令和 2 (2020)年度入学者選抜個別(第 2 次)学力検査問題

外　国　語

注　意　事　項

1. 監督者の指示があるまで，この冊子を開いてはいけません。
2. 問題冊子は，全部で 9 ページあり，第 1 ～ 3 ページは下書用紙です。下書用紙は切り離してはいけません。
3. 問題は，第 4 ページと第 5 ページの間に，はさみこんであります。
4. 解答用紙は，問題冊子と別に印刷されているので，誤らないように注意しなさい。
5. 解答は，必ず解答用紙の指定された欄内に**横書き**で記入しなさい。
6. 各解答用紙には，受験番号欄が 2 または 4 か所あります。それぞれ記入を忘れないこと。
7. 解答用紙は，記入の有無にかかわらず，机上に置き，持ち帰ってはいけません。問題冊子は持ち帰りなさい。
8. 落丁または印刷の不鮮明な箇所があれば申し出なさい。

学科によって解答すべき問題が異なります。
説明に従って解答しなさい。
読みやすい字で書くこと。

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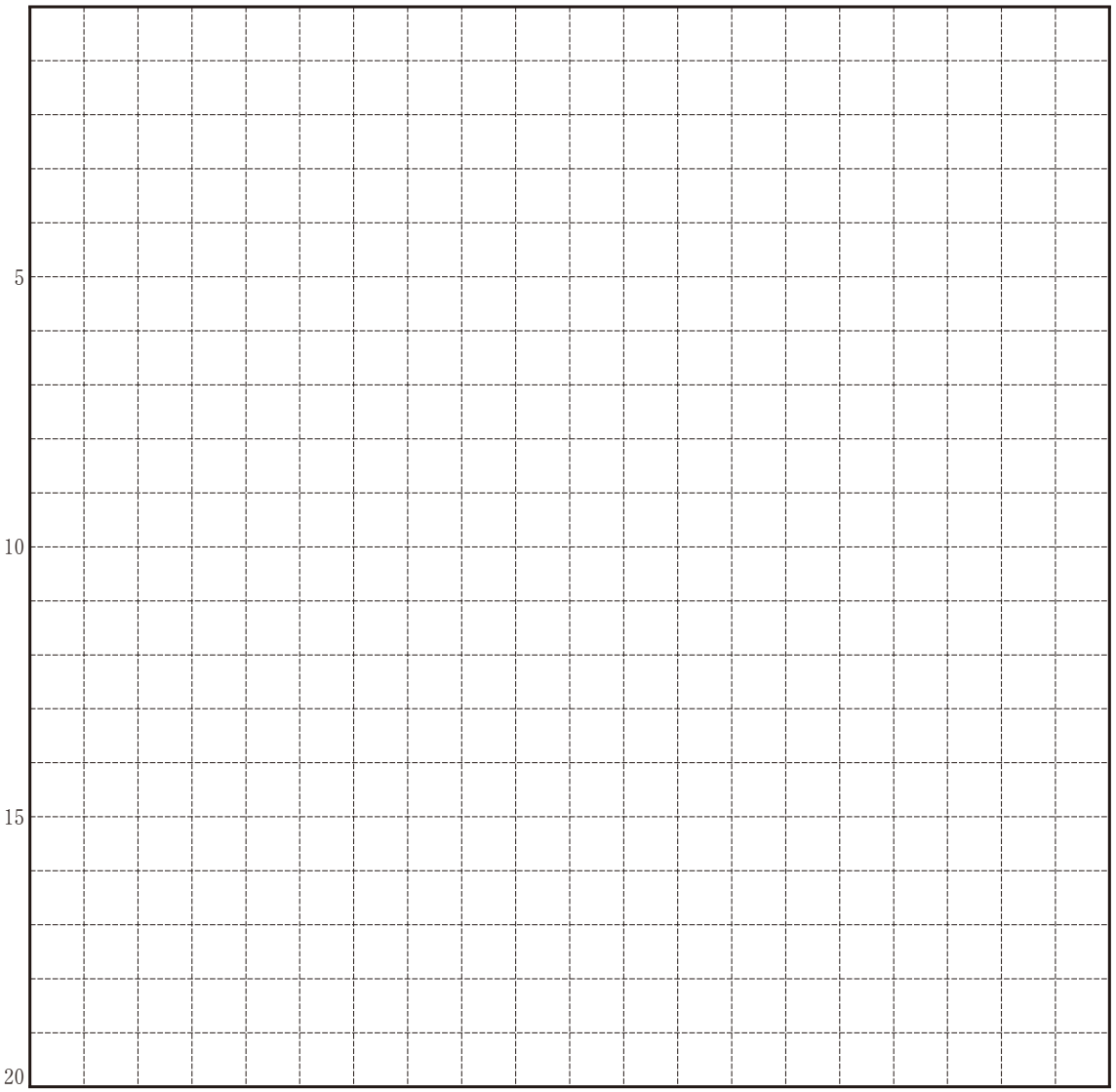

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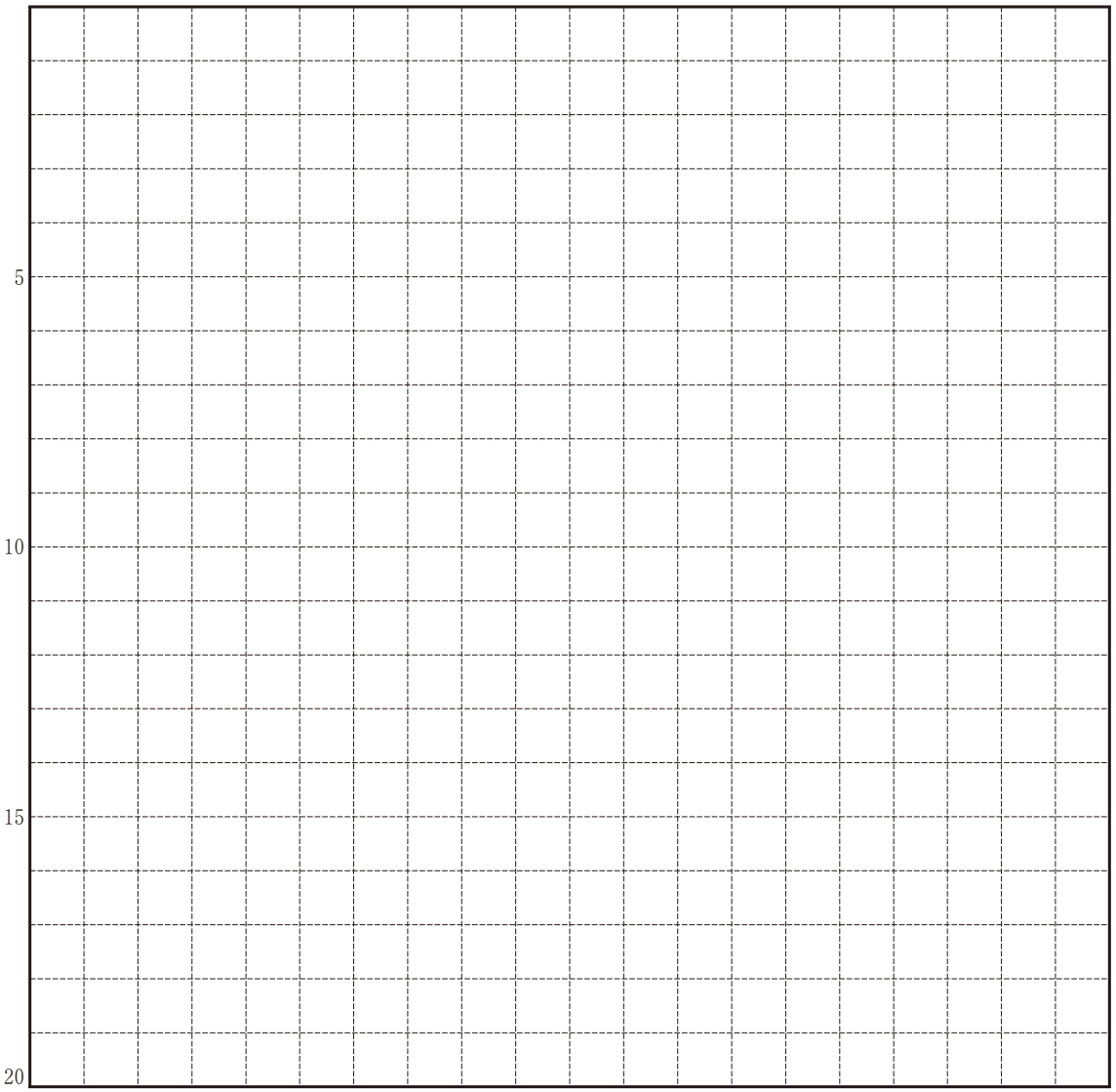

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外　国　語

次の英文は *BBC Future*（2018 年 11 月 28 日）に掲載された “Is breakfast really the most important meal of the day?”（Jessica Brown）の記事を一部改変したものです。この文章をよく読んで，医学科と歯学科の受験者は問題 3 ，4 ，5 ，6 に答えなさい。保健衛生学科と口腔保健学科の受験者は問題 1 ，2 ，3 ，5 ，6 に答えなさい。解答は解答用紙の指定された欄に記入すること。

Along with old classics like ‘carrots give you night vision’ and ‘Santa doesn’t bring toys to misbehaving children’, one of the most well-worn phrases in the arsenal of tired parents everywhere is that breakfast is the most important meal of the day. Many of us grow up believing that skipping breakfast is a dietary travesty — even if only two thirds of adults in the UK eat breakfast regularly, according to the Association of UK Dieticians (BDA), and around three-quarters of Americans.

The clue for why breakfast is supposed to be important is in its name: we’re advised to eat **it**[1)] to break our overnight fast.

“The body uses a lot of energy stores for growth and repair through the night,” explains dietician Sarah Elder. “Eating a balanced breakfast helps to up our energy, as well as protein and calcium used throughout the night.”

But there’s widespread disagreement over whether breakfast should keep its top spot in the hierarchy of meals. As well as the rising popularity of fasting diets, there have been concerns around the sugar content of cereal and the food industry’s ***involvement*** in pro-breakfast research — and even one claim from an academic that breakfast is “dangerous”.

So what’s the reality? Is breakfast a necessary start to the day...or a marketing ploy by cereal companies?

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The most researched ***aspect*** of breakfast (and breakfast-skipping) has been

問　題

保健衛生学科と口腔保健学科のみ

1 ***The following words appear in bold italics in the text. On the answer sheet, circle the letter indicating the best definition for each word (based on how the word is used in the text).***

involvement

a）enthusiasm　b）motivation　c）objection
d）participation　e）position

aspect

a）benefit　b）controversy　c）point
d）problem　e）purpose

Meanwhile

a）At the same time　b）Briefly　c）In the end
d）On average　e）Sometimes

outcomes

a）habits　b）improvements　c）issues
d）needs　e）results

refuting

a）claiming　b）disproving　c）ignoring
d）losing　e）making

potentially

a）doubtlessly　b）eventually　c）immediately
d）obviously　e）possibly

disrupted

a）blocked　b）decreased　c）destroyed
d）interrupted　e）restarted

vulnerable

a）hungry　b）natural　c）troubled
d）uncomfortable　e）weak

analogous

a）comparable　b）dominant　c）fundamental
d）obedient　e）related

conflicting

a）broken　b）dangerous　c）electrical
d）opposing　e）timed

保健衛生学科と口腔保健学科のみ

2 ***What do the following words, which are underlined in the text, refer to? Answer using one to five English words that can replace the underlined word(s).***

1) it　　2) the two　　3) they

4) it　　5) do it

全学科

3 ***According to the text, decide whether the following statements are true (T) or false (F). For each statement circle the correct answer on the answer sheet.***

1) According to the article, more than 70% of adults in the UK and US eat breakfast regularly.

2) According to one US study of 50,000 people, those who eat breakfast tend to have a lower BMI than those who do not.

3) The US study also found that consumption of breakfast foods can lead to a higher risk for diabetes.

4) According to Alexandra Johnstone, smokers typically skip breakfast.

5) A 2016 review of 10 studies concerning breakfast and weight management could not confirm whether eating breakfast can help prevent obesity.

6) Intermittent fasting has been proven to help people lose weight and stay healthy.

7) A study published in 2018 investigated the effects of intermittent fasting on men with pre-diabetes.

8) According to Courtney Peterson, the men who ate all their calories between 9:00 and 15:00 were able to lower their blood pressure with the help of medicine.

9) In Peterson's study, one group of subjects didn't take any calories after 3 PM.

10) According to one academic, eating breakfast is dangerous because it can gradually lead to insulin resistance and type 2 diabetes.

11) According to Fredrik Karpe, 'carbs' are necessary to jumpstart your metabolism.

12) A randomised control trial involving 36 people found that both people with and without diabetes tend to skip breakfast.

13) The researchers involved in the randomised control trial concluded that breakfast is important to regulate our body clock.

14) Peterson seems to suggest that the timing of eating dinner may be a more important factor for our health than whether we eat breakfast or not.

15) Peterson claims that our blood sugar control is worst late in the day.

16) According to Peterson, playing two songs at the same time is good for your blood sugar and blood pressure levels.

17) The researchers from the University of Surrey and University of Aberdeen recommend eating breakfast earlier for better weight control.

18) The article states that the UK study on the breakfast habits of young people encouraged other countries to find similar results.

19) Mary Beth Spitznagel seems to think that eating breakfast improves concentration.

20) Spitznagel argues that what we eat for breakfast is very important.

21) Research by the Australian Commonwealth Scientific and Industrial Research Organisation suggests that eating a high-protein breakfast can help people eat less later in the day.

22) The results of research conducted at Tel Aviv University suggest that eating sugary foods for breakfast might not be a big problem.

23) The results of the review of 54 studies imply that eating cake for breakfast would be better for our health than skipping breakfast.

24) Elder implies that stable blood sugar levels depend on weight and hunger levels.

医学科と歯学科のみ

4 ***Briefly (in 10 to 25 words) answer the following questions in your own words, using complete English sentences. Base your answers on the information presented in the article.***

1) Summarise the results of the study involving 52 obese women taking part in a 12–week weight loss programme.

2) Summarise Fredrik Karpe's arguments against the position that eating breakfast is "dangerous".

3) What may be good to eat for breakfast and why? Give two examples from the text.

全学科

5 下線部(ア)と(イ)を日本語に訳しなさい。

全学科

6 朝食が最も重要な食事であるという考え方に対する否定的な見解とその根拠を，この記事の内容に即して，以下のキーワードをすべて用いて日本語で 400 字以内にまとめなさい。なお，キーワードは初出の際に四角く囲むこと。

例) 体 | 重

体重

糖分

夕食

its links to obesity. Scientists have different theories as to why there's a relationship between **the two**[2].

In one US study that analysed the health data of 50,000 people over seven years, researchers found that those who made breakfast the largest meal of the day were more likely to have a lower body mass index (BMI) than those who ate a large lunch or dinner. The researchers argued that breakfast helps increase satiety, reduce daily calorie intake, improve the quality of our diet — since breakfast foods are often higher in fibre and nutrients — and improve insulin sensitivity at subsequent meals, which can be a risk for diabetes.

But as with any study of this kind, it was unclear if that was the cause — or if breakfast-skippers were just more likely to be overweight to begin with.

To find out, researchers designed a study in which 52 obese women took part in a 12-week weight loss programme. All had the same number of calories over the day, but half had breakfast, while the other half did not.

What **they**[3] found was that it wasn't breakfast itself that caused the participants to lose weight: it was changing their normal routine. The women who said before the study that they usually ate breakfast lost 8.9 kg when they stopped having breakfast, compared to 6.2 kg in the breakfast group. ***Meanwhile***, those who usually skipped breakfast lost 7.7 kg when they started eating it — and 6 kg when they continued to skip **it**[4].

If breakfast alone isn't a guarantee of weight loss, why is there a link between obesity and skipping breakfast?

Alexandra Johnstone, professor of appetite research at the University of Aberdeen, argues that it may simply be because breakfast-skippers have been found to be less knowledgeable about nutrition and health.

"There are a lot of studies on the relationship between breakfast eating and possible health ***outcomes***, but this may be because those who eat breakfast choose to habitually have health-enhancing behaviours such as not smoking and regular exercise," she says.

A 2016 review of 10 studies looking into the relationship between breakfast and weight management concluded there is "limited evidence" supporting or ***refuting*** the argument that breakfast influences weight or food intake, and more evidence is required before breakfast recommendations can be used to help prevent obesity.

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Intermittent fasting, which involves fasting overnight and into the next day, is gaining ground among those looking to lose or maintain their weight or improve their health.

One pilot study published in 2018, for example, found that intermittent fasting improves blood sugar control and insulin sensitivity and lowers blood pressure. Eight men with pre-diabetes were assigned one of two eating schedules: either eating all their calories between 9:00 and 15:00, or eating the same number of calories over 12 hours. The results for the 9:00–15:00 group were found to be on par with medicine that lowers blood pressure, according to Courtney Peterson, the study's author and assistant professor of nutrition sciences at the University of Alabama at Birmingham.

(ア) Still, the study's small size means more research is needed on its possible long-term benefits.

If skipping breakfast (and other food outside of a restricted time slot) could ***potentially*** be good for you, does that mean breakfast could be bad for you? One academic has said so, arguing that breakfast is 'dangerous': eating early in the day causes our cortisol to peak more than it does later on. This causes the body to become resistant to insulin over time and can lead to type 2 diabetes.

But Fredrik Karpe, professor of metabolic medicine at Oxford Centre for Diabetes, Endocrinology and Metabolism, argues this isn't the case. Instead, higher levels of cortisol in the morning are just part of our body's natural rhythm.

Not only that, but breakfast is key to jumpstarting our metabolism, he says. "In order for other tissues to respond well to food intake, you need an initial trigger involving carbs responding to insulin. Breakfast is critical for this to happen,"

Karpe says.

A randomised control trial published last year involving 18 people with, and 18 people without, diabetes found that skipping breakfast ***disrupted*** the circadian rhythms of both groups and led to larger spikes in blood glucose levels after eating. Eating breakfast, the researchers conclude, is essential for keeping our body clock running on time.

Peterson says those who skip breakfast can be divided into those who either skip breakfast and eat dinner at a normal time — getting the benefits of intermittent fasting, if not breakfast — or those who skip breakfast and eat dinner late.

"For those who eat dinner later, their risk of obesity, diabetes and cardiovascular disease goes through the roof. While it seems breakfast is the most important meal of the day, it might actually be dinner," she says.

"Our blood sugar control is best early in the day. When we eat dinner late, that's when we're most ***vulnerable*** because our blood sugar is worst. There's more research to do, but I'm confident you shouldn't skip breakfast and have dinner late."

She says we should think of our circadian rhythm as an orchestra.

"There are two parts of our circadian clock. There's the master clock in the brain, which we should think of as ***analogous*** to a conductor of an orchestra, and the other half is in every organ, which has a separate clock," she says.

And that 'orchestra' is set by two outside factors: bright light exposure and our eating schedule.

"If you're eating when you're not getting bright light exposure, the clocks that control metabolism are in different time zones, creating ***conflicting*** signals as to whether to rev up or down."

It's like two halves of an orchestra playing different songs, Peterson explains, and this is why eating late impairs blood sugar and blood pressure levels.

Researchers from the University of Surrey and University of Aberdeen are halfway through research looking into the mechanisms behind how the time we eat

influences body weight. Early findings suggest that a bigger breakfast is beneficial to weight control.

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Breakfast has been found to affect more than just weight. Skipping breakfast has been associated with a 27% increased risk of heart disease, a 21% higher risk of type 2 diabetes in men, and a 20% higher risk of type 2 diabetes in women.

One reason may be breakfast's nutritional value — partly because cereal is fortified with vitamins. In one study on the breakfast habits of 1,600 young people in the UK, researchers found that the fibre and micronutrient intake, including of folate, vitamin C, iron and calcium, was better in those who had breakfast regularly. There have been similar findings in Australia, Brazil, Canada and the US.

Breakfast is also associated with improved brain function, including concentration and language. A review of 54 studies found that eating breakfast can improve memory, though the effects on other brain functions were inconclusive. However, one of the review's researchers, Mary Beth Spitznagel, says there is "reasonable" evidence breakfast does improve concentration — there just needs to be more research.

"Looking at studies that tested concentration, the number of studies showing a benefit was exactly the same as the number that found no benefit," she says.

"And no studies found that eating breakfast was bad for concentration."

What's most important, some argue, is what we eat for breakfast.

High-protein breakfasts have been found particularly effective in reducing food cravings and consumption later in the day, according to research by the Australian Commonwealth Scientific and Industrial Research Organisation.

While cereal remains a firm favourite among breakfast consumers in the UK and US, a recent *Which?* investigation into the sugar content of 'adult' breakfast cereals found that some cereals contain more than three quarters of the recommended daily amount of free sugars in each portion, and sugar was the second or third highest ingredient in seven out of 10 flaked cereals.

But some research suggests if we're going to eat sugary foods, it's best to **do it** (5) early. One study found that changing levels of the appetite hormone leptin in the body throughout the day coincide with having our lowest threshold for sweet food in the morning, while scientists from Tel Aviv University have found that hunger is best regulated in the morning. They recruited 200 obese adults to take part in a 16-week-long diet, where half added dessert to their breakfast, and half didn't. Those who added dessert lost an average of 40 lbs (18 kg) more — however, the study was unable to show the long-term effects.

A review of 54 studies found that there is no consensus yet on what type of breakfast is healthier, and concluded that the type of breakfast doesn't matter as much as simply eating something.

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While there's no conclusive evidence on exactly what we should be eating and when, the consensus is that we should listen to our own bodies and eat when we're hungry.

"Breakfast is most important for people who are hungry when they wake up," Johnstone says.

For instance, research shows that those with pre-diabetes and diabetes may find they have better concentration after a lower-GI breakfast such as porridge, which is broken down more slowly and causes a more gradual rise in blood sugar levels.

Every body starts the day differently — and those individual differences, particularly in glucose function, need to be researched more closely, Spitznagel says.

(イ) In the end, the key may be to be mindful of not over-emphasising any single meal, but rather looking at how we eat all day long.

"A balanced breakfast is really helpful, but getting regular meals throughout the day is more important to leave blood sugar stable through day, that helps control weight and hunger levels," says Elder.

"Breakfast isn't the only meal we should be getting right."