

2014 年度 入学 試験 問題

英 語

(試験時間 10:30~12:00 90分)

1. 解答用紙は、記述解答用紙とマーク解答用紙の2種類がありますので注意してください。
2. 解答は、必ず解答欄に記入してください。なお、解答欄以外に書くと無効となりますので注意してください。
3. 解答は、HBの鉛筆またはシャープペンシルを使用し、訂正する場合は、プラスチック製の消しゴムを使用してください。特に、マーク解答用紙には鉛筆のあとや消しくずを残さないでください。また、折りまげたり、汚したりしないでください。記述解答用紙の下敷きにマーク解答用紙を使用することは絶対にさけてください。
4. 解答用紙には、受験番号と氏名を必ず記入してください。
5. マーク解答用紙の受験番号および受験番号のマーク記入は、コンピュータ処理上非常に重要なので、誤記のないよう特に注意してください。
6. 設問文にある点数は、満点が150点となるような配点表示になっていますが、大学入試センター試験利用入試併用方式の配点は100点になります。

I 次の各英文の下線部ともっとも意味が近いものを1～4の中からそれぞれ一つ選び、その番号をマークしなさい。(10点)

(1) When John was walking along the street, someone seized him by the arm.

1 beat                    2 found                    3 released                    4 grabbed

(2) You have to observe the terms of a contract.

1 violate                    2 obey                    3 describe                    4 produce

(3) You cannot emphasize the point too much.

1 stress                    2 abbreviate                    3 eliminate                    4 locate

(4) After the event, he ceased taking pictures.

1 began                    2 stopped                    3 enjoyed                    4 practiced

(5) Most people think that Jack is a very scholarly man.

1 shallow                    2 violent                    3 learned                    4 athletic

II 次の各日本文と英文がほぼ同じ意味になるように、空所に入るもっとも適切なものを1～4の中からそれぞれ一つ選び、その番号をマークしなさい。(20点)

(6) あさってなら時間があります。

I am (                    ) the day after tomorrow.

1 available                    2 reserved                    3 engaged                    4 occupied

(7) 若干のスペルミスを除けば、これはよいレポートだ。

Except (                    ) a few spelling mistakes, this is a good paper.

1 of                    2 to                    3 by                    4 for

(8) あなたのご親切への感謝のしるしにこの品を贈りたい。

I'd like to present this to you as a token of my ( ) for your kindness.

- 1 appreciation 2 meditation 3 destination 4 composition

(9) その男は多くの高齢者をだました犯罪者です。

That guy is a criminal who ( ) a lot of elderly people.

- 1 retrieved 2 deceived 3 perceived 4 received

(10) 本を読んでいるときに他人がおしゃべりしていても、私は気になりません。

When I'm reading, it doesn't ( ) me if others are talking.

- 1 assist 2 strike 3 bother 4 care

(11) 彼は居眠りして駅を乗り過ごした。

He fell asleep and went ( ) his station.

- 1 to 2 past 3 out 4 away

(12) 会議中、ロバートは上司を見ないようにしました。

During the meeting, Robert ( ) looking at his boss.

- 1 avoided 2 kept 3 resumed 4 continued

(13) 物事は自分の思うとおりに運ばない。

Things never ( ) the way you want them to.

- 1 rise 2 carry 3 go 4 walk

(14) ひっきりなしに飛行機が飛んでくるので、この辺りはとても騒々しい。

It's terribly noisy in this area, ( ) planes flying overhead all the time.

- 1 because 2 whenever 3 hence 4 with

(15) チケット購入の電話をおかけになる際には、お手元にクレジットカードをご用意ください。

Please have your credit card ( ) when you call to purchase a ticket.

- 1 front 2 late 3 behind 4 ready

III 次の各組の英文がほぼ同じ意味になるように、空所に入るもっとも適切なものを1～4の中からそれぞれ一つ選び、その番号をマークしなさい。(10点)

(16) Bill told me that he's anything but smart.

Bill told me that he's ( ) smart.

- 1 far from 2 close to 3 better than 4 well beyond

(17) The concert started at exactly six o'clock.

The concert started at six o'clock ( ).

- 1 alone 2 hard 3 precise 4 sharp

(18) The bank has decided to loan me the money that I asked for.

The bank has ( ) my loan.

- 1 inflated 2 delayed 3 approved 4 ridiculed

(19) Our goal is to collect enough money to construct a new building.

We ( ) to collect enough money to construct a new building.

- 1 forget 2 aim 3 remember 4 prefer

(20) Please don't tell this to anyone, but I think she will be promoted soon.

( ) you and me, I think she will be promoted soon.

- 1 Both 2 Between 3 Either 4 Regarding

IV 次の各日本文とほぼ同じ意味になるように、かっこ内の語句を並べ替えて英文を完成させるとき、かっこの中で2番目と5番目にくるものを選び、その番号をマークしなさい。(20点)

(21) この法律によって、誰であろうとアルコールを買うことは違法になった。

This law made (1 buy 2 for 3 to 4 illegal 5 anyone  
6 it) alcohol.

(22) 一日も欠かさずに働かなければならない人がいます。

Some (1 to 2 people 3 single 4 work 5 have 6 every)  
day.

(23) 彼女を説得して、その計画に賛成させようとしても無駄だろう。

It's (1 her 2 to 3 trying 4 persuade 5 use 6 no) to  
support the plan.

(24) その警官は、彼に無謀な運転をしないように警告した後で放免した。

The police officer (1 go 2 him 3 warning him 4 after 5 not  
6 let) to drive recklessly.

(25) 我が社の売り上げ総額は5000万ドルほどだった。

The total sales of our (1 in 2 the 3 were 4 firm 5 of  
6 neighborhood) \$50,000,000.

V 次の各組の会話文において、空所に入るもっとも適切なものを1～4の中からそれぞれ一つ選び、その番号をマークしなさい。(20点)

(26)

A: Sandy, this cake is absolutely delicious. Did you make it yourself?

B: ( ), but actually I bought it at Simon and Sons.

A: Isn't that the bakery on Oak Street?

B: Yes, it's been there for over 50 years and everything they make is great.

Haven't you ever been there?

A: No, but I think I'll go there soon. I don't think I've ever tasted anything  
as good as this.

1 I hate to boast about my cooking skills

2 I wish I could say I did

3 I wish I hadn't

4 I hate to be informed of this

(27)

A: Hello.

B: Hi, Sally. It's Lucy.

A: Hi, Lucy. It's nice to hear from you. How are you?

B: I'm fine. I just called because I was wondering if you wanted to play tennis  
this afternoon. This is the nicest weather we've had all year.

A: Yeah, the weather is great and I'd love to play, but I can't. In fact, it's  
going to be a while until I can play again.

B: Really? What happened?

A: I was playing softball a couple days ago and tore a muscle in my right leg.

B: That sounds terrible. Are you in a lot of pain?

A: No. If I keep still, it doesn't hurt at all. And ( ). But if I walk

quickly, the pain gets pretty bad, and my doctor told me not to even think about running for at least a month.

- 1 I can walk slowly with very little pain
- 2 I can run without being concerned about experiencing pain
- 3 I can dash around a room painlessly
- 4 I can get around at any speed with a minimum of pain

(28)

A: Belinda, how long have you been taking piano lessons?

B: About six months.

A: Have you made a lot of progress?

B: No, not really. In fact, I'm thinking about quitting.

A: That's too bad. Have you thought about getting a different teacher?

B: ( ). She's really kind and incredibly patient. The problem is that I've been extremely busy with work and haven't had much time to practice.

A: I see. Well, maybe you could quit for now and then start up again sometime in the future.

B: Yeah, that's not a bad idea.

- 1 Yes, that would solve everything
- 2 No, my teacher is horrible
- 3 No, my teacher's fine
- 4 Yes, my teacher is the reason for my lack of progress

(29)

A: Who was that on the phone?

B: Oh, that was Dan Buford. He invited me to play golf with him at Big Hills Country Club.

A: When?

B: This Sunday.

A: This Sunday? You can't go this Sunday! We're going to my cousin Judy's wedding this Sunday.

B: Oh, my God. I forgot all about that. Can't you go to the wedding without me? I hardly even know your cousin.

A: ( ). Judy's expecting both of us to attend. I wrote that we would when I replied to the invitation.

- 1 I suppose I could ask for permission to take you along
- 2 That's probably the best way out of this mess
- 3 Well, it is true that you aren't scheduled to go
- 4 That wouldn't be right

(30)

A: Larry, you look great! You've lost weight, haven't you?

B: Thanks for noticing. In fact, I've lost about ten pounds in the last month.

A: Ten pounds? How did you do it? Have you been on a special diet?

B: No, the truth is that it's been really easy. I just stopped eating between meals and the weight's been coming off rather quickly.

A: Maybe I should try the same thing. ( ).

B: What are you talking about? You're not overweight at all.

A: Thanks for saying so, but in fact I've gained about twenty pounds in the last two years and my doctor's been telling me that I should try to take that weight off. And I think I'd feel better if I did.

- 1 I could never survive without eating snacks
- 2 My weight has been amazingly stable
- 3 I could really afford to lose some weight myself
- 4 I'm rather fond of special diets

VI 次の英文を読み、(31)~(36)の設問に答えなさい。(30点)

It was crisp that late night in February 1997 as my father and I wandered the banks of Florida's Indian River. We weren't alone: Thousands of people were with us, all waiting for the launch of the space shuttle *Discovery*. I had spent two years working on a camera packed up inside *Discovery* and was eager to see it safely on its way to the Hubble Space Telescope.

The mood was festive despite the hour and the chill, all of us chatting and enjoying ourselves as we watched the countdown clock tick to zero. But then, just before launch, we had a close encounter.

It started with lights on the horizon, not far from the shuttle launch complex. We saw several of them, seemingly in formation along a curved line, moving slowly toward our location.

"Planes?" I muttered to my dad, but then remembered the strict no-fly zone NASA enforced around the facility. The lights clearly were not stars, and they were moving relative to each other, so they couldn't be satellites or a solid body. Still, they were obviously traveling as a group.

Certainly, I never would have admitted to myself that they were . . . you know.

Then the noise drifted over us. An odd sound, clearly coming from the overhead objects — a repeated staccato noise, weird but familiar. My brain spun like a wheel in mud, trying to move forward. But just as the lights were directly above us and I could make out their shapes, the noise became clearer as well.

They were ducks. Quacking. We were hearing quacking. The lights around us were illuminating their bodies, and when the birds had been farther off, the powerful spotlights playing over the shuttle had lit them, making them appear as if they were emitting their own light.

We turned as they flew past us, on to whatever destination they had planned, their quacks fading. We looked at each other and laughed, maybe just a little too loudly. Relieved, we walked back to the car where the rest of our family was waiting for us to join them in watching *Discovery* thunder into space, taking with it a camera that would view the cosmos with cold, certain physics and logical mathematics.

I look back at that evening fondly, and not just because it started several years of fascinating Hubble observations. I also learned a valuable lesson.

I am an astronomer, a scientist, a skeptic, a realist. And for a moment — just a moment — I was fooled by ducks, wondering if just maybe I was seeing something unearthly. If that can happen to me, it can happen to anyone.

In my defense, I did not ever really think I was seeing an alien fleet. But those seconds of disorientation were unsettling. I have considerable experience looking at the night sky, so not knowing what I was witnessing was peculiar.

Imagine if I had been at a different location, somewhat farther away, where the sound was inaudible and the ducks looked like dots. Would I have been able to identify them as birds? Maybe. But it wouldn't have surprised me if someone else had reported a half-dozen unidentified flying objects (UFOs) dogging the shuttle launch. At least in this case we could easily turn them into identified flying objects (IFOs).

But we do see similar UFO reports all the time: lights, rapidly changing color, hovering or darting about, and observed by dozens or hundreds of witnesses. Almost every time, the actual \*culprit is something ordinary (like birds), observed with our imperfect sensory organs and filtered through our easily fooled brains.



Sometimes the explanation turns out to be forehead-slappingly obvious; sometimes it truly is unearthly — but not in the way witnesses thought. Regardless, it is fun to look into these reports and see what scientific and technological explanations are behind them.

**Dateline: March 2010. \*Euclid, Ohio** — Dozens of people reported a UFO: a bright object on the western horizon, hovering over Lake Erie and nearby Cleveland. The light was intense and lasted for hours. Sometimes it moved, and other times it was stationary, but it returned to the same spot night after night.

The sight was featured in local news media, and a national TV program highlighted the phenomenon after the lights reappeared nine nights in a row. Speculation abounded, including, of course, that the light was from an alien spaceship.

The thing is, this UFO really was alien. But it did not contain visitors from an alien world. It *was* an alien world — Venus. Here's how we know.

The suburb of Euclid is east of Lake Erie and northeast of Cleveland, and in March of that year, Venus set in the west — the direction in which people saw the “UFO.” The planet also tends to be in similar spots night after night, which explains why the UFO returned repeatedly. And it stands out: For people unfamiliar with it, Venus is shockingly brilliant — it is the third-brightest natural object in the sky, after the Sun and Moon.

As the sky darkens after sunset, Venus becomes easier to see. One moment it is not there, and the next — bang! It's obvious. It is often low on the horizon, and seen through our turbulent atmosphere, the planet appears to dance and change colors, or “scintillate.” This same effect makes stars twinkle. Like a prism, the atmosphere can \*refract light, breaking it up into colors, and Venus can rapidly flash between red, green, and yellow, before going back to white.

But what about the UFO's movement? Well, there's a human perception phenomenon called “autokinesis”: Small motions of the head and eye can make a

bright spot appear to move back and forth if it is in front of a dark background — like Venus and the night sky. In 1799, Prussian geographer Alexander von Humboldt first recorded the effect, which he thought revealed the actual movement of stars. Fifty-eight years later, Swiss psychologist Gottfried Schweitzer discovered that the phenomenon was actually all in people's heads.

There is one last nail in this UFO's coffin: Venus is bright and apparent in the sky. Isn't it curious, then, that none of the witnesses mentioned seeing the UFO *and* Venus? They wouldn't have — if the UFO were actually the planet.

\*culprit : 元凶

\*Euclid, Ohio : オハイオ州ユークリッド

\*refract : 屈折させる

#### 設問A

次の(31)～(35)の書き出しの各英文を完成させるのに、本文の内容に照らしてもっとも適切なものを各組の1～4の中からそれぞれ一つ選び、その番号をマークしなさい。

- (31) The author of this essay
- 1 and his father launched the space shuttle *Discovery* in February 1997.
  - 2 worked on a camera that was carried inside the space shuttle *Discovery*.
  - 3 did all of the packing for the space shuttle *Discovery*.
  - 4 took a camera to the Hubble Space Telescope.
- (32) The author and others
- 1 saw ducks that traveled back and forth for a long time.
  - 2 saw ducks that never made a sound.
  - 3 saw ducks that, for a time, were illuminated by spotlights.
  - 4 saw ducks that had the ability to emit their own light.

(33) The author

- 1 is not one who tends to believe things without good reason.
- 2 denies that he was ever fooled by the ducks that he saw in February 1997.
- 3 remains convinced that the group of ducks that he saw in February 1997 was really an alien fleet.
- 4 has rarely taken the time to look at the night sky.

(34) In March of 2010, dozens of people reported seeing

- 1 a UFO falling into Lake Erie.
- 2 a light that was constantly on the move.
- 3 lights that only appeared on TV.
- 4 a bright object that turned out to be the planet Venus.

(35) Venus

- 1 is always quite dim.
- 2 is actually brighter than the sun.
- 3 can never be seen when it is low on the horizon.
- 4 does not always appear to be white.

設問B

(36) 下線部(A)を和訳し、記述解答用紙に記入しなさい。

VII 廃熱 (waste heat) の利用に関する以下の英文を読み、(37)~(45)の設問に答えなさい。

(30点)

[ I ] Deep in the tunnels of the London Underground, as in many subway systems around the world, it's so hot it feels like hell. And yet in a basement only a few meters away, a boiler is firing to heat water for someone's shower.

[ II ] Rather than stewing in our excess heat, what if we could make it work for us? There is no shortage of waste heat, after all. Throughout our energy system — from electricity generation in a power plant to boiling a kettle, using boilers to warm houses to powering a car — more than 50 percent of the energy we use leaks into the surroundings as wasted heat.

[ III ] Recapturing it wouldn't just benefit our wallets. It would reverse some of the damaging effects that waste heat from our towns and cities is having on the climate.

[ IV ] The good news is that several cities have found a way to hunt down their waste heat in some unexpected places. These cities are building systems that deliver heat in much the same way that networks handle electricity and water. Could they point the way to the next energy revolution?

[ V ] Waste heat is an enormous problem. A report in 2008 by the US Department of Energy found that the energy lost as heat each year by US industry is equal to the annual energy use of 5 million Americans. Power generation is a major \*culprit; the heat lost from that sector alone is in considerable excess of the total energy use of Japan. The situation in other industrialized countries isn't much better.

[ VI ] The report also estimated that given the right technologies, we could reclaim nearly half of that energy, but that's easier said than done. "We often talk about the quantity of waste heat," says David MacKay, chief scientific adviser to the UK Department of Energy and Climate Change, "but not the quality." Most of what we think of as "waste heat" isn't actually all that hot;



about 60 percent is below 230°C. While that may sound pretty hot, it is too cold to turn a turbine to generate electricity.

[VII] The alternative is to just move the heat directly to where it is needed. That is what “\*cogeneration plants” do. These are power plants that capture some or all of their waste heat and send it — as steam or hot water — through a network of pipes to nearby cities. There, buildings tap into the network to warm their water supplies or air for central heating.

[VIII] Many countries are encouraging cogeneration. A US cogeneration initiative, for example, might save the country \$10 billion a year. And cogeneration allows power plants to bump up their efficiencies from 30 percent to almost 90 percent.

[IX] Yet waste heat from power plants is just a drop in the ocean compared with the heat lost from our homes, offices, road vehicles and trains. Waste heat from these numerous sources is much more difficult to harness than the waste heat from single, concentrated sources like power plants because it leaks out slowly. What’s more, it is barely warm enough to earn its name. Reclaiming that is much trickier.

[X] As it happens, there is a technology that can siphon energy from slightly warm temperatures, and we have long had access to it. \*Ground source heat pumps have been helping homeowners save on heating bills since the 1940s, when US inventor Robert Webber realized he could invert the refrigeration process to extract heat from the ground.

[XI] The system takes advantage of the fact that the ground is a terrible conductor of heat; in temperate regions — regardless of surface temperature — a few meters underground, the soil always remains around 10°C. Ground source heat pumps can tap into that stable temperature to heat a house in the winter.

[XII] The mechanism is simple. A network of pipes makes a circuit between the inside of the home and a coil buried underground. These pipes contain a mix of water and fluid \*refrigerant. As the fluid mixture travels through the pipes

buried underground, it absorbs the heat from that 10°C soil. While this is not what you might consider hot, it nonetheless causes the refrigerant in the fluid to evaporate into a gas. When this gas circulates back into the house, it is fed through a compressor, which vastly intensifies the heat. That heat can then be used by a heat exchanger to warm up your hot water or air ducts.

[XIII] This mechanism is powerful enough to efficiently provide heat even in places as cold as Norway and Alaska. It is also cheap. In the UK, the best systems lowered heating bills by 30 percent because compressing a gas to heat your home requires far less energy than traditional gas or electric methods of heating.

\*culprit : 元凶

\*cogeneration : コジェネレーション (熱電併給)

\*ground source heat pumps : 地熱ヒートポンプ

\*refrigerant : 冷却剤

#### 設問A

(37) 第I段落から第III段落までの内容に照らしてもっとも適切なものを1～5の中から一つ選び、その番号をマークしなさい。

- 1 The temperatures in the tunnels of the London subway system are too high to make people feel like they are in hell.
- 2 People living near the tunnels of the London Underground make good use of waste heat when taking showers.
- 3 Our energy system functions so efficiently that currently there is a lack of waste heat.
- 4 At present we waste more than half of the energy that we use.
- 5 Recapturing waste heat never pays off because it costs a lot of money.

設問B

(38) 第IV段落から第VI段落までの内容に照らしてもっとも適切なものを1～5の中から一つ選び、その番号をマークしなさい。

- 1 There are still no cities that have begun building systems to utilize waste heat.
- 2 Waste heat is a problem trivial enough to be ignored.
- 3 The heat lost from power generation in the US is greater than the entire energy use of Japan.
- 4 With regard to energy loss due to waste heat, the situation in most developed countries is surprisingly good.
- 5 We can easily recapture nearly half of the energy lost as heat thanks to new technologies that have recently been developed.

設問C

以下の(39)～(44)について、第VII段落から第XIII段落までの内容と一致する場合は1を、一致しない場合は2をマークしなさい。

- (39) コジェネレーションでは、パイプを通して近隣の都市から送られてくる廃熱をどのように貯蔵するかが、問題の焦点になっている。
- (40) アメリカがコジェネレーション推進に必要とする費用は、100億ドル程度と思われる。
- (41) 一般家庭や会社、車などからの廃熱の総量は、発電所からの廃熱量をはるかに上回るが、再利用は非常に難しい。
- (42) 冷却技術を逆用する地熱ヒートポンプが考案されたのは1940年代だが、実用化はごく最近のことである。
- (43) 温帯地方では、地表の温度にかかわらず地下数メートルの地温は約10°Cで、ほぼ一定である。
- (44) イギリスの場合、地熱ヒートポンプ・システムは、ガスや電気による伝統的な暖房より費用がかなりかかるため、普及の見通しは立っていない。

設問D

(45) 下線部(A)を和訳し、記述解答用紙に記入しなさい。

VIII 次の日本語を英訳し、記述解答用紙に記入しなさい。(10点)

(46) この小説を読み直してみると、最初に読んだときよりも面白いことがわかった。