

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。

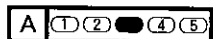
マークシート解答方法についての注意

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)。

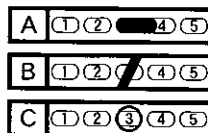
記入上の注意

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 下線部の語(1)～(6)を発音するときの強勢型が同じ型になるものを①～⑤から選べ。

Tigers are close to extinction. Their survival⁽¹⁾ is threatened by hunters and loss of habitat. There are fewer than 8000 tigers left in the wild, and the number keeps shrinking. Of the eight species⁽²⁾ of tigers, only five are still in existence today. Once they are gone, they will be gone forever. That would be a great tragedy. That is why something must be done now before they become extinct.

One of the ways that we can help prevent⁽³⁾ the extinction of these beautiful animals is to support politicians who push for tougher laws on the sale of animal parts overseas⁽⁴⁾. Preservation of tiger reserves needs to be enforced, with stiffer penalties⁽⁵⁾ for those who break the law. Educate⁽⁶⁾ yourself and others about tigers. Learn everything you can about these how to save these animals. Knowledge truly is a powerful tool.

①	● ●● ●	(弱強弱)	例：unhappy
②	● ●●	(弱強)	例：allow
③	● ● ●●	(弱弱強)	例：afternoon
④	●● ●	(強弱)	例：Sunday
⑤	●● ● ●	(強弱弱)	例：seventy

問 2 次の(1)~(5)の下線部の発音について(a)~(j)の下線部の発音と同じものをそれぞれ二つずつ選べ。

- (1) blow (a) (b) (c) (d) (e) (f) (g) (h) (i) (j)
(2) pond (a) (b) (c) (d) (e) (f) (g) (h) (i) (j)
(3) gave (a) (b) (c) (d) (e) (f) (g) (h) (i) (j)
(4) head (a) (b) (c) (d) (e) (f) (g) (h) (i) (j)
(5) love (a) (b) (c) (d) (e) (f) (g) (h) (i) (j)

- | | | | |
|----------------------|---------------------|----------------------|---------------------|
| (a) <u>encourage</u> | (b) <u>wallet</u> | (c) <u>knowledge</u> | (d) <u>neighbor</u> |
| (e) <u>comb</u> | (f) <u>color</u> | (g) <u>guess</u> | (h) <u>strange</u> |
| (i) <u>soul</u> | (j) <u>precious</u> | | |

問 3 次の(1)~(5)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) Knowing something is not quite the same understanding it.
① with ② as ③ than ④ to
- (2) Mr. Kato's mother was a child during World War II, so she many hardships at that time.
① must have experienced ② must to experience
③ must had experienced ④ must experience
- (3) I really like your shoes. I think I'll get like that myself.
① any ② one ③ them ④ some
- (4) Daisuke has never climbed Mt. Fuji, and .
① neither me ② I have neither
③ neither I have ④ neither have I
- (5) When the princess the room, everyone stood up.
① entered ② entered in
③ entered to ④ entered into

問 4 文章中の(1)~(5)の空欄に入れるのに最も適切な英文を、枠内の①~⑤の英文からそれぞれ一つ選べ。

Two opposite views of classroom instruction are the *transmissional* approach and the *constructivist* approach. These different approaches to teaching and learning are compared here so that readers will become more aware of their distinctions and be able to decide the type of teacher they want to become.

(1) . Much of the instruction provided in textbooks is of this type. In this approach, the teacher's manual provides directions about how to conduct the lesson, includes questions to ask students, and makes suggestions for student assignments and assessments. Transmission teachers rely extensively on textbook teaching to select instruction methods and materials for their students. (2) . What they do deliver are memorization skills and unchanging textbook information. To some extent, administrators and parents may support this type of teaching because they believe it ensures a consistent level of instruction from every teacher. (3) , because it assumes that textbook writers are better judges of how to teach than the teacher who is standing before the students. The transmissional view also sees the teacher as a kind of inflexible pipe carrying information from text to student. Transmissional teaching minimizes the individual needs, interests, and motivations of both teachers and students. Unfortunately, by relying so much on the textbook, teachers often fail to meet the unique needs of their students.

Another view of instruction is that of the constructivist teacher, that is, a teacher who is a reflective problem solver. (4) . Although a teacher can and should provide experience and guidance for students, all new knowledge is put together by the student to produce a unique understanding based on previous knowledge.

In the constructivist approach, the professional judgment of the teacher is

essential, as he or she makes decisions in the classroom to design experiences that encourage student learning. Learning cannot be made to occur by force, but must be skillfully encouraged. This type of teaching requires a skillful, intelligent, and sensitive teacher. (5), based on what students currently know and what they need to learn to bring them to the next level in their development.

- ① In this view, learners construct their own knowledge by searching for meaning through experiences about the world
- ② However, many educators view such a curriculum as an offence to the professional teacher
- ③ The transmissional approach to teaching describes instruction methods as a set of procedures that a teacher should precisely follow to produce student learning
- ④ It requires that teachers be reflective about the events of the classroom and carefully plan lessons
- ⑤ It is based on an assumption that following cookbook classroom procedures ensures that all students will learn at a consistent level

問 5 正しい英語の文章になるように、空欄 ア ~ ノ に入る語句をそれぞれ①~⑤のうちから選べ。

(1) I hope he can ア イ ウ エ オ .

- ① about
- ② the reforms he
- ③ talks
- ④ out
- ⑤ carry

(2) A Web camera can カ キ ク ケ コ .

- ① help
- ② on their kids
- ③ an eye
- ④ mom and dad
- ⑤ keep

(3) In a more friendly discussion, I a better understanding of his viewpoint.

- ① been ② have ③ would
④ get ⑤ able to

(4) This is just to .

- ① the date of ② you ③ the meeting
④ of ⑤ remind

(5) She will .

- ① the room ② make ③ her
④ clean ⑤ sister

問 6 次の会話(1)~(3)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) Kelly: How's the stew?

Matt: It's delicious. What's in it?

Kelly: Beef, carrots, onions... um, tomatoes...

Matt: Oh, , I won't be here for dinner tomorrow — I'm going to a welcome party.

- ① off track
② in place
③ by the way
④ what's more

(2) Vicky: I'm just going shopping. Do we need anything?

Andrea: Let me think — we need some milk and some orange juice.

Vicky: ?

Andrea: No, I think that's all.

- ① Is that all
② Go right ahead
③ Anything else
④ What others

(3) Amelia: Hello, Toby. How's everything with you?

Toby: Not so good. I failed my driving test.

Amelia: Oh, ! How did that happen?

Toby: I went backwards instead of forwards.

- ① what a shame
- ② lucky you
- ③ you're bad news
- ④ congratulations

問 7 次の文章は、あるパズルと、その解き方を示したものである。空欄 ア ~ ト に選択肢から正しい値をそれぞれ①~⑩のうちから一つ選べ。(但し、値が1桁だけのときは上位の桁を0とせよ。例えば、5のときは、⑩⑤と答えよ。)

選択肢

①	1	②	2	③	3	④	4	⑤	5
⑥	6	⑦	7	⑧	8	⑨	9	⑩	0

Puzzle: At six o'clock in the morning the wall clock struck 6 times and the time between the first and last strokes was 30 seconds. How long will the clock take to strike at noon?

Answer: It seems that one can answer this puzzle without giving it much thought or defining the meaning of a stroke properly. If 6 strokes take 30 seconds, then a single stroke "takes" 5 seconds. Hence 12 strokes will take $12 \times 5 = 60$ seconds, a full minute. Right? Well, not exactly. Problem-solving activities require some reasoning skills, and the first skill required is the ability to understand the problem, including the meaning of a stroke.

Actually, the problem is not that easy; as a matter of fact, if we don't make any additional assumptions, there would be no unique solution! Simple reasoning should convince us that this is the case. To start with, note that a

stroke can be defined as a period of sound and there is a break between any two consecutive strokes. So if the clock struck 6 times, then the time between the first and last strokes in the puzzle is really the total of (a) the time for all 6 strokes and (b) the time for 5 breaks between strokes. If x and y represent the times required for a single stroke and for a break between two strokes, respectively, then the information given in this puzzle can be written as:

$$6x + 5y = 30 \quad (1)$$

The question is, on the other hand, how long will the clock take to strike 12 times? As there would be $\boxed{\text{ア}}$ $\boxed{\text{イ}}$ breaks in the sequence of $\boxed{\text{ウ}}$ $\boxed{\text{エ}}$ strokes, the question is:

$$\boxed{\text{ウ}} \boxed{\text{エ}} x + \boxed{\text{ア}} \boxed{\text{イ}} y = ? \quad (2)$$

Of course, multiplying equation (1) by 2 leads us to the following:

$$12x + 10y = \boxed{\text{オ}} \boxed{\text{カ}} \quad (3)$$

So, by transforming equation (2) to

$$\begin{aligned} \boxed{\text{ウ}} \boxed{\text{エ}} x + \boxed{\text{ア}} \boxed{\text{イ}} y &= (12x + 10y) + \boxed{\text{キ}} \boxed{\text{ク}} y = \\ \boxed{\text{オ}} \boxed{\text{カ}} + \boxed{\text{キ}} \boxed{\text{ク}} y, \end{aligned} \quad (4)$$

we know that the time between the first and last strokes would be more than $\boxed{\text{オ}} \boxed{\text{カ}}$ seconds.

If we do not know the length of a break, it would be impossible to solve the problem. For example, if it takes 1 second to strike then a break takes $\boxed{\text{ケ}} \boxed{\text{コ}} \boxed{\text{サ}}$ seconds, as $6x + 5y = 30$. In this case, it will take $\boxed{\text{シ}} \boxed{\text{ス}} \boxed{\text{セ}}$ seconds for 12 strokes. If, on the other hand, it takes 2 seconds to strike, then a break takes $\boxed{\text{ソ}} \boxed{\text{タ}} \boxed{\text{チ}}$ seconds. In this case it will take $\boxed{\text{ツ}} \boxed{\text{テ}} \boxed{\text{ト}}$ seconds for 12 strokes. As you can see, the puzzle has many possible solutions.

問 8 次の記事を読み図表を参考にして(A)~(C)の問題に答えよ。

By 2014, cell-phones and other mobile devices will send and receive more data each month than they did in all of 2009. Three-fourths of the total will come from Internet access and nearly all the rest from audio and video (AV) streaming.

A big part of the increase in mobile data will come from *cloud computing applications*¹. *Utility software*² will lead the way, followed closely by productivity tools, then social networking and search. This is the prediction of a telecommunications analysis firm.

According to a senior analyst, the number of people *subscribing to*³ mobile cloud applications will rise from 71 million to nearly a billion with the addition of 927 million new subscribers by 2014. The firm defines an application as related to cloud computing when it “is no longer dependent on the device for data storage or processing power.” Understood this way, much online-game playing is not covered by cloud computing. Still, games will be the fifth most popular application area.

Asia will have by far the largest number of mobile cloud subscribers, but North America will receive nearly as much in sales income, because high-paying companies will have a larger share of the market there.

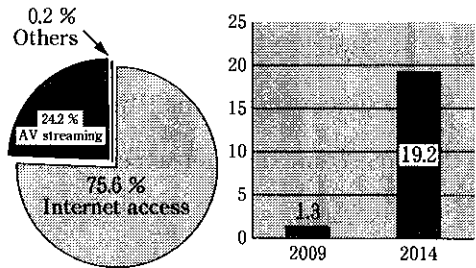
But what will it be like for consumers? The senior analyst expects mobile banking to be big, and he says cloud computing applications will also let us remotely “change thermostat settings, turn lights on or off, and record TV shows. A security products maker even has a keyless entry system that now lets you open your front door for someone via your phone.”

Mobile cloud subscribers (millions)

	2009	2014
Worldwide	71	+ 927

Expected increase in cloud application subscribers. by category (millions)

	2009	2014
Utilities	48	+ 325
Productivity	11	+ 352
Social Networking	22	+ 267
Search	14	+ 215
Games	13	+ 49



Mobile data in 2014 by application area Mobile data world market (10¹⁸ bytes)

- ¹cloud computing application : 最近の計算機処理の実現形態の一つである“クラウド・コンピューティング”によって動く応用ソフトウェア
- ²utility software : コンピュータの使い勝手を向上させるソフトウェアの総称
- ³subscribe to : 申し込んで加入する

(A) 次の二つの質問に対し数値で答えよ。小数点以下は切捨てて整数とせよ。空欄 ア ~ オ に下記の選択肢から正しい値をそれぞれ①~⑩のうちから選べ。(但し、値が1桁あるいは2桁となる場合は上位の桁を0で埋めよ。例えば、下記の(2)でもしも値が4.6ならば小数点以下を切捨てて、⑩⑩④と答えよ。)

(1) What is the predicted increase in mobile data from 2009 to 2014?

Answer: ア イ times

(2) How many utilities subscribers in total will there be in 2014?

Answer: ウ エ オ million

選択肢

①	1	②	2	③	3	④	4	⑤	5
⑥	6	⑦	7	⑧	8	⑨	9	⑩	0

(B) 次の二つの質問の答えをそれぞれ選択肢①～⑤のうちから選べ。

- (1) Which application area will have the biggest growth rate from 2009 to 2014?
- (2) Which application area will have the second biggest growth rate from 2009 to 2014?

- ① Games
- ② Productivity
- ③ Utilities
- ④ Search
- ⑤ Social Networking

(C) この記事に最もふさわしい題名を①～④のうちから選べ。

- ① Current trends in cloud computing and telecommunications
- ② Cloud computing will increase online gaming
- ③ Forecast for cloud computing via mobile devices
- ④ The future of Internet access usage

問 9 次の文章を読み、(1)～(6)の質問の答えとして本文の内容を最もよく表しているものを①～④のうちから一つ選べ。

The newspaper industry may be hoping Apple's iPad will help it survive, but just putting the printed word online won't be enough. The time has come for creativity and a new approach to the way in which content is delivered.

At the recent iPad presentation, New York Times manager Jennifer Brook said that her paper's iPad application had "captured the essence of reading a newspaper."

Brook may not have meant to suggest that the device was simply going to enable newspapers to be read in the old way. However, her comment is interesting: The people who run the most respected newspaper in the United States are not working on creating something new. They just want to be able

to get their old products to the consumer using new delivery methods.

Yet that way of thinking is far too narrow, as was clear at the iPad show.

US Major League Baseball (MLB), in presenting its iPad application, made it clear it wants to make the sport a whole new experience. It will be possible to switch between several video and audio broadcasts of the games. Users can get the statistics on individual players and compare the game history of the hitters and pitchers. They can also find a huge amount of interesting data that might be relevant to the game they are watching. There were two aspects of the short MLB presentation that were immediately impressive and that traditional media companies will have to think about when mobile devices like the iPad become popular.

First, the baseball application does not distinguish clearly between text and video. They flow into one another and merge with interactive graphics to create a new way of providing information. Second, the application, which is not free, will not be distributed by traditional media companies but by MLB itself.

Clearly, a lot of people are going to be using devices like the iPad in a few years. There will not just be more variety in these kinds of devices but also greater competition. Those who are hoping to make big profits with the new applications will have to think carefully about what they actually want to sell, how they are going to use the devices to do so, and what consumers can be expected to pay for.

The current thinking in the media industry is that it will soon be possible to charge for digital content, as soon as there are new, better devices. Up to now users have not been willing to pay for content on the Internet. Magazines and newspapers hope that the Apple iPad will succeed in starting this revolution. While this is very uncertain, it is also not a completely crazy idea, as long as the media industry manages to offer something new for these new devices.

Capturing “the essence of reading a newspaper” won’t be enough. If the new technology develops in the way manufacturers like Apple hope, then iPads, Google Netbooks, and Amazon Kindles won’t just be about reading. They will be devices that involve viewing, clicking and a whole lot more. And in journalism, it will mark a complete revolution in how news is delivered.

Currently news is something that most people read during the day on a computer, at home, or in the office. People are looking for a quick overview of the most important news in a well ordered format.

However, the new devices have high contrast and are light and cheap enough to take on the train, or to the park, to look at in bed or on the sofa, in a field, or at the beach. And it is now possible for different ways of presenting information and different themes to become popular.

One only has to look at online videos to see how the user environment can influence the demand. They are usually viewed in the evening at home, rather than at a desk, like other online content.

That does not mean that people want to watch TV on the Internet. Users of digital content don’t want to be constantly clicking at a computer, but they do want to have the opportunity to do so when they feel like it. Sitting quietly watching 15 minutes of the evening news is not going to be what iPad users are looking for. An application like the one developed by MLB is far more attractive in the way that it combines text and video in a new interactive display format.

That is not to say that media companies need to copy this particular way of displaying content. It is simply showing that what is needed now is creativity.

The essence of a newspaper is good journalism. How it can be made to function on devices like the iPad is an important question — perhaps just as important as how to make money from the content online.

- (1) What is the most appropriate title for the article?
- ① New device captures the essence of reading a newspaper
 - ② How will the iPad help media companies make money online?
 - ③ Will the iPad revolutionize the way we read newspapers?
 - ④ Major League will become a whole new ballgame with the iPad
- (2) What is the writer's main recommendation to newspaper companies?
- ① They should provide users with the opportunity to read the news anywhere.
 - ② They should use devices like the iPad to present news in different ways.
 - ③ They should make users pay for the online content they provide.
 - ④ They should combine text and video interactively to make sports news more attractive.
- (3) Does the writer think it will be possible for media companies to charge for digital content?
- ① No, because Internet users have been traditionally unwilling to pay for content.
 - ② Yes, but only when there are new, improved devices.
 - ③ Possibly, if the applications they provide offer users something new.
 - ④ Maybe, but they cannot expect to make big profits.
- (4) Which of the following statements is correct according to the article?
- ① Most people read the news after returning home, though they are eager to do so at the office.
 - ② iPad users watching the evening news may want to click at the device to obtain interesting related data.
 - ③ In future, people will be able to watch the news on the sofa by looking at three-dimensional pictures created by the new media industry.
 - ④ The new devices make it possible to read the news at the office without being noticed by the manager.

- (5) In what way will the MLB application be a new experience?
- ① Statistics on individual players will become available on the Internet.
 - ② Users will be able to enjoy baseball games in a variety of ways.
 - ③ The application will be distributed by MLB itself.
 - ④ Users will be able to both watch and listen to baseball games.
- (6) Why does the writer say that “capturing ‘the essence of reading a newspaper’ won’t be enough”?
- ① iPads will have strong competition from Google Netbooks and Kindles.
 - ② People will not have enough time to read a lot of news in the future.
 - ③ Media companies should try to present the news in a more flexible way.
 - ④ People want to be able to get the most important news in a well-ordered format.