

試験開始の指示があるまで、この問題冊子の中を見てはいけません。

令和 5 年度
一般選抜 試験問題
英語・数学 (120分)

出題科目	ページ	解答方法
英 語	4～18	左の2科目を解答しなさい。 解答時間の配分は自由です。
数 学	20～25	

I 注意事項

- 1 ページの脱落や重複、印刷の不鮮明な箇所があった場合には、直ちに手を挙げて監督者に知らせなさい。
- 2 受験番号および解答は必ず解答用紙の所定の欄に記入しなさい。
- 3 この問題冊子の余白は適宜利用してもかまいません。
- 4 質問、中途退室など用件のある場合は、手を挙げて知らせなさい。
- 5 退室時は、問題冊子は閉じ、解答用紙は裏返しにしなさい。
- 6 試験に関わるすべての用紙は、持ち帰ることはできません。

II 解答上の注意

- 1 「**解答上の注意**」が、裏表紙に記載してあるので、この問題冊子を裏返して必ず読むこと。ただし、問題冊子を開いてはいけません。

解答上の注意 (1:英語, 2~4:数学, 5:共通)

- 1 解答はすべて解答用紙の解答番号に対応した解答欄にマークしてください。

10 と表示のある問いに対して

(例1) ③と解答する場合は、**解答番号10**の③にマークしてください。

解答番号	解 答 欄
10	① ② ● ④ ⑤ ⑥ ⑦ ⑧ ⑨

(例2) ②と⑦を解答する場合は、**解答番号10**の②と⑦にマークしてください。

(複数解答の場合)

解答番号	解 答 欄
10	① ● ③ ④ ⑤ ⑥ ● ⑧ ⑨

- 2 問題の文中の **アイ**、**ウ** などには、特に指示がないかぎり、符号(−)、数字(0~9)が入ります。**ア**、**イ**、**ウ**、…の一つ一つは、これらのいずれか一つに対応します。それらを解答用紙の**ア**、**イ**、**ウ**、…で示された解答欄にマークして答えなさい。

(例) **アイ** に−8と答えたいとき

ア	● 0 ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨
イ	⊖ 0 ① ② ③ ④ ⑤ ⑥ ⑦ ● ⑨

なお、同一の問題文中に **ア**、**イウ** などが2度以上現れる場合、2度目以降は、**ア**、**イウ** のように細字で表記します。

- 3 分数形で解答する場合、分数の符号は分子につけ、分母につけてはいけません。

例えば、**エオ** に $-\frac{4}{5}$ と答えたいときは、 $\frac{-4}{5}$ として答えなさい。

また、それ以上約分できない形で答えなさい。

例えば、 $\frac{3}{4}$ 、 $\frac{2a+1}{3}$ と答えるところを、 $\frac{6}{8}$ 、 $\frac{4a+2}{6}$ のように答えてはいけません。

- 4 根号を含む形で解答する場合、根号の中に現れる自然数が最小となる形で答えなさい。

例えば、 $4\sqrt{2}$ 、 $\frac{\sqrt{13}}{2}$ 、 $6\sqrt{2a}$ と答えるところを、 $2\sqrt{8}$ 、 $\frac{\sqrt{52}}{4}$ 、 $3\sqrt{8a}$ のように答えてはいけません。

- 5 解答用紙に正しく記入・マークされていない場合は、採点できないことがあります。特に、解答用紙の**受験番号欄**に正しくマークされていない場合は、その科目は0点となります。

英 語

(解答はすべて解答用紙に記入すること)

第1問 次の英文を読み、下の問い(問1・問2)に答えよ。

When a person finds it difficult to go on with an activity because of feelings of tiredness or exhaustion, that person is said to suffer from fatigue. If the fatigue is severe enough, the person may collapse. In engineering, a metal part that gives way under stress is also said to have collapsed from fatigue. Similar terms are used for living forms and for nonliving forms because both can fail to after continuous stress and both have an endurance limit. Living forms can recover from fatigue after sufficient rest, being capable of self-renewal and self-repair. Nonliving materials are irreversibly by fatigue, and the objects they support such as automobiles, airplanes, and bridges can be suddenly demolished.

Persons who tend to tire easily while doing only the ordinary tasks of daily living are said to suffer from chronic fatigue. Any of a wide variety of disorders may be . The most suspect are those that deprive the body of nourishment or oxygen or that interfere with the breakdown of sugar or the elimination of waste products. Among these disorders are malnutrition and parasitic worms, heart and circulatory ailments, anemia, lung infections, kidney disorders, diabetes, and mononucleosis. Physicians also look for overuse of sedative or stimulant drugs. Although stimulants such as caffeine mask fatigue in the short run, abnormal tiredness can occur when the effect wears off, causing a craving for more of the stimulant and a general breakdown of .

Another common cause of chronic fatigue is obesity. Not only is the body forced to supply and carry a larger nonworking load but also it may not be getting enough oxygen for the task because fat deposits around the rib cage

cause shallow breathing. In children and adolescents, chronic fatigue may the need for extra nourishment and rest during periods of rapid growth.

Stress may act to cause physical fatigue by keeping tensed. Monotony, boredom, and too much rest also cause fatigue, yet no one knows . The fatigue of mental effort is also a mystery.

Common causes of tiredness at work are poorly fitting equipment, inadequate ventilation, boredom, emotional stress, and visual strain. Many workers of visual fatigue from using computers all day. Burnout, a disabling exhaustion similar to battle fatigue, is associated with prolonged working hours under stressful conditions, a feeling of inadequacy or insecurity, and strong emotions of rage, helplessness, and .

(出典 *Fusion Reading Plus Advanced*. The McGraw-Hill Companies, Inc., 2012.)

問1 英文の ~ に入れるのに最も適当なものを、下の①~⑦から1つずつ選べ。

- | | | | |
|------------|---------------|-------------|-----------|
| ① collapse | ② damaged | ③ fitness | ④ perform |
| ⑤ repeated | ⑥ responsible | ⑦ stressful | |

問2 英文の ~ に入れるのに最も適当なものを、下の①~⑦から1つずつ選べ。

- | | | | |
|------------|-----------|-------------|-----------|
| ① complain | ② despair | ③ exercises | ④ muscles |
| ⑤ signal | ⑥ who | ⑦ why | |

第2問 次に与えられた語について、1～3 (～) は下線部の発音が同じものを、4～6 (～) は第1アクセント (第1強勢) の位置が同じものを、それぞれ下の①～④から1つずつ選べ。

1. harm

- ① barren ② marriage ③ particle ④ tariff

2. hood

- ① fluent ② folk ③ loose ④ wolf

3. label

- ① laundry ② said ③ steak ④ theme

4. es · sence

- ① ad · mire ② ca · nal ③ pat · tern ④ per · cent

5. pro · ce · dure

- ① ap · prov · al ② av · er · age
③ pi · o · neer ④ sat · el · lite

6. his · tor · i · cal

- ① com · pe · ti · tion ② el · e · va · tor
③ mem · o · ra · ble ④ mo · not · o · nous

第4問 次の対話文の ～ に入れるのに最も適当なものを、それぞれ下の①～⑨から1つずつ選べ。

Edith: What do you think about homeschooling?

Naomi: What is homeschooling?

Edith: Homeschooling is a choice made by some parents to provide education to their children in their own homes.

Naomi: I see, but I've never thought about the matter because I myself have always been happy studying at school.

Edith: Many people are, but homeschooling is actually popular in the United States, and it is becoming more popular in the United Kingdom and Australia.

Naomi: Well, if parents are able to teach their children one on one, children will understand the curriculum better and learn more quickly. If their children need more time to learn something, parents can work with them at a slower pace.

Edith: On the other hand, homeschooled students often feel lonely because they don't spend as much time with other kids their age.

Naomi: You're right. That must be one big disadvantage of homeschooling. Actually, I enjoy chatting with friends at school more than studying.

Edith: Parents may also feel lonely because they must spend time teaching children and end up having little time to talk with other adults at work.

Naomi: Another problem is that a homeschooled child won't play school sports or participate in other activities that are available to students studying at school.

Edith: We should think about why homeschooling is gaining popularity despite all these disadvantages.

Naomi: I agree. I've always taken it for granted that all children attend school for their education. I need to spend some time considering the pros and cons of schooling and homeschooling.

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- ① Thank you for giving me food for thought.
- ② Have they started teaching English in elementary school?
- ③ Do you think there are any advantages to homeschooling?
- ④ Homeschooling used to be very popular in these countries.
- ⑤ Private school tuition varies greatly depending on education level.
- ⑥ Are you sure you're going to change your ideas about going to university?
- ⑦ Bullying in schools sometimes arises from harsh parenting practices at home.
- ⑧ No wonder you know so much about problems with education in this country.
- ⑨ Making friends and spending time with them is an important part of education.

第5問 次の問い（問1～4）のパラグラフ（段落）には、まとまりをよくするために取り除いた方がよい文が一つある。取り除く文として最も適当なものを、それぞれ下線部①～④のうちから1つずつ選べ。

問1

25

Oprah Winfrey is a famous businesswoman, talk show host, and actress. She was born in a poor family in Mississippi. She had a very difficult childhood but got a good education and began a career in television. ① Minorities have also increased their visibility in the media and the arts. ② For 25 years (1986-2011), she had one of the country's most popular television programs. ③ She now runs a huge communication company. ④ She is the richest African American and the only African American billionaire. Because of her considerable influence on popular opinion, *CNN* and *Time Magazine* have called her the world's most powerful woman.

(出典 Jessica Williams. *Academic Encounters 2: American Studies*. Cambridge University Press, 2013.) (一部改変)

問2

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In the United States alone, the cosmetics industry creates roughly 10 billion dollars of business a year. Yet the industry has many critics, including defenders of animal rights. Studies show that 95 percent of all animal testing is done to test cosmetics. ① But many people believe this is a cruel and unnecessary activity. ② In one study, 72 percent of people agreed that testing cosmetics on animals is wrong. ③ There is no ban on testing cosmetics on animals in the United States. Another criticism comes from defenders of women's rights. ④ Some of these people question the traditional pressure on women to wear makeup. Others dislike the promotion of glamorous images in magazines and on television. They consider that it creates an unrealistic ideal that causes many young people to worry too much about their appearance.

(出典 Caroline Shackleton / Nathan Paul Turner. *Skin*. Cambridge University Press, 2014.) (一部改変)

問3

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Scientists at the University of Michigan are developing software that can analyze images from a dashboard camera to detect driver fatigue. ①Yawning is a reliable clue to fatigue, but capturing a moving driver's face in variable light conditions isn't easy. ②This condition slows down the alertness and response time, which increases the driver's chance of getting into an accident. ③The system is designed to detect the indicators of yawning while ignoring the mouth. ④The setup so far includes a face detector, a nose detector, a nose tracker to follow the nose's movements, and a yawn detector. Scientists working on a similar detector at the University of Strathclyde are also concentrating on the rest of the yawning driver's face rather than the mouth, on the sensible grounds that people do often cover their mouths when they yawn.

(出典 Jay Ingram. *Why Do Onions Make Me Cry?* Simon & Shuster, 2019.)

(一部改変)

問4

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Every day, billions of cells in your body die, but you don't die because cells can copy themselves. One cell divides into two new cells, so you can grow and mend damage. But if the body is so good at mending itself, why do people grow old and die? ①Over a long time, dangerous chemicals begin to damage the body. ②They come from the air that we breathe and the things that we eat and drink. ③Other dangerous chemicals are made naturally by your cells. ④Special cells called white blood cells are moving through the body all of the time. These things damage organs like the liver and the heart, and they can destroy DNA too. Cells with damaged DNA die, and as people get older the body also produces fewer and fewer new cells. This means that it can't fix damage easily any more.

(出典 Alex Raynham. *The Human Body*. Oxford University Press, 2014.) (一部

改変)

第6問 次の1～3の文において、それぞれ下の①～⑦の語句を並べ替えて空所を補い、最も適当な英文を完成させよ。解答は ～ に入れるものの番号のみを答えよ。

1. Certain programs Internet viruses.
- ① from ② of ③ harmful ④ protecting
⑤ take on ⑥ a computer ⑦ the task
2. Research to a variety of health problems.
- ① sleep ② insufficient ③ related ④ has
⑤ shown ⑥ is ⑦ that
3. Taro showed his teacher praised him.
- ① his ② a ③ after ④ marked
⑤ work ⑥ improvement ⑦ in

第7問 次の英文を読み、下の問い（問1・問2）に答えよ。

Today, kids are more likely to have a hard time seeing distant objects clearly than they would have even a few decades ago. That has been a consistent finding in studies from around the world. New Canadian research sheds more light on why this nearsightedness is increasing. Its conclusion: Kids today spend too little time playing outdoors.

(A)The idea is not new. In parts of the world where people spend most of their time indoors, rates of nearsightedness—or myopia—have been skyrocketing. By adulthood, one in three people in the United States has myopia. In parts of Asia, the rates are far higher. In some nations there, more than 95 percent of children and teens may wear glasses to correct for myopia.

Previous research suggested this might stem from children spending too much time focusing on close-up objects. Those might include books, smartphones and video screens. Other research has linked rising rates of myopia to a drop in the time kids spend outdoors.

The new Canadian study goes further. It shows that for one additional hour of outdoor time per week, the risk a child will develop myopia drops by about 14 percent.

Mike Yang led the study at Canada's Centre for Contact Lens Research in Waterloo, Ontario. As an optometrist, he examines eyes for defects and prescribes treatment, including glasses and contact lenses. Yang worked with researchers at the Canadian National Institute for the Blind in Toronto, Ontario. Their findings have been issued in a 29-page report.

The team examined the eyes of 166 students in Waterloo during the 2014 to 2015 school year. All were in first to eighth grade. Among these kids, (B)the share with myopia rose dramatically by middle school. On average, just 6 percent of first graders were myopic. By age 13, nearly 29 percent were.

The researchers then surveyed the parents about their kids' activities and how much time they spend on each. Those questions included ones on the time each child typically spends outside. And this outdoor time (C)proved a big predictor of whether kids had become nearsighted.

Why might that be? "It probably has something to do with the lighting being much brighter than indoors," concludes Yang. Also, when outside, your eyes have more opportunity to focus on things in the distance, he notes. For now, he says, "No one is sure why these things make a difference."

Jeremy Guggenheim agrees. He is an optometrist who has studied myopia in Great Britain and Hong Kong. "While the exact cause remains unknown, the bright light levels outdoors are thought by scientists to be key," he says.

Guggenheim says the link between outdoor time and myopia rates could have an added explanation: Children who wear glasses may avoid outdoor sports for fear of damaging or losing their glasses. So children who wear glasses for myopia might just spend less time outside.

The Canadian study also found that almost one in every three children with myopia had not been diagnosed. So they were never prescribed glasses to correct for the condition.

"If they've never experienced perfect vision before, they may think everybody sees the same way," explains Yang. (D)It's therefore up to parents to see that their child's vision is checked regularly, he says. Without glasses, he notes, myopic children probably can't see the blackboard. This can slow learning and hurt how well they perform in school. Even more worrying, Yang says, is that children are becoming nearsighted at younger and younger ages.

"Historically, myopia started at age 12 or 13," he notes. "Now it is showing up more often in kids six or seven years old." Yang could not compare the number of young children with myopia in his study to those

from earlier generations in Canada. His is the first to measure these rates among children there.

But research in other countries, such as the United States and China, show that myopia is becoming common in ever younger kids. That worries Yang. When young children become myopic, he says, they risk an even greater decline in their eyesight over time when compared to their parents' and grandparents' generations.

(出典 Sharon Oosthoek. "Outdoor time is good for your eyes." *Science News for Students*. December 20, 2016. Retrieved September 1, 2022 from <<https://www.snexplores.org>>.) (一部改変)

(注) shed light on, 明らかにする; skyrocket, 急激に上がる;
stem (from~), (~に) 起因する; defect, 欠陥; prescribe, 処方する;
diagnose, 診断する

問1 本文の内容に合うように、次の1～4の文の ～ に入れるのに最も適当なものを、それぞれ下の①～④から1つずつ選べ。

1. The underlined part "(A)The idea" refers to the fact that .
- ① most children need to see distant objects clearly
 - ② more Asian children wear glasses than children in the United States
 - ③ children who spend too much time indoors tend to develop myopia
 - ④ the number of young children with nearsightedness has been increasing over the years

2. The underlined part “(B)the share with myopia rose dramatically by middle school” implies that

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 .

- ① children begin spending much less time outdoors as they move on to middle school
- ② middle school children share the symptoms of myopia with younger children
- ③ the number of students with myopia suddenly decreases after middle school
- ④ the sharp increase in nearsightedness could be linked to increased outdoor activities

3. The underlined part “(C)proved a big predictor of” can be replaced by

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 .

- ① accurately predicted the result of
- ② was able to successfully deal with
- ③ was largely inconsistent with
- ④ was strongly correlated with

4. What Mike Yang means by the underlined part “(D)It’s therefore up to parents to see that their child’s vision is checked regularly” is that

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 .

- ① parents are expected to make sure that their child has a broad vision
- ② parents should pay attention to whether their child’s vision is satisfactory
- ③ parents should regularly examine their child’s eyes by using glasses
- ④ parents tend to mistakenly believe that they have perfect vision

問2 次の1～6の質問の答えとして最も適当なものを、それぞれ下の①～④から1つずつ選べ。 42 ～ 47

1. What did the new Canadian study find out about children's eyesight? 42

- ① Findings from around the world are sometimes not consistent with one another.
- ② With the exception of Canadian children, nearsightedness is increasing in the world.
- ③ The longer children spend outdoors, the less likely they are to become nearsighted.
- ④ Their eyesight is getting weaker as a result of spending a long time looking at smartphones.

2. According to Mike Yang, what is one possible reason for the benefit of spending time outdoors? 43

- ① Children can enjoy themselves for much longer.
- ② It contributes to early detection of children's myopia.
- ③ Children have more chances to look at things far away.
- ④ Children have more opportunity to spend time with their parents.

3. According to Jeremy Guggenheim, which of the following is true? 44

- ① There may be an unintended effect of wearing glasses on myopic children.
- ② Bright light levels outdoors may be a key factor in the increase in myopic children.
- ③ Children spending less time outside than before is the result of their weaker eyesight.
- ④ The link between increased outdoor time and increased myopia rates has solid evidence.

4. What is one problem of children not wearing prescribed glasses?

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- ① It becomes more difficult to properly diagnose myopia.
- ② They tend to spend less time outside with other children.
- ③ They may have to spend more money trying to improve their eyesight.
- ④ They may not realize how things would look if they had perfect vision.

5. What is Yang worried about?

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- ① Myopia may start as early as age 12 or 13 in the near future.
- ② There will be more adults with poor eyesight than in previous generations.
- ③ There are more nearsighted children in Canada than in the United States or China.
- ④ An increasing number of elderly people have been suffering from myopia recently.

6. According to the passage, which of the following is true?

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- ① In some parts of the United States, over 95 percent of children and teens wear glasses.
- ② Nearly one third of nearsighted children in Canada may be unaware of their vision problem.
- ③ Students with myopia generally study harder and perform better in school.
- ④ Yang conducted the research by comparing the data from earlier generations in Canada.