. NASA.

D. the moon.

Question 21: One good quality that is mentioned about the female engineer is

A. competitiveness.

B. a sense of humor.

C. cooperativeness.

D. obedience.

Question 22: The female engineer seems to believe in

A. exploring space for humankind.

B. profiting financially from space engineering.

C. targeting space for military development.

D. using space for scientific experiments.

Passage E

Question 23: If you have short sight genes, you

A. will certainly be short-sighted.

B. might happen to be long-sighted.

C. will not necessarily be short-sighted.

D. will damage your eyes.

Question 24: The cause of the Inuit's short-sightedness is

A. developed countries.

B. medicine.

C. living conditions.

D. reading.

Question 25: In Japan and Singapore many teenagers suffer from short sight because

A. it is common among their parents.

B. they are forced to study hard from their childhood.

C. they are very competitive and get stressed.

D. they have particular genes.