

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。

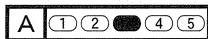
マークシート解答方法についての注意

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)。

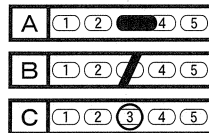
記入上の注意

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 ] つぎの英文は、科学者になることを夢見ていた筆者が書いた文章である。それを読み、設問に答えよ。

When I was a child, two experiences helped to shape the person I am today and led to two interests that have helped to define my entire life.

First, when I was eight years old, I remember all the teachers <sup>(1)</sup> buzzing with the latest news that a great scientist had just died. That night, the newspapers printed a picture of his office, with the draft of an unfinished academic paper on his desk. Later, I found out that the name of this scientist was Albert Einstein. The unfinished draft was his attempt to create a “theory of everything” in one equation which was perhaps no more than one inch long. It was to be his greatest achievement that would unlock the secrets of the universe and perhaps allow him to “read the mind <sup>(A)</sup> of God.”

But the other important experience from my childhood was when I watched the Saturday morning TV shows, especially the Flash Gordon\*<sup>1</sup> series. Every week my nose was glued to the TV screen. I was magically <sup>(B)</sup> transported to a mysterious world of space aliens, starships, ray gun battles, underwater cities and monsters. I was <sup>(3)</sup> hooked. This was my first exposure to the world of the future. Ever since, I’ve felt a childlike sense of <sup>(4)</sup> wonder when thinking about the future.

But after watching every episode of the series, I began to realize that although Flash got all the recognition, it was the scientist who actually made the series work. He invented the rocket ship, the shield that made people invisible, the power source for the city in the sky, etc. Without the scientist, there is no future. The handsome and the beautiful may earn the admiration of society, but all the marvelous inventions of the future are a <sup>(5)</sup> by-product of the unappreciated scientists.

Later, when I was in high school, I decided to follow in the footsteps of

these great scientists and put some of my learning to the test. I wanted to be part of this great revolution that I knew would change the world. I decided to build an atom smasher\*<sup>2</sup>. I asked my mother for permission to build a 2.3-million electron volt\*<sup>3</sup> particle accelerator\*<sup>2</sup> in the garage. She was a bit surprised but gave me the OK. Then, I went to several companies, got 400 pounds of steel, 22 miles of copper wire, and put together the accelerator in my mom's garage. The atom smasher's magnetic coils successfully produced a huge magnetic field about 20,000 times the earth's magnetic field. The machine used 6 kilowatts of power, draining all the electricity my house could provide. When I turned on the machine, I frequently blew out all the fuses\*<sup>4</sup> in the house. My poor mother must have wondered why she could not have a son who played football instead.

So these two passions have fascinated me my entire life: the desire to understand all the physical laws of the universe in a single systematic theory and the desire to see the future. Eventually, I realized that these two passions were actually complementary. The key to understanding the future is to grasp the fundamental laws of nature and then apply them to the inventions, machines, and therapies that will redefine our civilization far into the future.

#### 語注

\*<sup>1</sup> Flash Gordon : テレビのつづき漫画のタイトル。主人公も同名。

\*<sup>2</sup> atom smasher/particle accelerator : 原子核破壊装置

\*<sup>3</sup> 2.3-million electron volt : 230万電子ボルト

\*<sup>4</sup> fuse : 配電盤のヒューズ

1. 下線部(1)~(5)の語(句)の意味において、文脈に照らし最も適しているものをそれぞれイ~ニから一つ選び、その記号を解答用紙にマークにせよ。

(1) define

イ protect      □ stabilize      ハ double      ニ determine

(2) buzzing with

イ talking excitedly about      □ giving warnings about  
ハ being happy with      ニ mailing each other about

(3) hooked

イ ashamed      □ preserved      ハ addicted      ニ enjoyed

(4) exposure to

イ trouble for      □ encounter with  
ハ uncovering of      ニ direction to

(5) admiration

イ maturity      □ bravery      ハ respect      ニ anger

2. 文中の下線部(A)~(C)の内容に最も近いものをイ~ニから一つずつ選び、その記号を解答用紙にマークせよ。

(A) unlock the secrets of the universe

イ prevent natural events  
□ reject universal secrets  
ハ show the principles of nature  
ニ separate fact from fiction

(B) my nose was glued to the TV screen

イ I could not stop watching TV  
□ I sat too close to the TV  
ハ I needed glasses to see the TV  
ニ It was difficult to see the TV

(C) put some of my learning to the test

- イ learn whether I could put off the test
- ロ take an in-class test about what I learned
- ハ delay using what I learned
- ニ actually use what I learned

3. 上の英文を踏まえて、下の母と息子(著者)の会話が意味が通じるように  の中に入る適切な英文を選択肢イ~ニの中から一つ選び、その記号をマークせよ。

Author: Hey Mom. I've been thinking about building a particle accelerator in the garage.

Mother:  (1)

Author: Don't worry, Mom. I'll be careful.

Mother: Where are you going to find the materials to build it?

Author: I think some companies will give me the materials.

Mother: Well,  (2)

Author: Thanks, Mom.  (3)

- |       |                                  |   |                   |
|-------|----------------------------------|---|-------------------|
| (1) イ | Hurry up then.                   | ロ | That makes sense. |
| ハ     | Uh, oh really?                   | ニ | For example?      |
| (2) イ | go ahead then.                   | ロ | so what!          |
| ハ     | that's too bad.                  | ニ | I'm afraid not.   |
| (3) イ | No way!                          |   |                   |
| ロ     | I never wanted to play football. |   |                   |
| ハ     | You'll be proud of me someday!   |   |                   |
| ニ     | You must be joking!              |   |                   |

4. 本文の内容と一致する英文をイ～トの中から二つ選び, その記号を解答用紙にマークせよ。

- イ To fill the house with electricity, the machine provided 6 kilowatts of power.
- ロ The author's mother wanted him to become a football player.
- ハ The author's mother supported his desire to become a scientist.
- ニ Meeting Albert Einstein influenced the author to become a scientist.
- ホ Without handsome and beautiful people scientists cannot invent new products.
- ヘ The author's childhood experiences influenced him to become a scientist.
- ト The author was able to build the accelerator with advice from several companies.

〔Ⅱ〕 つぎの英文は、家庭用太陽光発電を普及させるために、国連環境計画(UNEP)がインドで実施した融資プログラムについて書かれたものです。それを読み、後の設問に答えよ。

More than 60 percent of Indian households lack access to reliable electricity supplies. They depend on kerosene\*<sup>1</sup> for light and burning dung\*<sup>2</sup> and wood for heat. Solar power is an obvious alternative in a sunny country such as India, but high initial costs put it beyond the reach of most households, while lack of access to credit means the technology has been available only to the richest. Millions of urban and rural poor have been faced with the risk of respiratory\*<sup>3</sup> disease that results from solid fuel burning. Lack of electricity is also a powerful barrier to economic and social development.

Solar lights are a long-held dream of rural people, who often have no power, or power supplies that are irregular. They are among the products that can meet the aspirations of poor people and are also a good business chance for banks.

In 2003 UNEP's\*<sup>4</sup> Indian Solar Loan Program, in cooperation with two of India's largest banking groups, started a lending market for household solar power systems. The program provided technical support and training, as well as an interest subsidy\*<sup>5</sup> that allowed the banks to lower the cost of loans. While the banks did not profit directly from these subsidies\*<sup>5</sup>, the project helped them become an engine in the new market for rural loans. As a result, almost 20,000 solar home systems were sold, thanks to loans given to rural people between 2004 and 2007.

Subsidies were gradually ended as other banks entered the market, lending at standard rates. Providing consumers with loans created demand; by the end of 2007, over 50 percent of solar home systems sold were bought on credit. This promoted the spread of solar lights in southern

India and <sup>(4)</sup>inspired several other projects in other parts of India. In 2008, the program won the Energy Globe Award.

UNEP's work with the local banks proved that it was possible to help the rural poor gain access to a clean and inexpensive energy supply. By introducing loan assistance, the program created a model for similar programs elsewhere in the world.

This is the first UNEP program to show that obstacles for banks to finance clean energy <sup>(5)</sup>have more to do with barriers to entering a new market than economic conditions. Banks in many developing countries have <sup>(6)</sup>sufficient capital to begin lending for clean energy. However, lack of <sup>(7)</sup>familiarity with new energy technologies, together with different product and service qualities, can make lending difficult. In these situations an incentive program such as this may be useful to help banks <sup>(8)</sup>set up their first loans and gain experience with the clean energy sector.

This approach is also cost-effective. For instance, the \$900,000 in interest subsidies that UNEP put into the Indian program generated \$6.7 million in commercial financing for solar home systems.

#### 語注

\*1 kerosene : 灯油

\*2 dung : 動物の糞

\*3 respiratory : 呼吸器官の

\*4 UNEP : United Nations Environment Programme, 国連環境計画

\*5 subsidy/subsidies : 補助金, 助成金



1. 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んで、その記号を解答用紙にマークせよ。

- イ People in sunny India do not need large electricity supplies.
- ロ The introduction of solar power systems is good for the people's health.
- ハ Though not stable, solar power is a very effective way to cope with global warming.
- ニ India welcomes international cooperation to fight respiratory disease.
- ホ India's economy could have grown much faster with large solar power systems.
- へ The lack of knowledge and experience was an obstacle to lending money for clean energy projects.
- ト UNEP's solar program subsidies created 7.4 times as much commercial financing.
- チ The two banking groups enjoyed large profits from the solar power program.
- リ Because building solar power systems requires large government funds, subsidies are needed.
- ヌ UNEP is funding many projects in India to reduce income gaps within the country.

2. 下線部(1)~(8)の語(句)について、文脈に照らして最も意味が近いものをそれぞれイ~ニから一つ選び、その記号を解答欄にマークせよ。

(1) alternative

イ option      □ incentive      ハ part      ニ energy

(2) barrier

イ purpose      □ player      ハ factor      ニ obstacle

(3) aspirations

イ advantages      □ ways      ハ hopes      ニ means

(4) inspired

イ managed      □ encouraged      ハ damaged      ニ escaped

(5) have more to do with

イ are more related to      □ make more use of  
ハ are more than      ニ make the most of

(6) sufficient

イ heavy      □ efficient      ハ convenient      ニ enough

(7) familiarity with

イ friendship with      □ knowledge of  
ハ relation to      ニ support from

(8) set up

イ recover      □ give up      ハ start      ニ upset

〔Ⅲ〕 セザンヌの絵に対する考え方について書かれた次の英文を読み、設問に答えよ。

Cézanne's\*<sup>1</sup> art challenged Western culture's assumptions regarding the nature of light by eliminating the concept of angles that had been popular in previous art. In doing so, Cézanne also questioned previous assumptions about space and time. His ideas fit in exactly with the new ideas of space, time, and light that were elaborated by the physicist Albert Einstein in the early years of the twentieth century. Cézanne's investigation of space produced several important ideas that inspired many of the art movements that occurred later.

Cézanne introduced the idea that a painting can have multiple perspectives. Until this time European artists used a single-point perspective. In his *Still Life\*<sup>2</sup> with Fruit Basket* (1888-90), Cézanne portrayed the various objects in the painting as if each were seen from a separate angle of vision (Figure 1 and Figure 2). His innovation questioned the validity of a vanishing point\*<sup>3</sup> that was behind the all-important idea of a relative layout of the visual world based on one particular place to stand.

Cézanne viewed his objects as if seen from the entire range of vision instead of restricting them to a detailed examination from one point. In doing this, he modernized a primitive way of viewing the world that had been present in art before the 15<sup>th</sup> century and in the art of all primitive societies. In these early paintings, Cézanne was  (X) interested in imitating the features of a landscape than in revealing how our visual perception of the world is composed of multiple perspectives.

In his later landscapes, Cézanne became increasingly fascinated with one mountain situated in Provence\*<sup>4</sup>: Mont Sainte Victoire\*<sup>5</sup>. Cézanne used this mountain as a model to carry out his experiments concerning visual reality. He began to paint this same mountain from many different

points of view. Unlike his still life paintings, which contained multiple points of view within each canvas, in his Mont Sainte Victoire series each<sup>(D)</sup> canvas represented the mountain from a different location in space.



Figure 1

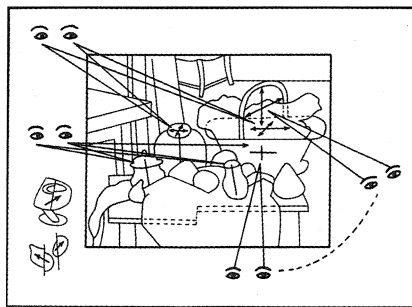


Figure 2

語注

- \*1 Cézanne : フランスの画家(1839-1906)「セザンヌ」
- \*2 *Still Life* : 静物画
- \*3 *vanishing point* : 消点(遠近法では遠方へ向かう平行線の間隔は次第に縮まり遂にはものの形が消失する。その収束点のこと)
- \*4 *Provence* : 南フランスの地方名「プロバンス」
- \*5 *Mont Sainte Victoire* : サントヴィクトワール山

1. 下線部(1) *regarding* の言い換えとしてふさわしいのはつぎのイ~ニのどれか、該当する記号を解答用紙にマークせよ。

イ *respecting*      ロ *connecting*      ハ *concerning*      ニ *associating*

2. 下線部(2) *portrayed* の言い換えとしてふさわしいのはつぎのイ~ニのどれか、該当する記号を解答用紙にマークせよ。

イ *showed*      ロ *prepared*      ハ *confronted*      ニ *carved*

3. 下線部(3) **restricting** の言い換えとしてふさわしいのはつぎのイ～ニのどれか、該当する記号を解答用紙にマークせよ。

イ releasing      ロ limiting      ハ eliminating      ニ including

4. 本文中で話題の中心となっているものはつぎのイ～ニのどれか、該当する記号を解答用紙にマークせよ。

イ space      ロ light      ハ color      ニ time

5. **Figure 2** が表している内容として、本文中の下線部(A)～(D)のうち最もふさわしいのはつぎのイ～ニのどれか、該当する記号を解答用紙にマークせよ。

イ (A)      ロ (B)      ハ (C)      ニ (D)

6.  の中に入れる単語としてふさわしいのはつぎのイ～ニのどれか、該当する記号を解答用紙にマークせよ。

イ better      ロ less      ハ much      ニ fewer

7. 次の説明文で本文の内容と明らかに異なっているのはつぎのイ～ニのどれか、該当する記号を解答用紙にマークせよ。

イ Cézanne's way of thinking was similar to that of an early 20<sup>th</sup> century physicist.

ロ A painting with single-point perspective provides a view of the world from a particular place.

ハ Cézanne called for a return to the primitive art world that existed before the 15<sup>th</sup> century.

ニ Later in his career, Cézanne experimented with painting the same mountain from many perspectives on different canvases.

[IV] 次の英文は、ペンギンの数が減少してきている理由について書かれたものです。それを読んで文中の空欄 1～6 にあてはまる語をイ～ニの中から一つ選び、その記号を解答欄にマークせよ。

Scientists report that penguin populations have dropped by as much as 50 percent during the past three decades in the West Antarctic Peninsula and Scotia Sea\*<sup>1</sup>. The problem appears to be a shortage of krill\*<sup>2</sup>, the seabirds' primary food source, caused by  regional air temperatures and increasing populations of hungry whales. A fisheries biologist has been monitoring groups of Adélie penguins\*<sup>3</sup> since the mid-1970s.

Because he regularly monitors individual penguins, this biologist has found a key factor in the population collapse: Far  young penguins are surviving their first winter on their own, because they're having a hard time finding krill. About half of the baby krill survived in the 1970s and mid-1980s, but only about one tenth do now. Direct measurements of krill show that there is about 80 percent less krill than there was just 20 years ago. So the probability of young penguins finding it often enough to survive during those first months of independence is much .

The local krill collapse is probably due to a pair of factors. One is regional air temperatures, which are some 5 or 6 degrees Celsius  than they were in the 1940s and 1950s. Those temperatures control how much ice forms at the sea surface. If less ice forms, there are fewer phytoplankton\*<sup>4</sup> growing on the bottom of the sea ice. Consequently, fewer phytoplankton are available to provide a winter food source for the young krill that were born the summer before. Without that food, the young krill don't survive.

The  krill killer is actually a conservation success story —  populations of whales. From what information is available, krill-eating whales are beginning to return, and their numbers are growing.

語注

\*<sup>1</sup> West Antarctic Peninsula and Scotia Sea : 西南極半島とスコシア海

\*<sup>2</sup> krill : オキアミ (エビに似た甲殻類の総称)

\*<sup>3</sup> Adélie penguins : アデリーペンギン

\*<sup>4</sup> phytoplankton : 植物プランクトン

1. イ lower	□ rising	ハ decreasing	ニ stable
2. イ fewer	□ more	ハ greater	ニ wilder
3. イ high	□ more	ハ needed	ニ reduced
4. イ better	□ cooler	ハ higher	ニ lower
5. イ young	□ second	ハ another	ニ lower
6. イ reduced	□ rebounding	ハ stable	ニ unstable

〔V〕 日本語の意味になるように、イ～ホの語を並べかえて文を完成させなさい。その時に②番目と④番目に来る語をイ～ホの中からそれぞれ一つずつ選び、その記号をマークせよ。

1. 今朝、起きるのが遅かったので学校に間に合わなかった。

I got up  ②  ④  time for school this morning.

イ be                      ロ too                      ハ in  
ニ to                      ホ late

2. 暗くなればなるほど、犯人を見つけるのは難しかった。

The darker it was,  ②  ④   
to find the criminal.

イ difficult                ロ it                      ハ more  
ニ the                      ホ was

3. 彼は偉大な医者だと言われている。

He  ②  ④  great doctor.

イ said                      ロ a                      ハ is  
ニ to                      ホ be

4. このビルの高さはあのビルの3倍ある。

This building is  ②  ④  that one.

イ as                      ロ times                      ハ tall  
ニ three                      ホ as



5. 少年は宿題をしなかったので叱られた。

The boy  ②  ④  done his  
homework.

イ for                      ロ having                      ハ not

ニ scolded                      ホ was

6. 財布を家に忘れてくるなんて、最悪だ。

Nothing  ②  ④  leave my  
wallet at home.

イ be                      ロ could                      ハ than

ニ to                      ホ worse

[VI] つぎの英文の  の中に入る最も適切な語(句)をイ～ニの中から一つ選び、その記号をマークせよ。

1. The cat was  on the sofa.

イ lied                      □ lay                      ハ lying                      ニ laying

2. I lost the watch that I  the day before.

イ buy                      □ have bought                      ハ would buy                      ニ had bought

3. This is the house  I was born in.

イ where                      □ when                      ハ whose                      ニ which

4. Frank saw his sister  her homework at midnight.

イ did                      □ done                      ハ doing                      ニ had done

5. She is very different from  she was ten years ago.

イ what                      □ that                      ハ which                      ニ only

6. It  since I got up this morning.

イ rains    □ is raining  
ハ would rain    ニ has been raining

7. The principal's speech was worth  to.

イ listen                      □ listens                      ハ to listen                      ニ listening

8. There  a bookstore over there when I was a boy.

イ was used to being    □ used to be  
ハ is    ニ will be

9. I heard my name  in the crowd.

イ call      □ calling      ハ called      ニ to call

10. Let me know  you get to the airport.

イ where      □ what      ハ when      ニ which

[VII] つぎの英文の下線部の語(句)とほぼ同じ意味を表すものをイ～ニの中から一つ選び、その記号をマークせよ。

1. PE stands for physical education.

イ becomes      □ calls      ハ means      ニ seems

2. Jack is a doctor that everybody looks up to.

イ respects      □ receives      ハ reminds      ニ recovers

3. They discussed the problem at the meeting.

イ came to      □ came by      ハ took up      ニ took off

4. I am fed up with his attitude.

イ worried about      □ happy with  
ハ tired of      ニ delighted with

5. You need to hand in your original essay.

イ submit      □ accept      ハ complete      ニ rewrite

6. Who will take care of this poor dog?

イ look after      □ look like  
ハ look up      ニ look down on

7. I came across my friend on the way to the library.

イ took over      □ ran into  
ハ went with      ニ made up with

8. It's too hot today! I can't bear studying in this classroom.

イ start      □ sit      ハ go      ニ stand

9. He founded a new school.

イ published      □ established      ハ closed      ニ broke

10. The actor turned up on the stage after the play ended.

イ appeared      □ disappeared      ハ sat      ニ stood





