

デザイン工学部A方式Ⅱ日程・理工学部A方式Ⅱ日程
生命科学部A方式Ⅱ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)。

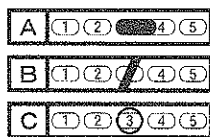
記入上の注意

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] じゃんけんに関するつぎの英文を読み、設問に答えよ。

How can you win at Rock-Paper-Scissors (RPS)? Contrary to what you might think, RPS is not simply a game of luck or chance. While it is true that from a mathematical perspective the best strategy is to play randomly, humans are terrible at trying to be random. (あ), when trying to be as random as possible, humans often become quite predictable. If you know that there is always something motivating your opponent's actions, you will find a couple of tricks and techniques that you can use to tip the balance in your favor.
(a)

Here are the seven top secrets to winning at RPS.

・ Rock is for Rookies

When playing RPS, a well-known fact is “Rock is for Rookies,” because beginners have a tendency to lead with Rock on their opening throw. It has a lot to do with the idea that Rock is perceived as strong and forceful. Use this knowledge to take an easy first win by playing Paper. This tactic is best done in casual matches against someone who doesn't often play, (い) it generally won't work in a tournament.
(b)

・ Scissors First

The second step in the “Rock is for Rookies” line of thinking is to play Scissors as your opening move against a more experienced player. (う) you know they won't come out with Rock (because it is too obvious), Scissors is your safe move to win against Paper or at least to have a draw.

・ The Double Run

When playing with someone who is not experienced at RPS, look out for

double runs or, in other words, throwing the same throw twice. When this happens you can safely eliminate that throw and guarantee yourself at worst a draw in the next game. So, when you see a two-Scissors run, A. Why does this work? People hate being predictable, so that they won't come out with the same throw three times in a row.

· Tell Your Throw in Advance

Tell your opponent what you are going to throw and then actually throw what you said. Why? As long as you are not playing against someone who actually thinks you are bold enough to tell your throw and then actually deliver it, you can eliminate the throw that beats the throw you are telling. So, B, which means that your Rock will give you at worst a draw and at best a win.

· Step-Ahead Thinking

If you don't know what to do for your next throw, try playing the throw that would have lost to your opponent's last throw. It sounds weird but it works more often than not. Why? Inexperienced players will often unconsciously deliver the throw that beat their last one. Therefore, if your opponent played Paper, C. This is a good tactic in a draw situation or when your opponent lost their last game. It is not so successful after a player has won the last game because they are generally in a more confident state of mind which causes them to be more active in choosing their next throw.

· Suggest a Throw

When playing against beginners who ask you to remind them about the rules, take the opportunity to subtly "suggest a throw" as you explain by physically showing the throw you want them to play. For example, say

“Paper beats Rock, Rock beats Scissors (showing Scissors), Scissors (showing Scissors again) beats Paper.” Believe it or not, when people are not paying attention, . A very similar technique is used by magicians to get someone to take a specific card from the deck.

・ When All Else Fails Go with Paper

Do you have a clue what to throw next? If not, then go with Paper. Why? Statistically, in competition play, . Specifically, it gets delivered 29.6% of the time, so it is slightly under the expected average of 33.3% by 3.7%. Obviously, knowing this only gives you a little advantage, but in a situation where you just don't know what to do, even a slight edge^(g) is better than none at all.

問1 文中の空欄(あ)～(う)に入る最も適切な語(句)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。

- | | | | | | | | |
|-------|-------------|---------|------------|----------|--------|---|-------|
| (あ) イ | In addition | □ | In advance | | | | |
| | ハ | In fact | ニ | In short | | | |
| (い) イ | but | □ | for | ハ | or | ニ | so |
| (う) イ | While | □ | Although | ハ | Before | ニ | Since |

問2 文脈に照らして下線部(a)~(g)に最も近い意味の語(句)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。

(a) tip the balance in your favor

イ give yourself an advantage

ロ accept your opponent

ハ find out your opponent's thinking

ニ test your skills in RPS

(b) lead with

イ resort to

ロ get along with

ハ make up

ニ start with

(c) predictable

イ misunderstood

ロ controlled

ハ confused

ニ guessed

(d) bold

イ nervous

ロ smart

ハ daring

ニ willing

(e) eliminate

イ reuse

ロ exclude

ハ reconsider

ニ expect

(f) weird

イ interesting

ロ strange

ハ exciting

ニ different

(g) edge

イ help

ロ border



ハ sharpness









ニ activity

問3 文中の空所A～Eに入る最も適切なものをイ～ホから選び、その記号を解答用紙にマークせよ。同じ選択肢を二度以上繰り返して使うことはできない。

- イ it has been observed that Scissors is thrown the least often
- ロ you know their next move will be Rock or Paper, so Paper is your best move
- ハ their unconscious mind will often accept your suggestion
- ニ if you announce Rock, your opponent won't play Paper
- ホ they will very often play Scissors, so you go for Rock

問4 直前のじゃんけんの結果が下図のようになった。本文の Step-Ahead Thinking の内容に従うと、つぎのじゃんけんで起こる可能性が最も高いのはどの組み合わせか。イ～ニから一つ選び、その記号を解答用紙にマークせよ。

	Inexperienced player	You
直前の結果		

イ		
ロ		
ハ		
ニ		

問5 本文の内容と一致するものをイ～ニから一つ選び、その記号を解答用紙にマークせよ。

- イ Beginners tend to appreciate a polite explanation of the RPS rules by their opponents.
- ロ It is more difficult to make Scissors with a hand than Rock or Paper. This is why Scissors is thrown the least often.
- ハ An inexperienced player cast Paper twice in a row. The other player may win at the next round with Rock.
- ニ For the opening throw, the winning strategy is the same whether you are against a beginner or an experienced player.

〔Ⅱ〕 A～Eの五つの英文を読み、設問に答えよ。

A Last Wednesday, Brenda and Regan met up after school to read the book they were both assigned in their literature class. Before they started, Brenda had already read 83 pages. She can read 1 page per minute. Regan, who has a reading speed of 4 pages per minute, had read 41 pages. Eventually they reached the same page number. What was the page number?
(a)

B When houses, shops, and industrial buildings are constructed close together, it can create (1). Building materials are usually very good at holding heat in. This property makes the areas around buildings warmer. “Waste heat” also contributes to (1). People are always burning off energy, whether they’re operating factories, driving cars, or just living their day-to-day lives. The energy people burn off usually escapes in the form of (2).

C An ellipse is like a stretched circle, as if it were pulled at the ends. The Moon’s orbit around the Earth is one example. As the size of a circle is measured by the (3), the size of an ellipse is measured by the major and minor axes^{*1}. The major axis^{*1} is the longest distance across the ellipse while the minor axis is the shortest. An ellipse is defined by two focuses, essentially the two centers of the shape. If you take any point on the ellipse, the sum of the distances to the focus points is constant. The sum of these distances is equal to the (4).

D Gaps in Earth’s surface layer, where sections of rock have slid past each other, are called faults. (5) are caused by the sudden release of

accumulated stress along these faults, releasing energy in the form of low
(d) frequency waves. Although thousands of (5) occur each year, most
(e) are too weak to be detected except by seismographs, instruments that detect
(f) and record vibrations and movements in the Earth.

E Hooke's law states that, for relatively small deformations*² of an object, the size of deformation is (6) to the deforming force or load. Under these conditions the object returns to its original shape and size upon the removal of the load. This elastic behavior of solids according to Hooke's law can be explained by the fact that small displacements of their molecules, atoms, or ions from normal positions are also (6) to the force that causes the displacement.

*¹ axis(複数形 axes) : 軸

*² deformation(s) : 変形

問1 英文Aの中の質問に対する答えをイ～ニから一つ選び、その記号を解答用紙にマークせよ。

イ 14 ロ 42 ハ 97 ニ 124

問2 文中の空欄(1)～(6)に入る最も適当な語(句)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。なお同一番号の空欄には同じ単語が入るものとする。また、単語の頭文字の大文字、小文字の区別は問わない。

(1)

イ air pollution ロ global warming
ハ heat islands ニ social stresses

(2)

イ electricity ロ heat ハ gas ニ smoke

(3)

イ width ロ length ハ angle ニ diameter

(4)

イ major axis length ロ horizontal length
ハ vertical height ニ distance between the focuses

(5)

イ earthquakes ロ continental drifts
ハ ground cracks ニ volcanic activities

(6)

イ equal ロ constant
ハ convertible ニ proportional

問3 下線部(a)~(g)に最も近い意味の語(句)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。

(a) Eventually

イ Accidentally

□ Finally

ハ Probably

ニ Unexpectedly

(b) property

イ characteristic

□ fortune

ハ estate

ニ environment

(c) day-to-day

イ hand-to-mouth

□ modern

ハ daily

ニ restless

(d) accumulated

イ transferred

□ extended

ハ calculated

ニ increased

(e) frequency

イ rate of vibration

□ interval time

ハ broadcast band

ニ energy intensity

(f) instruments

イ devices

□ products

ハ audio facilities

ニ diagrams

(g) elastic

イ universal

□ static

ハ plastic

ニ reversible

〔Ⅲ〕 つぎの設問に答えよ。

問1 (1)～(5)において、最も強いアクセントの位置が他の三つと異なる語をそれぞれイ～ニから一つ選び、その記号を解答用紙にマークせよ。

(1)

イ pos-sess □ ca-reer ハ dis-ease ニ i-mage

(2)

イ rou-tine □ bal-ance ハ ath-lete ニ vol-ume

(3)

イ mar-a-thon □ pri-ma-ry
ハ es-sen-tial ニ com-ple-ment

(4)

イ sen-si-tive □ i-ni-tial ハ pen-al-ty ニ in-dus-try

(5)

イ en-gi-neer-ing □ tech-nol-o-gy
ハ in-du-stri-al ニ cur-ric-u-lum

問2 (1)~(5)の会話において、空欄に入る最も適切な語(句)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) A : So what do you do ?

B : I work in a supermarket.

イ to win money

ロ to draw a winning number

ハ for a living

ニ for all I know

(2) A : No one was prepared for our teacher's questions.

B : I think we the textbook last night.

イ read

ロ should have read

ハ ought to read

ニ could read

(3) A : Doesn't this loud noise bother you?

B : A little, but I got used it after a while.

イ for

ロ to

ハ in

ニ at

(4) A : I love your house. It's so neat!

B : Thanks. Well, the smaller the house, to do the cleaning.

イ it is easier

ロ it is easily

ハ the easier it is

ニ the easily it is

(5) A : My watch .

B : The battery must be dead.

イ is dying

ロ is decreasing

ハ isn't working

ニ never moves

問3 (1)~(7)において、それぞれ下の語(句)を並べかえて空所を補い、最も適当な文を完成させよ。解答は2番目と4番目に入るもののみをイ~ホから選び、その記号を解答用紙にそれぞれマークせよ。なお、頭文字の大文字、小文字の区別は問わない。

(1) As there is 2 4 , I have to go to the office supply store.

イ in ink left

ニ no the printer

(2) What 2 4 project was occupying more and more of her spare time.

イ a had seemed be

ニ worthwhile to

(3) I felt so tired that I could 2 4 .

イ my hardly keep

ニ open eyes

(4) I found some pages 2 4 at a bookshop nearby.

イ bought I had which

ニ in the book missing

(5) 2 4 don't come on the market every day.

イ that houses in mind

ニ bear of this quality

(6) This is a 2 4 for all the family.

イ with three-story plenty

ニ house of space

(7) Not 2 4 to Germany
after our graduation, I asked her if she would go to France with me.

- イ go □ my friend's ハ knowing
ニ plan ホ to

[IV] オフィスの形態に関するつぎの英文を読み、設問に答えよ。

In 1973, my high school in the U.S. moved to a new, large building at the foot of a hill. Inspired by architectural trends of the previous decade, the classrooms in one of its wings didn't have doors. The rooms opened up directly onto the hallway, and fractions of lectures would drift from one classroom to another. Disturbing at best and frustrating at worst, such wide-open classrooms died out for the most part. Yet the workplace counterpart of the open classroom, the open office, is common: some 70% of ⁽¹⁾ all offices now have an open floor plan.

The open office was originally conceived by a team from Hamburg, Germany, in the 1950s, to assist communication and idea flow by the use of large, open spaces. But a growing body ⁽²⁾ of evidence suggests that the open office damages the very things that it was designed to achieve. In June 1997, a company in Canada asked a group of psychologists to monitor workers as they changed from a traditional office arrangement, which divides the large room into small, enclosed spaces for individual workers, to an open one. ^(a) The psychologists assessed the employees' satisfaction with their surroundings, as well as their stress level, job performance, and interpersonal relationships before and after the transition. The employees suffered according to every measure: the new space was annoying, stressful, and inconvenient, and, instead of feeling closer, colleagues felt distant, dissatisfied, and angry. Productivity (b).

In 2011, a psychologist named Matthew Davis found that, P open offices often promoted a sense of unity, making employees feel like part of a more relaxed, innovative enterprise, they ^(b) were damaging to the workers' attention, productivity, creative thinking, and satisfaction. Compared with standard offices, employees experienced more uncontrolled interactions, higher levels of stress, and lower levels of concentration and

motivation. Another survey showed that the more senior the employees, the worse they suffered.

Psychologically, the effects of open offices are relatively straightforward. Physical barriers have been closely linked to psychological privacy, and a sense of privacy increases job performance. Open offices also remove an element of control, which can lead to feelings of helplessness. A 2005 study revealed that the ability to control the environment, such as adjusting the lighting and temperature or choosing how to conduct the meeting, had a significant effect on the unity and satisfaction of the team.

An open environment may even have a (v) impact on our health. Recently Danish scholars pointed out that as the number of people working in a single room went up, the number of employees who took sick leave increased quickly. Workers in two-person offices took an average of 50% more sick leave than those in single offices, while those who worked in fully open offices were absent from work an average of 62% more.

The most problematic aspect of the open office may be simple noise. In laboratory settings, noise has been repeatedly tied to reduced performance. A study on the effect of sound found that office disturbance (3) workers' ability to recall information, and even to perform basic calculations. Listening to music to block out the noise does not help. Exposure to noise in an office may also take a toll on the health of employees. According to a psychological study, office workers who were exposed to open-office noise for three hours had (z) levels of adrenaline—a hormone that is associated with dangerous incidents or threat to survival. What's more, it was discovered that people in noisy environments made fewer body movements, causing increased physical strain. The subjects subsequently attempted to solve fewer puzzles than they had after working in a quiet environment; in other words, they became less motivated and less creative.

Open offices may seem better suited to younger workers, many of whom

have been multitasking for the majority of their short careers. When, in 2012, two researchers looked at how young employees of a Finnish company reacted to the negative effects of open-office plans, they noted that young employees found certain types of noises, such as conversations and laughter, just as annoying as their older counterparts did. But they believed that the trade-offs were ultimately worth it, because the open space resulted in a sense of good fellowship; they valued the time spent socializing with colleagues, whom they often saw as friends.

That increased satisfaction, , may merely mask the fact that younger workers also suffer in open offices. According to a neuroscientist, heavy multitaskers are not only more easily influenced by disturbances but also worse at switching between unrelated tasks. In other words, if habitual multitaskers are interrupted by a colleague, it takes them longer to settle back into what they were doing. Regardless of age, when we're exposed to too many inputs at once—a computer screen, music, a colleague's conversation, the sound of an instant message—our senses become overloaded, and it requires more work to achieve a given result.

People in the twenty-first century, the era of multitasking, seem to be more tolerant of interruptions in a workplace. It is true that office workers sometimes enjoy open offices. However, the enthusiastic embrace of open offices may be creating a cycle of underperformance. In the long run, office workers may suffer the most from open offices.

問1 空欄PおよびQに入る最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。

P

イ if ロ when ハ though ニ because

Q

イ also ロ however
ハ therefore ニ otherwise

問2 文脈に照らして下線部(1)~(6)に最も近い意味の語(句)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) counterpart

イ equivalent □ opponent ハ portion ニ desk

(2) body

イ object □ core ハ flesh ニ volume

(3) performance

イ achievement □ acting
ハ interpretation ニ capability

(4) subjects

イ themes □ inhabitants
ハ participants ニ disciplines

(5) suited to

イ worn by □ accepted by
ハ fit for ニ prepared for

(6) habitual

イ professional □ unwilling ハ occasional ニ regular

問3 下線部(a)および(b)の語が指す内容として最も適切なものをそれぞれイ~ニから一つ選び、その記号を解答用紙にマークせよ。

(a) one

イ small space □ working group
ハ office arrangement ニ office worker

(b) they

イ open offices □ standard offices
ハ employees ニ psychologists

問4 空欄(あ)および(い)にそれぞれ当てはまる語の組み合わせとして最も適切なものをイ～ニから一つ選び、その記号を解答用紙にマークせよ。

	空欄(あ)	空欄(い)
イ	rose	positive
ロ	rose	negative
ハ	fell	positive
ニ	fell	negative

問5 空欄(う)および(え)にそれぞれ当てはまる語の組み合わせとして最も適切なものをイ～ニから一つ選び、その記号を解答用紙にマークせよ。

	空欄(う)	空欄(え)
イ	decreased	increased
ロ	decreased	decreased
ハ	increased	increased
ニ	increased	decreased

問6 波線部(*)“Physical barriers have been closely linked to psychological privacy”の意味に最も近いものをイ～ニから一つ選び、その記号を解答用紙にマークせよ。

- イ When you have individualized space, you have less psychological privacy.
- ロ When you have individualized space, you have more psychological privacy.
- ハ When you have psychological privacy, you need more individualized space.
- ニ When you have psychological privacy, you need less individualized space.

問7 波線部(y)“trade-offs”の内容として最も適切なものをイ～ニから一つ選び、その記号を解答用紙にマークせよ。

- イ trade-offs between more multitasking and enjoying better relationships with colleagues
- ロ trade-offs between being annoyed by elder employees and having more open space
- ハ trade-offs between suffering from noise and enjoying better relationships with colleagues
- ニ trade-offs between more multitasking and having more open space

問8 波線部(z)“People in the twenty-first century, the era of multitasking, seem to be more tolerant of interruptions in a workplace”の意味に最も近いものをイ～ニから一つ選び、その記号を解答用紙にマークせよ。

- イ Office workers in the past were so serious about their job that they could not tolerate interruptions.
- ロ In the twenty-first century, office workers have become more sensitive to interruptions.
- ハ As multitasking becomes common, office workers appear to be more used to interruptions.
- ニ Office workers prefer to be interrupted for more efficient multitasking in modern times.

問9 本文全体を通して、筆者の主張に一致するものをイ～ニから一つ選び、その記号を解答用紙にマークせよ。

- イ You can tolerate the psychological effects of open office arrangements.
- ロ Many companies are returning to traditional office arrangements.
- ハ Open offices help train office workers for multitasking.
- ニ Open offices do more harm than good, though some office workers may think differently.