滋賀医科大学

令和７年度

医学科一般選抜（前期日程）

問題冊子

# 英　　語

（注　意）

1. 問題冊子は試験開始の合図があるまで開かないこと。
2. 問題冊子は表紙のほか８ページである。
3. 試験中に問題冊子及び解答用紙の印刷不鮮明，ページの落丁・乱丁等に気付いた場合は，手を挙げて監督者に知らせること。
4. 解答用紙のすべてに受験番号及び氏名をはっきり記入すること。
5. 解答はすべて解答用紙の所定の解答欄に明瞭に記入すること。
6. 解答に関係のないことを書いた答案は，無効にすることがある。
7. 本学受験票を机の通路側に出しておくこと。
8. 試験時間は90分である。
9. 問題冊子は持ち帰ってもよいが，解答用紙は持ち帰らないこと。

# 英　　語（3問題）

Ⅰ．中世の平均余命について大学教授が述べている次の文章を読んで，下の設問に本文の内容に沿って答えよ。他の指示がない限り，記号以外の解答はすべて日本語ですること。右側に＊印のある語には注がある。（配点 88 点）

［1］ In my annual course on the 14th century Black Death*, I ask my students to imagine they are living in the Middle Ages. The Black Death killed millions of people during this time period, so I want my students to consider what life was like (1)in the face of this frightening disease.

［2］ My students often believe that a long life is a very recent phenomenon, and that no one in the past lived much beyond their 30s. The college students in my class usually (2)figure that people living during the medieval period would already be considered middle-aged or elderly at the age of 20. Rather than being in the prime of life, they think those living long ago would grow old and die much sooner than those living today.

［3］ However, that is just not true. I am an archaeologist* studying human skeletons* excavated* from archaeological* sites to understand what life was like in the past. I am especially interested in understanding how health conditions and diseases, such as the Black Death, hundreds or thousands of years ago affected the lives of people long ago. There is (3)physical evidence that plenty of people in the past lived long lives — just as long as some people do today.

［4］ One of the first steps in research about demography* in the past is to estimate how old people were when they died. Archaeologists do this by using information about how bones and teeth change as people get older. For example, I look for changes to joints in the pelvis* that are common at older ages. (4)Observations of these joints in people today whose ages we know allow us to estimate ages for people from archaeological sites with joints that look similar. Another way to estimate age is to use a microscope to count the yearly additions of a mineralized tissue called cementum* on teeth. It is similar to counting a tree's rings to understand how many years it lived. Using approaches like these, many studies have documented the existence of people who lived long lives in the past.

[5] By examining the remains of skeletons, anthropologist Meggan Bullock and her colleagues found that in the city of Cholula, Mexico, between 900 and 1531, most people who survived to adulthood also lived past the age of 50. There are many examples from historical records of people who lived very long lives in the past, such as the sixth-century Roman Emperor Justinian I, who reportedly died at the age of 83. Analysis of the tooth development of an ancient individual from Morocco suggests that our species has experienced long life spans for at least the past 160,000 years.

[6] Given physical and historical evidence that many people did live long lives in the past, why does the (5) mistaken perception that everyone was dead by the age of 30 or 40 persist? It comes from confusion about (6) the difference between individual life spans and life expectancy.

[7] Life expectancy is the average number of years of life remaining for people of a particular age. For example, life expectancy at birth (age 0) is the average length of life for newborns. Life expectancy at age 25 is how much longer people live on average given they have survived to age 25.

[8] In medieval England, life expectancy at birth for boys born to families that owned land was a mere 31.3 years. However, life expectancy at age 25 for landowners in medieval England was 25.7. This means that people in that era who celebrated their 25th birthday could expect to live until they were 50.7, on average — 25.7 more years. While 50 might not seem old by today's standards, remember that this is an average, so many people would have lived much longer, into their 70s, 80s, and (7) (　　) older.

[9] Life expectancy is understood as a measure of population-level statistics, which reflect the conditions and experiences of a huge variety of people with different health conditions and behaviors; some who die at very young ages, some who live to be over 100 years old, and lots whose life spans fall somewhere in between. Therefore, life expectancy is not a promise about the life span of any single person.

[10] What some people do not realize is that low life expectancy at birth for any population usually reflects very high rates of infant mortality*. That is a measure of deaths in the first year of life. (8) A high number of deaths at very young ages will push calculations of life expectancy at birth toward younger ages. Typically, many people in those populations who make it past their infant and early childhood years can expect to live relatively long lives.

[11] Knowing that people often did have long lives in the past might help you feel more connected with the past. For example, you can imagine multi-generational households (9) and gatherings with grandparents in New Stone Age China or medieval England holding their grandchildren on their laps and telling them stories about their own childhoods decades before. You might have more in common with people who lived long ago than you had realized.

(出典 "https://sc.edu/uofsc/posts/2022/08/conversation-old-age-is-not-a-modern-phenomenon.php" より改変引用。)

注：

Black Death＝黒死病
archaeologist＝考古学者
skeleton (s) ＝骨格
excavate＝を発掘する
archaeological＝考古学の
demography＝人口統計学
pelvis＝骨盤
cementum＝セメント質
mortality＝死亡率

設問 1. What does underlined item in the face of (1) mean?

A. in front of　B. in the appearance of　C. in the eyes of
D. on the surface of　E. when confronted with

設問 2. What does underlined item figure (2) mean?

A. aware　B. calculate　C. form　D. imagine　E. number

設問 3. Give two examples of physical evidence (3) from the article.

設問 4. Translate underlined item Observations of these joints in people today whose ages we know allow us to estimate ages for people from archaeological sites with joints that look similar. (4)

設問 5. What does underlined item mistaken perception (5) mean?

設問 6. Explain underlined item the difference between individual life spans and life expectancy. (6)

設問 7. Select the item for (7) ( ) that best completes the sentence.

A. better　B. by far　C. even　D. more　E. very

設問 8. Translate underlined item (8) a high number of deaths at very young ages will push calculations of life expectancy at birth toward younger ages.

設問 9. Choose the statement that best matches the text.

A. Cementum is continuously added to the teeth even after a person dies.

B. Quite a few people in the past lived long enough to see their grandchildren.

C. The tales of people who had a long life are nothing more than exaggeration.

D. An emperor from Morocco who lived into his 80s lived 160, 000 years ago.

E. Justinian I is defined by a person who contributed to a longer life span in his empire.

設問10. What does underlined item (9) multi-generational households mean?

設問11. According to the author, many students

A. are living in the Middle Ages.

B. do not know about the Black Death.

C. do not understand elderly health conditions.

D. think a long life span is a modern development.

E. think middle-age is currently around the age of 20.

設問12. Choose the INCORRECT answer:

A. Life expectancy is an average value related to a population's variety of ages.

B. Life expectancy at birth for boys in medieval England was under 50.

C. Life expectancy is a value that cannot be attributed to a single person.

D. Life expectancy is a population-level statistic that includes infant mortality.

E. Life expectancy at age 25 for landowners in medieval England was over 50.

設問13. According to the article, people in medieval England

A. never lived long lives.

B. only suffered from the Black Death.

C. who survived their infant years died in their 20s.

D. often lived into their 50s if they survived their 20s.

E. had almost nothing in common with people living today.

Ⅱ．隕石に含まれるガラス質の成分について論じる次の文章を読んで，下の設問に本文の内容に沿って答えよ。他の指示がない限り，記号以外の解答はすべて日本語ですること(ただし，chondrule(s)については訳さずに用いて良い)。右側に＊印のある語(句)には注がある。

(配点 72 点)

[1] Ever since scientists started looking at meteorites* with microscopes, they have been puzzled by what is inside. Most meteorites are made of tiny beads of glass that date back to the earliest days of the solar system, before the planets were even formed. Scientists with the University of Chicago (UChicago) have published an analysis laying out(1) how these beads, which are found in many meteorites, came to be — and what they can tell us about what happened in the early solar system. "These are big questions,"(2) said Nicole Xike Nie, first author of the study. Meteorites can reveal the conditions this early dust experienced — which is related to the evolution of both Earth and other planets.

[2] The beads of glass inside these meteorites are called chondrules. Scientists think they are bits of rock left over from the materials floating around billions of years ago, which eventually came together into the planets we now know. These are very useful to scientists, who can get their hands on pieces of the original stuff(3) that made up the solar system — before the constant material mixing of volcanoes and tectonic plates* of Earth changed all the rock we can find on the planet itself. However, what exactly caused the formation of these chondrules is still unclear. Even though there have been advances in many other areas, this(4) has remained a challenge. Study co-author Timo Hopp said that his field of study has the same theories that existed 50 years ago.

[3] Scientists can find clues about the early days of the solar system by looking at the types of a given chemical element in a rock. Elements can come in several different forms, called isotopes, and the proportion in each rock varies according to what happened when that rock was born — how hot it was, whether it cooled slowly or quickly, what other elements were around that might affect it. From there, scientists can put together a history of ( **a** ) events.

[4] To understand what had happened to the chondrules, Nie, Hopp, and other scientists at the Dauphas Origins Laboratory at UChicago, named after Professor Nicolas Dauphas, tried applying a unique angle to the isotopes. First, Nie took extremely precise measurements of the concentrations and isotopes of two elements that are depleted* in meteorites, potassium and rubidium*, which helped narrow down the possibilities of what could have happened in the early solar system. From this information, the team put together what must have been happening as the chondrules formed. The elements would have been part of a mass of dust

that got hot enough to melt, and then hot enough to vaporize*. Then, as the material cooled, some of that vapor formed back into chondrules. "We can also tell you how fast it cooled, because it was fast enough that not everything formed into the beads," said Dauphas, "that must mean the temperature was dropping at a rate of around 500 degrees Celsius per hour, which is really fast."

[5] Based on these limitations, scientists can think of what kind of event would have been sudden and violent enough to cause this extreme heating and cooling. One possible process that fits would be massive shockwaves passing through the early nebula*. "Large planetary bodies nearby can create shocks, which would have heated and then cooled the dust as it passed through," Dauphas said. Over the past half-century, people have proposed different possible developments of events to explain the formation of the chondrules — lightning, or rocks crashing into each other — but this new evidence tips the balance toward shockwaves as an explanation.

[6] This explanation may be (5) the key (a, finding, for, has, scientists, that, to, troubled, understanding) decades; a discovery involving a category of elements that are moderately volatile*, including potassium and rubidium. Earth has fewer of these elements than scientists would expect, based on their general understanding of how the solar system formed. They knew the explanation could be traced to some complex chain of heating and cooling, but no one knows the exact sequence. Dauphas commented that it had been a huge question in the field. Now, finally, the team is happy to have solved a major part of the mystery. "We know other processes happened — this is just one part of the story — but this really solves one step in the formation of planets," said Hopp.

(出典 "Beads of glass in meteorites help scientists piece together how solar system formed." https://news.uchicago.edu/story/beads-glass-meteorites-help-scientists-piece-together-how-solar-system-formed より改変引用。)

注：

meteorite(s)＝隕石
tectonic plate(s)＝プレート(地殻の表層の板状の構造)
depleted＝枯渇した
potassium and rubidium＝カリウムとルビジウム
vaporize＝を気化させる
nebula＝星雲
volatile＝揮発性の

設問 1. What does underlined item (1) laying out mean?

A. calculating　B. crying　C. dealing　D. explaining　E. lying

設問 2. What does underlined item (2) These are big questions mean?

設問 3. What does underlined item (3) the original stuff mean?

設問 4. What does underlined item (4) this mean?

設問 5. Explain why studying chondrules inside meteorites is useful.

設問 6. What natural phenomena or forces change the structure of meteorites?

設問 7. Choose the best word to fit ( **a** ).

A. likely　B. moderate　C. rarely　D. similarly　E. unfortunate

設問 8. According to the Dauphas's team, what was the cause of sudden heating and cooling that created the chondrules?

設問 9. Explain why the Earth contains fewer moderately volatile elements than expected based on a theory for the generation of the solar system.

設問10. Put words below within (　　) so that underlined item (5) part means「数十年にわたって科学者たちを悩ませてきた発見を理解するための鍵」.

(5) the key (a, finding, for, has, scientists, that, to, troubled, understanding) decades

設問11. Choose the best statement.

A. The proportion of isotopes is the same in each rock variety.

B. The author describes the disappointment of the team around the end of this passage.

C. When the chondrules formed, the temperature dropped as much as 500 degrees Celsius.

D. The new evidence presented by scientists leans toward lightning as the primary explanation for the formation of chondrules.

E. Despite advances in many areas, the understanding of what exactly caused the formation of chondrules has not been solved.

Ⅲ．以下の文章を読み，著者の考える「詩」に対するあなたの解釈がわかるように英訳しなさい。

（配点 40 点）

人間はなぜ言語を発明したのだろう。一言でいえば，そのときその場にないもの，空間的にも時間的にも隔たった何かについての情報を伝えあうためだ。

ある言葉の並びを見たとたん，よみがえってくる記憶，かきたてられる情感。それが高まった状態が詩だとすれば，言葉を使うかぎり，それを避けられる人間はいない。

日常生活のあらゆる言葉の中に，詩はちりばめられ，そこで待っている。

（出典：管　啓次郎「うたをつないで―避けられない時空への旅」2023 年 9 月 6 日朝日新聞夕刊より改変引用。）