

デザイン工学部A方式 I 日程・理工学部A方式 I 日程  
生命科学部A方式 I 日程

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。

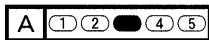
マークシート解答方法についての注意

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)。

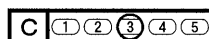
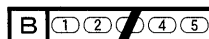
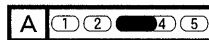
記入上の注意

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。

[ I ] つぎの Yoko と Kenji の会話を読んで後の問の答えとしてふさわしいものをイ  
～ニの中から一つ選び、その記号を解答用紙にマークせよ。

Yoko: Hey, Kenji. Did you go to the gathering about applying to foreign universities?

Kenji: Oh no! You mean that meeting was today?

Yoko: Yeah.  A ! It just finished. It was so encouraging. After hearing the students speak, I really felt that studying at a top school abroad is a realistic option.

Kenji: I'm really interested, but my brother says that studying abroad is risky.

Yoko:  B ! People used to say that studying abroad risked going off the traditional track to good jobs. But the job market is changing.

Kenji: Maybe you're right. I've read that some Japanese companies even use English as their common language now.

Yoko:  C ! The real risk may be in having an education only in Japan.

Kenji: Hmm, I never thought of it that way. By the way, could you tell me more about what the students said?

Yoko: Well, as one student said, "Go with the option that opens the most doors for you."

Kenji:  D !

問1 空欄  ~  に入る語(句)として最もふさわしいものをイ  
~ニから一つ選び、その記号を解答用紙にマークせよ。ただし、各選択肢  
は一度しか使用できない。

イ Exactly

ロ What great advice

ハ Not anymore

ニ Too bad

問2 留学生のミーティングに出席したのはだれか。イ~ニから一つ選び、その  
記号を解答用紙にマークせよ。

イ Yoko and Kenji

ロ Kenji and his brother

ハ Kenji

ニ Yoko

問3 この会話から示唆される内容として適切なものはどれか。イ~ニの中から  
一つ選び、その記号を解答用紙にマークせよ。

イ Attending a foreign university is risky.

ロ Attending a foreign university may boost your career.

ハ Attending a foreign university guarantees success.

ニ Attending a foreign university is costly.

[ II ] つぎのスミス先生(Professor Smith)とグレース(Grace)の会話を読んで、後の問の答えとして最も適切なものをイ～ニの中から一つ選び、その記号を解答用紙にマークせよ。

Grace: Excuse me, Professor Smith, could I have a moment?

Professor Smith: Sure, of course. You're uh...Lynn from my conversation class, aren't you?

Grace: Actually, I'm Grace, and I'm in your British Culture class.

Professor Smith: Oh, I'm terribly sorry. I always confuse students' names.

Grace: Don't worry about forgetting my name. I always enjoy your class. Do you remember the assignment you gave us yesterday?

Professor Smith: English jokes?

Grace: Yes. I got most of them, but there is still one I couldn't understand at all. The joke, 'Why didn't the skeleton go to the party?' To be honest, I couldn't sleep last night because of this question.

Professor Smith: You shouldn't have worked so hard on this particular joke! You know about skeletons, right? What does a skeleton have? And what does it NOT have?

Grace: Well, it has only bones, and it doesn't have any flesh.

Professor Smith: So, does a skeleton have a body?

Grace: ...Oh, now I get it. It didn't go to the party because it had no-body!

Professor Smith: Yes, because it had *no-body to go with*.

Grace: Thank you, sir!

Professor Smith: You're welcome, Grace. Sleep well tonight.

問1 What made Grace stay awake last night?

イ a ghost

ロ too much drinking

ハ her homework

ニ a nightmare

問2 What is the main topic of this conversation?

イ sleeping and dreams

ロ how to enjoy a party

ハ studying abroad

ニ a joke

問3 What is Mr. Smith's attitude toward Grace?

イ strict

ロ confident

ハ critical

ニ kind



- (9) You should avoid  just before you go to bed.  
 イ to eat    □ eating  
 ハ to have eaten                                  ニ from eating
- (10) A : Why didn't you go to the party?  
 B : If I had been told you would go, I  there.  
 イ would have been                                  □ did go  
 ハ was    ニ had been
- (11) A : The weather has been  recently.  
 B : Yes. It was hot yesterday, but we had snow this morning.  
 イ comfortable    □ changeable    ハ mild                          ニ beautiful
- (12) A : Mom, I got a perfect score on the English test!  
 B : You  it, Catherine. You worked really hard.  
 イ regret                          □ repeat                          ハ say                          ニ deserve
- (13) A : What do you think  the most important for you to settle  
 into a culture different from yours?  
 B : To make many friends there.  
 イ about                          □ are                          ハ is                          ニ of
- (14) A : There are two bookstores near the station. Which one do you  
 prefer?  
 B : It doesn't  which store we go to. I'm sure that either  
 would have the books I need.  
 イ concern                          □ matter                          ハ important                          ニ care

〔IV〕 つぎの英文は、Koji が感動した映画について行ったスピーチの原稿である。  
 これを読んで空欄(1)~(8)に入る適切な語をイ~ニの中から一つ選び、その記号を  
 解答用紙にマークせよ。

The film that  me most is *Stand By Me*. I have two reasons  
 this opinion. First, it  me of my long lost childhood.  
 The film deals with four twelve-year-old kids who go on a short trip. They  
 are full of curiosity and dreams. It makes me  I could be twelve  
 years old again. Second, it features my favorite song, *Stand By Me*,  
 by Ben E. King. Every time I listen to the song, I am  by  
 the guitar sound and feel . I like the lyrics, too. For these two  
 reasons, the film *Stand By Me* really inspires me. I would like to have the  
 same curiosity and dreams  the boys have in the film.

- |                   |            |               |            |
|-------------------|------------|---------------|------------|
| (1) イ moves       | □ happy    | ハ sad         | ニ makes    |
| (2) イ of          | □ with     | ハ in          | ニ for      |
| (3) イ recalls     | □ reflects | ハ resumes     | ニ reminds  |
| (4) イ want        | □ wish     | ハ hope        | ニ expect   |
| (5) イ compose     | □ written  | ハ to compose  | ニ to write |
| (6) イ discouraged |            | □ upset       |            |
| ハ impressed       |            | ニ embarrassed |            |
| (7) イ relaxing    | □ relaxed  | ハ confusing   | ニ confused |
| (8) イ as          | □ where    | ハ what        | ニ if       |



[V] つぎのインターネットについての英文を読んで、後の問の答えとして最も適切なものをそれぞれイ～ニの中から一つ選び、その記号を解答用紙にマークせよ。  
なお、[ ]はパラグラフ番号を示す。

[1] The Internet is a useful tool in modern society. For example, many travelers can obtain information about their destinations, book cheap hotels and air tickets, and even find partners to travel with. The Internet is also a highly entertaining medium. With the click of a mouse, we can enter a different world where we are free from the problems of the real world. Thus, the Internet is enormously beneficial in our daily lives.

[2] However, a serious consequence of the Internet's popularity has emerged: it is known as Internet addiction. Internet addiction is surging to the top ranks of social problems in Asian countries such as Japan, South Korea, China, Taiwan and Singapore, as Internet usage in Asia in terms of absolute numbers of users has overtaken the U.S. and Sweden, both of which had the highest percentage of Internet users in 2004. Many recent phenomena illustrate this. For example, about 60,900 people in Japan stay overnight at Internet and manga cafes; most of them (82.6%) are males. Furthermore, Japanese replaced English as the most common language used in blogs in late 2006. This is remarkable in that only 1.8 per cent of the world's population speaks Japanese and Japanese people account for only 7.1 per cent of the global online population.

[3] Internet addiction disorder is defined as excessive computer use that eventually interferes with daily life. Internet addiction is just like addiction to drugs and alcohol in many ways. Internet addicts even suffer from withdrawal symptoms if they are unable to use the Internet. They become short-tempered, experience mood swings and spend less time socializing with people. Internet addiction can also lead to poor academic performance among student addicts.

[ 4 ] While anyone can become addicted to the Internet, children are most at risk. A hospital in Kanagawa Prefecture in Japan, which is famous for its alcoholism treatment program, set up a program dedicated to Internet addiction. It has received 85 patients up until now, and over 70 per cent of them were junior high or high school students. In China, a survey conducted in 2009 found that over 17 per cent of Chinese citizens between 13 and 17 were addicted to the Internet. Moreover, approximately 42 per cent of young Chinese consider themselves addicts. The number of young Chinese Internet addicts soared to 24 million, and one of every seven Internet users is now considered an addict. These addicts spend roughly 6 hours online each day.

[ 5 ] Since they are not mature enough to control their curiosity, it is parents' responsibility to monitor their children's behavior and Internet usage. Research shows that children who use the Internet more than 3 hours a day on average are twice as vulnerable to addiction as those who do not. These children should be advised to reduce the time spent on their computers to less than one hour a day. Parents should be encouraged to install the computer in an open space such as a living room or a dining room, so that they can watch their children more carefully to prevent them from spending too much time on the Internet.

[ 6 ] Another type of people who tend to become addicted are those who lack solidarity with others. They may try to compensate for the lack of solidarity with family or friends by creating relationships on the Internet. How long will it take before they themselves realize that the unreal relationships that exist on the Internet are temporary, fragile and cannot substitute for real-world relationships?

問1 What would be the best title for this passage?

- イ Overuse of the Internet
- ロ History of the Internet
- ハ Future of the Internet
- ニ Entertainment and the Internet

問2 Which of these problems is often caused by Internet addiction?

- イ suicide
- ロ short temper
- ハ drug abuse
- ニ alcoholism

問3 What kind of people tend to become addicted to the Internet?

- イ people who cannot stop using drugs, alcohol or cigarettes
- ロ quiet and shy computer technicians
- ハ hardworking people
- ニ people who lack good relationships with others

問4 Why is a hospital in Kanagawa prefecture mentioned in paragraph

[4]?

- イ to show how effective medical treatment is for Internet addiction
- ロ to show how common Internet addiction is among children
- ハ to explain how difficult it is to treat Internet addiction
- ニ to explain what Internet addiction is like

問5 Which of the following is NOT mentioned to prevent Internet addiction?

- イ forbidding Internet use
- ロ reducing time spent on the Internet
- ハ putting the computer in an open area
- ニ increasing parents' responsibility

問6 What does paragraph [ 6 ] suggest?

- イ The Internet helps us create solidarity with others.
- ロ The Internet is very useful as a communication tool.
- ハ Real-world relationships are most important.
- ニ Real-world relationships can be compensated for by relationships on the Internet.

[VI] つぎの英文は、インドシナ半島のメコン川下流域の自然環境について述べたものである。これを読み、設問に答えよ。

The lower Mekong River, which flows through Cambodia, Laos, Thailand and Vietnam, is famous for its biological diversity, with more than 850 freshwater fish species. These fish are fundamental to diets<sup>(1)</sup> and economies in the region. Eighty percent of the 60 million people who live in the area rely directly on the river for their



food and livelihoods. Laos's determination to construct a huge dam on the mainstream of the Mekong River is a significant threat to the productivity of this lifeline through Southeast Asia and the Mekong's extraordinary biological diversity.

There are 11 planned dam projects on the Mekong mainstream, and another 77 dams planned on its branches by 2030. If all 11 planned mainstream dams were built, the fish supply would be cut by 16 percent, with an estimated financial loss of US\$476 million a year, according to a new study. If all 88 projects were completed, the fish supply could fall by 37.8 percent. "The Mekong countries are striving for economic growth, and they see hydropower\*<sup>(2)</sup>1 as a driver of that growth. But they must first fully understand and take into account the true economic and social value of a free-flowing Mekong," says one of the co-authors of the study.

The study also looks at the effects of the mainstream dams on land and water as people are forced to shift to livestock such as cows, pigs and

chickens to meet their protein requirements. On top of 1,350 km<sup>2</sup> of land lost to dam reservoirs,<sup>(3)</sup> the countries would need a minimum of 4,063 km<sup>2</sup> of new pasture land to replace fish protein with livestock. If all 88 dams were built, 24,188 km<sup>2</sup> — a 63 percent increase in land dedicated to livestock — would be necessary.

With 11 dams on the mainstream, Cambodia would need to dedicate an additional 29–64 percent more water to agriculture and livestock; Laos's water demand would increase by 12–24 percent. With all 88 dams, these numbers shift dramatically, with an increase of 42–150 percent for Cambodia and 18–56 percent for Laos.

“Policymakers in the region need to ask themselves where they are going to find this additional land and water,” says the author. “The Mekong demonstrates the links between water, food and energy. If governments put the emphasis on energy,<sup>(4)</sup> there are very real consequences for food and water — and therefore people.”

It is not only the fish supply for human consumption which faces threats. The Mekong River supports levels of biological diversity in water second only to the Amazon River. The planned dam in Laos, despite a decision by the intergovernmental<sup>(5)</sup>\*<sup>2</sup> Mekong River Commission to halt the project pending further studies, would be the first of the planned dams across the lower Mekong mainstream.<sup>(6)</sup> It would become an impossible barrier for many species, signaling the end for some species of both known and as yet unknown wildlife.

Extraordinary new species are continually being discovered in the Greater Mekong. One newly discovered species is a ‘walking’ fish, found in freshwater streams on a Vietnamese island. It can move across land using its breast fins to stay upright while it crawls forward with snake-like movements. And a dazzling miniature fish, just 2 cm in length, was found in southern Thailand. It has a large dark spot on its golden body.

Another is a rose-colored fish from the carp<sup>\*3</sup> family, found in a Mekong River branch in Central Laos that runs 7 km underground through caves. The cave-dwelling fish is totally blind and was immediately assessed as vulnerable due to its restricted range.

(7) A new species of tree frog discovered in the forests of the northern Vietnamese hills has a complex call that makes it sound more like a bird than a typical frog. While most male frogs attract females by repeating a single musical note, this tree frog creates a new tune each time. No two calls are the same, and each individual mixes various sounds in a unique order. Another species of frog discovered in the wet forest in Southern Vietnam, is distinguished by its striking black and white eyes.

(8) All these species will be in danger if the planned dams bring about severe environmental changes in the Mekong River region. The governments in the region have to assess more carefully both the environmental and the human impacts of the energy development projects.

語注

\*1 hydropower : 水力発電

\*2 intergovernmental : 多国政府で構成される

\*3 carp : 鯉こい

問1 下線部(1)~(8)の語(句)について、意味が最も近いものをそれぞれイ~ニから一つ選び、その記号を解答用紙にマークせよ。

(1) fundamental

イ preferable    □ similar    ハ basic    ニ superior

(2) striving

イ asking    □ stopping    ハ running    ニ trying

(3) meet

イ lower    □ make    ハ end    ニ satisfy

(4) links

イ flows    □ relations  
ハ distances    ニ communications

(5) second only to

イ behind only    □ only in front of  
ハ ahead of    ニ only in the face of

(6) pending

イ making    □ awaiting    ハ living    ニ viewing

(7) vulnerable

イ serious    □ at ease  
ハ at risk    ニ dangerous

(8) distinguished

イ characterized    □ disabled  
ハ defeated    ニ promoted



問2 つぎのイ～ヌの英文の中から本文の内容に合っている文を三つ選び、その記号を解答用紙にマークせよ。

- イ The Mekong River Committee provides information to promote fishing.
- ロ The rate of discovering new species of fish and frogs has declined recently.
- ハ Some of the newly discovered species are thought to be in danger.
- ニ The use of the Mekong River's water resources has been disputed for a long time.
- ホ The dams are necessary to secure drinking water for the people of the region.
- へ Demands for energy, food and water are in conflict in the lower Mekong River region.
- ト Waste from livestock is a threat to the environment in the Mekong region.
- チ Hydropower is the key to reducing the emission of greenhouse-effect gases.
- リ More than three times as much land is required for additional livestock as for mainstream dam reservoirs.
- ヌ Energy development should be given the highest priority for economic growth.

問3 本文のタイトルとして最もふさわしいものをイ～ニから一つ選び、その記号を解答用紙にマークせよ。

- イ Difficulty of Long-term Predictions
- ロ Importance of Preserving Biological Diversity
- ハ Broad Consequences of Dam Construction
- ニ Intergovernmental Agreements on Regional Water Systems

〔VII〕 つぎの英文は、オランダの気象庁(Netherlands Meteorological Institute)の研究者が報告した新しい天気予報システムについて述べている。これを読み設問に答えよ。

Forecasting the weather requires huge quantities of data. Many of these data are collected by high-tech means such as satellites and radar, and then crunched by some of the world's fastest supercomputers. Using these data, weather predictions are far more accurate than they were 20 years ago. But low-tech tools are important too — especially old-fashioned rain gauges, which are nothing more than tubes with funnels\*<sup>1</sup> fixed to places such as the tops of roofs. a

Each technique has its upsides and downsides. Radar and satellites can cover large areas of land, yet they lack detail. Gauges are much more accurate, but the price of that accuracy is spotty coverage. It also costs a lot of money to maintain rain gauges. For example, automatic gauges should really be reset regularly because all kinds of measurement errors may otherwise occur. This may be one of the reasons that the number of rain gauges in Europe, South America and Africa declined by nearly 50 percent between 1989 and 2006.

b Now, though, Aart Overeem of the Netherlands Meteorological Institute and his colleagues reckon they have come up with another way to keep an eye on the rain. It seems to offer both broad coverage and fine detail. Best of all, it relies on something that is already present almost everywhere — the mobile-phone network.

Their scheme starts from the observation that rain can make it harder for certain sorts of electromagnetic radiation\*<sup>2</sup> to travel through the atmosphere. Measure this resistance (and remove any other sources of variation) and you can measure how rainy it is. c The researchers do not measure the strength of mobile-phone signals themselves. Instead,

they rely on something that mobile networks already do, and measure the strength of the microwave links between base stations. Electromagnetic signals travel from the antenna<sup>\*3</sup> of one telephone tower to the antenna of another telephone tower. When it starts raining, the signal gets weaker. The more raindrops there are and the larger their size, the larger the decrease in the received signal power.

The idea itself is not new, and there have been a number of trials in recent years. But, Dr. Overeem and his colleagues have successfully applied the technique to an entire country. Using data from around 2,400 links between base-stations which belong to one of the Netherlands' three mobile-phone operators, they were able to generate a rain map of the whole country every 15 minutes.

Like all the best science, the idea is both technically elegant and practically useful. Dr. Overeem points out that simply coming up with another way to measure rainfall is handy by itself, since it allows better cross-checking of existing methods. There are other advantages, too. Coverage is one. Even in rich countries with well-financed weather forecasters, there are likely to be a far greater number of mobile-phone base stations than rain gauges. That is even truer in poor countries, where rain gauges are scarce and radar often nonexistent, but mobile phones common.

<sup>(B)</sup> d For instance, in Africa, people often have mobile phones and there is an infrastructure of telecommunication networks, but the number of rain gauges is quite low. In fact, a mobile-phone trade group estimates that 90 percent of the world's population lives within range of a base station.

Another boon is that network operators tend to keep a close eye on their <sup>(6)</sup> microwave links. Although the researchers were able to obtain data only every 15 minutes, some companies sample their networks once a minute. That means rainfall could, in principle, be measured almost in real time, something that neither gauges nor radar nor satellites can manage.'

e Snow is harder than rain for microwaves to detect, for example. And there are other limitations. Mobile networks are densest in urban areas, which are also the places most likely to have meteorological equipment already. Even in the rich, urbanized Netherlands, coverage outside cities was noticeably spottier. But that might eventually prove to be a boon. That is, if the technology becomes widespread then weather forecast organizations might contribute to the cost of installing base stations in areas with no coverage. The 10 percent of the world's people who are not yet within range of a mobile-phone network might be thankful for this.

語注

\*1 funnel : じょうご

\*2 electromagnetic radiation : 電磁気放射

\*3 antenna : アンテナ

問1 下線部(1)~(7)の言い換えとしてもっとも適切な語をそれぞれイ~ニから一つ選び、その記号を解答用紙にマークせよ。

(1) **crunched**

イ controlled

□ informed

ハ processed

ニ programmed

(2) **accurate**

イ wide

□ loose

ハ steady

ニ correct

(3) **spotty**

イ consistent

□ irregular

ハ clear

ニ neutral

(4) **reckon**

イ whisper

□ believe

ハ confess

ニ shout

(5) **nonexistent**

イ absent

□ real

ハ difficult

ニ imaginary

(6) **boon**

イ reality

□ possibility

ハ disadvantage

ニ benefit

(7) **densest**

イ fastest

□ lightest

ハ thickest

ニ clearest

問2 下線部(A)と(B)の意味内容に最も近いものを次のイ～ニの中から一つ選び、その記号を解答用紙にマークせよ。

(A) another way to keep an eye on the rain

- イ broad coverage and fine detail
- ロ radar and satellites
- ハ Netherlands Meteorological Institute
- ニ mobile-phone networks

(B) That

- イ Another advantage
- ロ Having more base stations than gauges
- ハ The lack of rain gauges and nonexistent radar
- ニ The existence of well-financed weather forecasters

問3 次の文章を本文に入れるとしたら最も適切な場所はどこか。空欄

~  の中から一つ選び、その記号を解答用紙にマークせよ。

The technology is not perfect.

問4 本文の内容と一致する英文をイ～ヌから三つ選び、その記号を解答用紙にマークせよ。

- イ Rain gauges are accurate and inexpensive to maintain.
- ロ Mobile phone network operators are currently measuring rain in real time.
- ハ Due to dense mobile phone networks in urban areas, rural coverage is less.
- ニ The new weather forecasting method might help to pay for mobile network expansion.
- ホ Measuring rainfall with cell-phones works well, but the method cannot be used with traditional measurements.
- ヘ Dr. Overeem conducted several trials before creating a country-wide rain map.
- ト The less the rain, the stronger the microwave signals between base stations.
- チ Mobile phone networks are too expensive to use for weather forecasting in poor countries.
- リ Accurate weather forecasts using mobile phones can help to prevent flooding.
- ヌ Mobile phone networks are an effective way to measure rainfall.

問5 本文から読み取れる内容をイ～ニから一つ選び、その記号を解答用紙にマークせよ。

- イ It takes time for society to use new technology wisely.
- ロ It often takes many failures before technology can be used in daily life.
- ハ New devices can lead to fewer economic benefits over the long term.
- ニ Devices developed for one purpose may be used for other purposes.