

## 情報科学部A方式

## 1 限 英 語 (90分)

## 〈注意事項〉

1. 試験開始の合図があるまで、問題冊子を開かないこと。
2. 解答はすべて解答用紙に記入しなさい。
3. マークシート解答方法については以下の注意事項を読みなさい。

## マークシート解答方法についての注意

マークシート解答では、鉛筆でマークしたものを機械が直接読みとって採点する。したがって解答はHBの黒鉛筆でマークすること(万年筆、ボールペン、シャープペンシルなどを使用しないこと)。

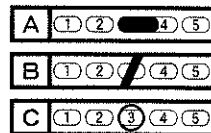
## 記入上の注意

1. 記入例 解答を3にマークする場合。

(1) 正しいマークの例



(2) 悪いマークの例



枠外にはみださないこと。

○でかこまないこと。

2. 解答を訂正する場合は、消しゴムでよく消してから、あらためてマークすること。
3. 解答用紙をよごしたり、折りまげたりしないこと。
4. 問題に指定された数よりも多くマークしないこと。

問1 次の(1)から(5)のそれぞれの単語①～④のうちから、最も強いアクセントの位置が、ほかの三つの単語と異なるものを一つ選べ。

- |                    |                   |
|--------------------|-------------------|
| (1) ① sched-ule    | ② chal-lenge      |
| ③ ef-fort          | ④ pro-ceed        |
| (2) ① pat-tern     | ② en-tire         |
| ③ ad-vice          | ④ oc-cur          |
| (3) ① in-dus-try   | ② vol-un-teer     |
| ③ ig-no-rant       | ④ de-mon-strate   |
| (4) ① del-i-cate   | ② po-ten-tial     |
| ③ per-for-mance    | ④ oc-ca-sion      |
| (5) ① in-di-ca-tor | ② for-tu-nate-ly  |
| ③ fas-ci-nat-ing   | ④ dis-ad-van-tage |

問2 次の(1)から(6)の空欄に入れるのに最も適切なものを、それぞれ①～④のうちから一つ選べ。

- (1) I use the internet  a number of reasons.  
① as            ② by            ③ for            ④ in
- (2) I wonder  I should change my travel arrangements.  
① what          ② if            ③ that          ④ about
- (3) Almost a million copies of the book  so far.  
① has been sold                    ② has sold  
③ have been sold                    ④ are being sold
- (4) These words made me  slightly uncomfortable.  
① feel            ② felt            ③ to feel          ④ feeling
- (5) I'll try  too much about the rankings.  
① not to thinking                    ② to not thinking  
③ not think                          ④ not to think
- (6) They're not afraid  mistakes and therefore speak out freely.  
① for doing      ② of making      ③ by              ④ to get



### 3. TALK TO YOURSELF

When you have no one else to speak to, there's nothing wrong with talking to yourself. This can keep new words and phrases fresh in your mind, and 

(2)
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- ① build up your confidence for the next time you speak with someone
- ② your communication skills will be improved by talking to each other
- ③ what you need is practice, so talking to someone else would help a lot
- ④ you will learn speaking more effectively than by practicing alone

### 4. KEEP IT FOCUSED

If you make conversation a goal from the beginning, you are less likely to get lost in textbooks. Talking to people will keep the learning process important to you.

### 5. HAVE FUN WITH IT

Think of some fun ways to practice your new language: make a play with a friend, draw a comic strip, write a poem, or simply talk to whomever you can.

## 6. ACT LIKE A CHILD

Try learning the way kids do. The key to learning as quickly as a child may be to simply take certain childlike attitudes: for instance,

(3)

- ① being innocent of others' mistakes, not minding repeated practice, and worrying about future prospects
- ② sleeping deeply, so that what has been learned in the daytime will be organized in the head during sleep
- ③ lack of self-consciousness, a desire to play in the language, and willingness to make mistakes
- ④ eagerness to learn new things, an effort to be modest in talking, and a dislike of imitation

## 7. LEAVE YOUR COMFORT ZONE

Willingness to make mistakes means (4). This can be scary, but it's the only way to develop and improve.

- ① that you are likely to make mistakes that are helpful in the end
- ② being ready to put yourself in potentially embarrassing situations
- ③ trying not to put yourself in any uncomfortable environments
- ④ that you will lose many things you love, including jobs and friends

## 8. LISTEN

You must learn to listen before you can speak. Every language sounds strange the first time you hear it, but the more you expose yourself to it the more familiar it becomes, and the easier it is to speak it properly.

## 9. WATCH PEOPLE TALK

Different languages make different demands on your tongue, lips, and throat. (5). If you can't watch and imitate a native speaker in person, watching foreign-language films and TV is a good substitute.

- ① Speaking at a native speaker's speed is important
- ② Watching how people behave visually helps you learn the culture
- ③ Pronunciation is just as much physical as it is mental
- ④ Learning pronunciation by taking a class is a good strategy

## 10. DIVE IN

Is there a proper way to go about learning? The more the better: it's crucial to practice your new language every single day.

問4 次の(1)から(3)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切なものを、それぞれ下線部①～④のうちから一つずつ選べ。

- (1) Who you spend time with is more important than you may think. In fact, your friendships could have a major influence on your wealth. After researching the daily habits of rich people for five years, Thomas C. Corley found that they avoided one type of person: negative people. Eighty-six percent of the wealthy people in his study made a habit of associating with other success-minded individuals. ① They also made an effort to limit their exposure to negative people. ② “Long-term success is only possible when you have a positive mental view,” Corley states. ③ The importance of replacing positive friends with negative individuals is beyond doubt. ④

- (2) Harvard Business School professor Amy Cuddy has been studying first impressions for more than 15 years, and has discovered patterns when people first meet you. They quickly answer two questions: Can I trust this person? Can I respect this person? Experts refer to these dimensions as *warmth* and *ability* <sup>①</sup> respectively, and ideally you want to be perceived as having both. Interestingly, Cuddy says that most people, especially in a <sup>②</sup> professional context, believe that ability is the more important factor. Similarly, "In caveman days," she says, "it was more <sup>③</sup> important to figure out if your fellow man was going to steal all your possessions than if he was able to make a good fire." But in <sup>④</sup> fact warmth, or trustworthiness, is the most important factor in how people judge you.
- (3) Theodore Roosevelt, one of the greatest American presidents, wrote 40 books and hundreds of articles, and was a keen sportsman. He developed a scheduling habit as a first-year student at Harvard University. He would spend no more than a quarter of the typical day studying. Despite spending much less time on his classwork than his classmates, he still achieved high grades in his classes. He would begin every day by planning his schedule from 8:30 a.m. to 4:30 p.m., thinking about the day's classes, daily athletic training, and lunch. The fragmented time that remained would be dedicated <sup>①</sup> to studying, meaning that he had an entire evening to pursue his many interests. This meant he spent no time chatting, and that he <sup>②</sup> spent day and night studying for his classes. These fragments he <sup>③</sup> spent studying didn't usually add up to a large number of total hours. But he would get the most out of them by working *only* on <sup>④</sup> schoolwork during those periods, and doing so with *full concentration*.

問5 最も適切な英文になるように、選択肢を並べ替えたとき、空欄 (ア) ~ (シ) に入る語句を答えよ。(1)から(4)の場合は、①~⑦、(5)と(6)の場合は、①~⑧のうちから一つずつ選べ。

(1) We    (ア)  (イ)  to do that.

- ① opportunity    ② are    ③ to    ④ have  
⑤ enough    ⑥ lucky    ⑦ the

(2) It    (ウ)  (エ)  our rooms.

- ① that    ② to    ③ return    ④ could  
⑤ was not    ⑥ we    ⑦ until 12 p.m.

(3) I finally    (オ)  (カ)  for a long time.

- ① had    ② I    ③ found    ④ for  
⑤ what    ⑥ been    ⑦ looking

(4) Those students    (キ)  (ク)  their exams.

- ① have    ② called    ③ names    ④ may  
⑤ been    ⑥ begin    ⑦ whose

(5) Advertisers    (ケ)  (コ)  .

- ① to    ② spend    ③ more careful  
④ are    ⑤ becoming    ⑥ about  
⑦ where    ⑧ money

(6) Please    (カ)  (シ)  .

- ① to    ② so that    ③ make  
④ won't    ⑤ sure    ⑥ pack properly  
⑦ get broken    ⑧ things



問6 次の会話(1)から(6)の空欄に入れるのに最も適切なものを、それぞれ①～④のうちから一つ選べ。

(1) Rita: Melissa, this is my friend Sheena.

Melissa: Oh, hi Sheena! Long time no see!

Rita: What, do you two know  already?

Melissa: Yes, we went to high school together.

- ① one other
- ② each other
- ③ each and other
- ④ one and other

(2) Hiroki: Megu and I are going to Disneyland tomorrow.

Brad: What about school?

Hiroki: We'll just say we were sick.

Brad: You'll never  . Someone's sure to see you there.

- ① keep up with it
- ② get away with it
- ③ make do with it
- ④ go along with it

(3) Bill: How's Jerry these days?

Cathy: I've no idea. I haven't spoken to him for months.

Bill: What? Have you had a fight or something?

Cathy: We just don't get along together.

Bill: Oh, don't be silly.  , he *is* your brother!

- ① After all
- ② Finally
- ③ At last
- ④ At the end

(4) Chris: How's Emma getting on with her exam preparation?

Jane: She never even opens her books. She's hopeless.

Chris: Haven't you told her she needs to study hard?

Jane:  how often I tell her, she just won't listen.

- ① Don't mind
- ② Nothing but
- ③ No matter
- ④ Not a chance

(5) Pat: Here, I've got a question for you.

Ali: OK, what is it?

Pat: What does CPU  ?

Ali: Oh, that's easy. It's "central processing unit."

- ① figure out
- ② stand for
- ③ deal with
- ④ bring about

(6) Frank: Are you looking forward to our fishing trip tomorrow?

Pete: I sure am. What's the weather forecast?

Frank: They said it's going to be sunny.

Pete:  . It'll be no fun if it rains.

- ① I wish it
- ② I expect no
- ③ I think that
- ④ I hope so

問7 次の文章は世界での携帯端末の普及の実績と予測に関して2015年に書かれた文章の一部である。これを読み、(1)から(6)の問いに答えよ。

Today there are 2.6 billion smartphone subscriptions\*<sup>1</sup> globally, and growth is still continuing. By 2021, globally there will be 6.1 billion smartphone users, some 70% of the world's population. It is predicted that 80% of all new mobile subscriptions in the next six years will be in emerging markets\*<sup>2</sup> like Asia Pacific, the Middle East, and Africa.

Most mobile devices are, and will continue to be, smartphones. It took over five years to reach the first billion smartphone subscriptions, a point that was passed in 2012, and less than two years to reach the second billion. The four billion mark is expected to be reached by 2016. Table 1 summarizes the growth of smartphone subscriptions per region in the 2015-2021 period. As you can see, in this period, smartphone subscriptions will grow by more than 200% in , and by a little over 100% in .

We will also see increased average data use per smartphone, as people continue to use more high-bandwidth\*<sup>3</sup> services on their devices. We can observe this in Figure 1, which compares monthly mobile data traffic\*<sup>4</sup> by application type\*<sup>5</sup> for the years 2015 and 2021. Total monthly traffic is expected to grow from 6 exabytes\*<sup>6</sup> (EB) in 2015 to 51 exabytes in 2021. Video already occupies 45% of traffic, and will rise to 65%. Interestingly, music streaming is constantly in second place, and although it is gaining popularity, it is unlikely to overtake video at any time. Part of the reason for this is that, whereas users tend to watch video online, they normally listen to music offline. Social networking presently occupies 15%. Mobile web browsing traffic will continue to decline relative to total traffic. Today it occupies just 10% of traffic and will decline to 5% by 2021.

Still, we are seeing a big increase in the total traffic. A lot of this continues to be due to heavy users, who are 10% of total users but generate 55% of total data traffic. Video is dominant among heavy users, who

typically watch about one hour of video per day, which is 20 times more than average users.

Table 1: Smartphone subscriptions per region from 2015 to 2021 (unit: millions)

	2015	2021	Increase from 2015 to 2021
Asia Pacific	2100	3680	1580
Middle East and Africa	350	1090	740
Latin America	300	570	270
Western Europe	250	380	130
North America	200	330	130
Central and Eastern Europe	180	380	200
<b>Total</b>	<b>3380</b>	<b>6430</b>	<b>3050</b>

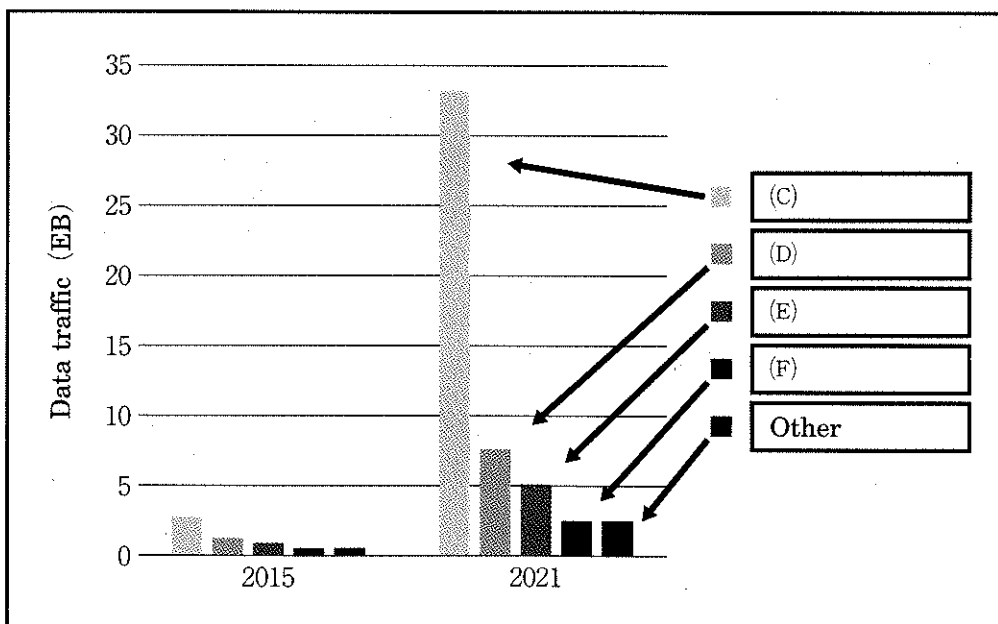


Figure 1: Monthly mobile data traffic by application type

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- \*1 subscription : 契約
  - \*2 emerging market : 新興市場
  - \*3 high-bandwidth : 広帯域の, 多量のデータ通信を必要とする
  - \*4 traffic : 通信データ量
  - \*5 application type : 使用法, 使用目的
  - \*6 one exabyte =  $10^{18}$  bytes (byte はデータ量の単位)

(1) この文章では, 2021年の世界人口はどれくらいと想定しているか一つ選べ。

- ① Between 6 and 7 billion
- ② Approximately 9 million
- ③ Over 10 billion
- ④ Between 8 and 9 billion

(2) 文章中の(A)と(B)の空欄に当てはまる最適な組み合わせを一つ選べ。

- ① (A) The Middle East and Africa  
(B) Latin America
- ② (A) Central and Eastern Europe  
(B) The Middle East and Africa
- ③ (A) The Middle East and Africa  
(B) Central and Eastern Europe
- ④ (A) Asia Pacific  
(B) The Middle East and Africa

(3) 2015~2021年の新規契約件数のうち非新興市場の占める割合として適切なものを一つ選べ。

- ① Less than 25%
- ② Between 60 and 70%
- ③ Over 75%
- ④ About half

(4) 2015～2021年でスマートフォンの契約の純増数が最大なものを一つ選べ。

- ① The Middle East and Africa      ② Asia Pacific  
③ Latin America      ④ North America

(5) 図1の(C)から(F)の空欄には使用目的(application type)が入る。(C)と(D)に当てはまる組み合わせを一つ選べ。

- ① (C) Video      (D) Social networking  
② (C) Music      (D) Web browsing  
③ (C) Video      (D) Music  
④ (C) Music      (D) Video

(6) 次の各文について、この文章に基づき内容が正しければ①を、誤っていれば②を選べ。

- (ア) Mobile social networking traffic was already more than 2 EB per month by 2015.  
(イ) Heavy users generate more than two thirds of all data traffic.  
(ウ) Average users watch video for about 3 minutes a day.  
(エ) Monthly mobile data traffic for video in 2021 will be over 30 EB.  
(オ) Video traffic will grow by more than 10 times from 2015 to 2021.  
(カ) Mobile web browsing will increase its share of total traffic from 2015 to 2021.  
(キ) The number of smartphone subscriptions went over two billion in 2012.

問8 次の文章はAI(人工知能)技術と意思決定の関係について著者の意見を述べたものである。これを読み、(1)から(6)の質問の答えとして最も適切なものをそれぞれ①～④のうちから一つ選べ。

We make a huge number of decisions every day. While we'd like to think our decisions are logical, in fact many are driven by feeling and intuition\*1. The ability to reach a decision based on what we know and what we expect is a natural human characteristic.

The problem we face now is that we have too many decisions to make every day, leading to decision fatigue — we find the act of making our own decisions very tiring.

Why not allow technology to ease the task of decision-making? / The latest smart technologies are designed to observe and learn from our behavior, physical performance, work productivity levels, and energy use. This is what has been called *Era Three of Automation* — when machine intelligence becomes faster and more reliable than humans at making decisions.

Intelligent systems use algorithms (step-by-step procedures for solving problems) to learn patterns in our decision-making. One industry that has grown rapidly is online matchmaking services, which introduce people looking for a romantic relationship — just in the UK, the market is expected to grow from \$250 million to \$350 million by 2019. This enormous growth comes from the idea that finding a partner is hard, so any technology that can help will be popular.

Should we want to depend on an algorithm in our most important human adventure? Might a future generation of people be willing to trade their current partner for another? Might they trust “big data” more than their own instincts to find them someone suitable?

Computer-assisted decision-making is becoming increasingly important, in our private lives and at work. A global study from

*PricewaterhouseCoopers*<sup>\*2</sup> found that executives currently feel comfortable making decisions based on their instinct, but that a majority of them expect the use of computers to influence their future decision-making.

Data can help an organization to see the “big picture” and identify trends and patterns. However, there’s a danger that we rely too much on data and so lose sight of the context, which can often be understood only instinctively and through conversations.

Many companies use data about our Web-browsing habits to make recommendations to us. This is one example of how systems’ decisions can reduce the opportunities we have for natural exploration. The old way of finding a new artist, film, or author by chance is replaced by presenting choices similar to those we have made in the past.

Arizona State University researchers Braden R. Allenby and Daniel Sarewitz explain how these and other technologies, such as fitness trackers and GPS, create systems that “impose certain types of behavior on our lives about which we have little choice.” When our ability to make independent decisions is taken away, it becomes easier for others to control us. We will become accustomed to not making our own decisions and simply follow the advice we are given, whether that’s directions from our GPS or meal suggestions from our computer.

By leaving our decisions to computers in the belief that they will always be right, we give up our freedom. We respond to the computer rather than thinking creatively and independently. We are in danger of neglecting our human instinct, and have already started the process of forgetting how to make decisions by putting our trust in machines. Director of the Max Planck Institute for Human Development, Gerd Gigerenzer, suggests our instincts are our best tools in an uncertain world — data creates only an illusion of certainty.

In a complex world with so many choices, we need good intuitions and



smart shortcuts to make decisions. Even so, in the end we must accept that uncertainty will always be part of what it is to be human. When we deny ourselves the challenge of thinking critically, evaluating situations and making our own decisions, we are heading towards a future where people will lack the ability to think for themselves, and we will have surrendered to the machines we once built.

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\*1 intuition : 直観

\*2 PricewaterhouseCoopers : 世界最大級の会計事務所

- (1) Choose the most suitable title for this article.
  - ① Why people are eager to avoid making hard decisions
  - ② How new data technologies can complement our intuitions
  - ③ Intelligent systems have taken away our freedom to decide
  - ④ We should not depend too much on computers in our decision-making
- (2) What is the main characteristic of *Era Three of Automation*?
  - ① Machines can reach decisions better and quicker than people.
  - ② The task of decision-making becomes entirely automated.
  - ③ Our behavior, physical performance, work productivity, and energy use are constantly monitored.
  - ④ People are too tired to make fast, reliable decisions.

(3) What is the reason for the rapid growth of online matchmaking in the UK?

- ① Big data is more reliable than our instincts when it comes to choosing a partner.
- ② People enjoy the adventure of using an algorithm to find a partner.
- ③ Many people would like to trade their current partner for someone else.
- ④ Technology can help people in the difficult task of choosing a suitable partner.

(4) What did the PricewaterhouseCoopers study show?

- ① Future decision-making at the company will be purely automated.
- ② The growing amount of online data will complicate future decision-making.
- ③ Executives do not trust their instincts when making important decisions.
- ④ Executives believe that computers will increasingly influence their decision-making.

(5) What is an example of the result of natural exploration?

- ① Following directions from our GPS or meal suggestions from our computer
- ② Unexpectedly discovering interesting books in a bookstore
- ③ Finding things we like by using data on our Web-browsing habits
- ④ Making the same choices as those we have made in the past

- (6) Which of the following statements is closest in meaning to the writers' opinion in the last paragraph of the article?
- ① We can achieve greater certainty in our lives through the use of technology.
  - ② Humans should not ignore their intuition when making decisions.
  - ③ We should be careful not to rely too much on our human instincts.
  - ④ Intelligent systems can free us from the burden of decision-making.