

## 令和3年度 東北医科薬科大学入学試験問題

## 医学部 一般・外国語

## 《 注意事項 》

1. 解答用紙左部に氏名、フリガナ、その下部に受験番号を記入し、例にならって○にマークしなさい。

(例) 受験番号10001の場合


フリガナ	
氏名	

受験番号				
万	千	百	十	一
1	0	0	0	1
	●	●	●	○
●	①	①	①	●
②	②	②	②	②
③	③	③	③	③
④	④	④	④	④
⑤	⑤	⑤	⑤	⑤
⑥	⑥	⑥	⑥	⑥
⑦	⑦	⑦	⑦	⑦
⑧	⑧	⑧	⑧	⑧
⑨	⑨	⑨	⑨	⑨

2. この問題冊子は、13ページまであります。
3. 試験中に問題冊子の印刷不鮮明、ページの落丁・乱丁等に気付いた場合は、手を高く挙げて監督者に知らせなさい。
4. 解答方法は次のとおりです。

- (1) 解答は解答用紙の解答欄にマークしなさい。例えば、と表示のある問いに対して③と解答する場合は解答番号1の解答欄の③にマークしなさい。

解答 番号	解 答 欄									
	1	2	3	4	5	6	7	8	9	10
1	①	②	●	④	⑤	⑥	⑦	⑧	⑨	⑩

- (2) 解答の作成にはH、F、HBの黒鉛筆またはシャープペンシル(黒い芯に限る)を使用し、○の中を塗りつぶしなさい。解答が薄い場合には、解答が読み取れず、採点できない場合があります。
- (3) 答えを修正する場合は、プラスチック製の消しゴムであとが残らないように**完全に消しなさい**。鉛筆のあとが残ったり、のような消し方などした場合は、修正または解答したことにならないので注意しなさい。
- (4) 解答用紙は折り曲げたり、メモやチェック等で汚したりしないよう、特に注意しなさい。

(試験終了後、問題冊子は持ち帰りなさい。)





【 I 】 次の英文を読み、問い（問 1～5）に答えよ。

Japan remains far behind many other advanced economies in the use of renewable energy such as wind and solar power. The government is now weighing a new set of measures to promote renewable energy, including expanding offshore wind power and reviewing the rules on access to the power transmission system—one of the key hurdles to increased use of renewables.

These efforts should be backed up by a much more aggressive target for increasing renewable energy in this country—to prompt greater investments in the sector and to ( A ) the government’s commitment to decarbonizing the nation’s energy policy in the fight against climate change.

The government’s basic energy policy ( B ) turning renewables into a principal source of power supply. However, the target share for renewable energy in the 2030 power supply mix—22-24 percent of the total—is even lower than the 26 percent envisioned for coal-fired power plants, which many other industrialized nations plan to ( C ) because they emit more global warming gases such as carbon dioxide than other sources of power. Renewable energy including large-scale \*hydraulic power ( D ) 17 percent of the nation’s power supply in fiscal 2018—nearly double the 9 percent in 2010 but still well below the levels in advanced European economies.

When most of the nation’s nuclear power plants were shut down following the 2011 meltdowns at Tokyo Electric Power Company Holding’s Fukushima No.1 nuclear power plant, the power industry fired up more thermal power plants, including coal, to make up for the loss of nuclear power, which supplied 30 percent of the nation’s electricity demand before the disaster. ( a ) for its cheaper cost and the low geographical risk involved in its supply from overseas, the share of coal power reached 32 percent in 2018, second only to the 38 percent of natural gas-fired plants.

In recent years, (1)Japan has come under growing international fire for its heavy reliance on coal despite the global efforts to reduce carbon dioxide emissions. In response to such criticism, the government last month fleshed out its earlier pledge to ( C ) “inefficient” coal-fired power plants. Of the nation’s 150 coal plants, 120 were categorized as less efficient in their power generation, and about 100 of them are expected to be ( E ) for either \*de-commissioning or suspension from service by 2030.

However, the impact of the move on combating climate change may not be as big as the numbers suggest. Most of (ア) [ ① be ② of ③ out ④ plants ⑤ put ⑥ service ⑦ the coal ⑧ to ] are old, small-capacity facilities. The more “efficient” ones that will be kept, including those now planned or under construction, have much larger capacities so the net reduction in the total capacity of coal-fired plants in Japan will only amount to some 20 percent, according to an estimate by an environmental group.

In fact, the government is not expected to change coal’s share of 26 percent in the 2030 power supply mix. Even an “efficient” coal plant is said to emit twice as much carbon dioxide as a natural gas power plant, and many point to the global warming risk posed by keeping those plants in operation for decades to come.

(2) Japan has pinned its hopes on nuclear energy—which does not emit carbon dioxide in generating power—for reducing its greenhouse gas emissions. However, the restart of nuclear plants idled in the wake of the 2011 Fukushima disaster remains slow. Nuclear power’s share of electricity supply in 2018 was a mere 6 percent—(3) a far cry from the government’s target of 20-22 percent in 2030. Due to lingering safety concerns and the increased post-Fukushima cost of running nuclear plants, prospects are slim that the restart of the idled plants will ( F ) significant speed in the near future.

( b ) the uncertain future of nuclear power and the nation’s continued heavy dependence on fossil fuel-based energy, the government remains unable to upgrade its commitments to cut greenhouse gas emissions under the Paris agreement to fight climate change—even though nations are urged to revamp their voluntary plans every five years to prevent the catastrophic effects of global warming. Significantly boosting the use of renewable energy holds the key to Japan accelerating its de-carbonization efforts, and the government needs to make its commitment clear by sharply upgrading its targets for the share of renewables in energy supply.

The higher cost of renewable energy in Japan compared to other countries where the use of those energy sources has become more prevalent, as well as the unstable power generation by renewable sources dependent on weather conditions, have often been cited (4) as reasons why renewables don’t take off in this country. Rather than continue to use those problems as excuses for dragging our feet, we must pursue technological innovations to

overcome them and lower the cost of renewables. It's time to shift gears in the effort to restructure the nation's energy landscape.

注\* hydraulic power: 水力 / decommissioning: 火力発電所の廃止措置

問 1 次の文(1)～(5)の内容が本文の内容と一致する場合は①を、一致しない場合は②をマークせよ。

(1)  1

So far Japan has played a pioneering role in encouraging other countries to accelerate the move to renewable energy sources instead of using fossil fuels.

(2)  2

The target share for coal-burning power plants in 2030 is a little bit lower than that for renewable energy.

(3)  3

In response to the meltdown accident of Fukushima No. 1 nuclear power plant in 2011, the power industry began raising the operation rates of thermal power plants to compensate for the loss of nuclear power.

(4)  4

The Japanese government is planning to discontinue the operation of 150 coal-burning power plants by 2030 because they emit greenhouse gases.

(5)  5

The author suggests that Japan start seeking technological innovations to stop relying on fossil fuels and making a transition to renewable energy.

問2 本文中の空欄( A )～( F )に入る最も適当な語句を①～④の中から一つ選び、その番号をマークせよ。ただし( C )は二ヶ所あるが、どちらも同じものが入る。

(1) 空欄( A )

- ① come by ② drive home ③ go home ④ see through

(2) 空欄( B )

- ① calls for ② lives on ③ rules out ④ runs off

(3) 空欄( C )

- ① come about ② fetch out ③ phase out ④ rub off

(4) 空欄( D )

- ① accounted for ② contributed to ③ laid out ④ turned into

(5) 空欄( E )

- ① done away with ② set aside  
③ taken into account ④ taken place

(6) 空欄( F )

- ① blow up ② pick up ③ set up ④ step up

問3 本文中の空欄( a )、( b )に入る文法的に最も適当な語句を①～④の中から一つ選び、その番号をマークせよ。

(1) 空欄( a )

- ① Favor ② Favored ③ Favoring ④ To favor

(2) 空欄( b )

- ① Give ② Given ③ Giving ④ To give

問4 本文中の下線部(ア)の語句を並べ替えて、次の日本語とほぼ同じ意味になるように文を作り、2番目と6番目に入る番号をマークせよ。

「運転が停止される石炭火力発電所」

(1) 2番目

(2) 6番目

問5 本文中の下線部(1)～(4)の意味として最も適当なものを①～④の中から一つ選び、その番号をマークせよ。

(1) 下線部(1)

- ① 日本は国際社会から注目を集めてきた
- ② 日本は国際社会から称賛を浴びてきた
- ③ 日本は国際社会から影響を受けてきた
- ④ 日本は国際社会から批判を浴びてきた

(2) 下線部(2)

- ① 日本は核エネルギーへの希望を持てなくなった
- ② 日本は核エネルギーに期待をかけてきた
- ③ 日本は核エネルギーを上手に利用してきた
- ④ 日本は核エネルギーに依存してきた

(3) 下線部(3)

- ① 20～22%という政府目標は達成間近だ
- ② 20～22%という政府目標の達成は感激ものだ
- ③ 20～22%という政府目標からは程遠い
- ④ 20～22%という政府目標は当初から非現実的だ

(4) 下線部(4)

- ① 再生可能エネルギーが注目を集めない理由として
- ② 再生可能エネルギーが断念されない理由として
- ③ 再生可能エネルギーが評価されない理由として
- ④ 再生可能エネルギーが軌道に乗らない理由として



【Ⅱ】 次の英文を読み、問い（問 1～5）に答えよ。

In 2020, no Japanese person won a Nobel Prize in the natural sciences. If a Japanese had been a laureate in the categories, it would have been the third year in a row for Japan to win such an award. Basic research takes time to produce results. It is important to provide long-term support. [ A ]

The winners of the Nobel Prize in Chemistry were two women from the United States and France who developed a gene-editing technique known as CRISPR/Cas9. It is an epoch-making technique for freely cutting and pasting DNA, which is called the ( 1 ) of life. The two had been seen as favorites for the award.

They developed the technique in 2012. It sometimes takes several decades to win a Nobel Prize, so their award this time was unusually ( 2 ). However, considering the impact this technique has had on medicine and life science, this can likely be deemed a natural accolade.

Their development is based on studies conducted by Japanese scientists more than 30 years ago. Researchers discovered an unusual repeating ( 3 ) sequence in the process of decoding *E. coli* genes. In later years, this was found to be related to the bacterial immune system and was named CRISPR.

The purpose of applied research is to achieve the desired results and connect them to practical use. However, basic research that is not initially known to be useful sometimes pays off greatly. [ B ]

It is important for the government, companies and universities to support basic research from a long-term perspective, ( 3 ) prioritizing only short-term profits.

This year's Nobel Prize in Physics was related to black holes. Last year, a team from an observation station of the National Astronomical Observatory of Japan in Oshu, Iwate Prefecture, played a ( 4 ) prominent role in a separate international project that succeeded in taking the world's first photograph of a black hole.

Since then, however, the budget for the observation station in Oshu has

been drastically cut, and observation activities there are said to be in a precarious position. [ C ]

In recent years, (1)a series of Japanese Nobel laureates have pointed out the deteriorating environment for research. This is because (2)the government's subsidies for operating expenses at national universities have been cut due to fiscal difficulties. The number of young researchers with unstable positions is also increasing.

To date, 24 researchers from Japan have won prizes in the three natural science categories, which include the physiology or medicine award. Since 2000, there has been a rush of 19 Japanese researchers winning awards.

These achievements are simply a case of results accumulated in the past being rewarded now. (3)At present, the number and quality of Japanese research papers has significantly declined compared with those in the United States and China. If nothing is done to address the current situation, many fear there will be no Japanese Nobel laureates 10 or 20 years from now.

Creative, original research that could lead to Nobel Prizes needs an environment in which young researchers and female scientists can work on their studies freely and without worry. The government should devise a strategy to sow many seeds for the future. [ D ]

問1 本文中の空欄( 1 )～( 3 )に入れるのに文脈上、最も適切な語句を①～⑤の中から一つ選び、その番号をマークせよ。

(1) 空欄( 1 )

- ① black hole ② blueprint ③ green light  
④ red blood cell ⑤ white beet

(2) 空欄( 2 )

- ① barren ② inactive ③ inert ④ rapid ⑤ sluggish

(3) 空欄( 3 )

- ① by ② in ③ rather than ④ when ⑤ which is

問 2 下線部(ア)、(イ)の語の本文中の意味に最も近い語を①～⑤の中から一つ選び、その番号をマークせよ。

(1) 下線部(ア)sequence

- ① array ② encounter ③ posture ④ speculation ⑤ vicinity

(2) 下線部(イ)prominent

- ① major ② modest ③ notorious ④ primitive ⑤ prompt

問 3 次の一文は、本文中の空欄 [ A ]～[ D ]のどこに入れるのが最も適切か。①～④の中から一つ選び、その番号をマークせよ。

The discovery by the Japanese scientists is a good example of basic research with unforeseen potential.

- ① 空欄 [ A ] ② 空欄 [ B ]  
③ 空欄 [ C ] ④ 空欄 [ D ]

問 4 本文にタイトルをつけるとしたら、どれが最も適切か。①～⑤の中から一つ選び、その番号をマークせよ。

- ① Gene Editing Scientists Win Nobel Prize  
② Two Female Researchers Share Nobel Prize in Chemistry  
③ Some Reasons behind the Fiscal Problem in Japan  
④ Long-term Support for Basic Research Will Lead to Future Nobel Prizes  
⑤ Japanese Companies Bet Big on Chemical Plastics Recycling

問5 本文中の下線部(1)～(3)の意味として最も適当なものを①～④の中から一つ選び、その番号をマークせよ。

(1) 下線部(1)

- ① ノーベル賞候補とされる日本人の論文の中には、環境問題についての研究シリーズがある
- ② 歴代の日本人ノーベル賞受賞者が、研究環境が悪化していることを指摘している
- ③ 日本人がノーベル賞を連続して受賞するために、研究環境の改善が求められてきている
- ④ 日本人が受賞した一連のノーベル賞受賞論文を見ると、環境に関する研究が減少してきていることがわかる

(2) 下線部(2)

- ① 全国の大学が、経営難のために政府に運営費の補助を申請するようになってきている
- ② 情勢悪化のため、政府からの運営費補助を削減されてきている大学が全国的に増えてきている
- ③ 財政難のため、国立大学の運営費に対する政府の補助金が削減されてきている
- ④ 手続き上困難という理由から、私立大学においては、政府による運営費の補助金が交付されにくくなっている

(3) 下線部(3)

- ① 現在のところ、日本人研究者の数と質は、米国や中国と比べても非常に高い水準を維持している
- ② 日本では最近、研究に用いる資料の紙質が米国や中国と比べて格段に良くなってきている
- ③ 日本の研究論文は本来、米国や中国と比べても、数や質においてそれほど優れているわけではなかった
- ④ 目下、日本の研究論文の数と質は、米国や中国と比べて著しく低下してきている

【Ⅲ】 次の問い（問 1～10）の英文中の空欄(  )～(  )に入る最も適当な語句を①～⑤の中から一つ選び、その番号をマークせよ。

問 1 His letter was so confusing that I could hardly (  ) any sense of it at all.  
① condemn ② conform ③ make ④ modify ⑤ stagger

問 2 I was keeping my wits about me so as not to come out (  ) an imprudent remark in an unguarded moment.  
① for ② in ③ of ④ to ⑤ with

問 3 That country's delegation (  ) all the rooms on the second floor.  
① administered ② booked ③ consulted  
④ cultured ⑤ diagnosed

問 4 We (  ) his success in business to good luck and hard work.  
① adorn ② ascribe ③ discern ④ hinder ⑤ yearn

問 5 Since we are next-door neighbors, we ought to be on good (  ) with each other.  
① decompositions ② erosions ③ lumbers  
④ reasons ⑤ terms

問 6 I will devote myself (  ) so that I will not lose to anyone.  
① in studying ② studied ③ studying  
④ to be studied ⑤ to studying

問 7 The bridge couldn't (  ) the force of the strong stream and collapsed.  
① compare ② exhale ③ rebuke ④ suppress ⑤ sustain

問 8 You cannot (  ) money for health.  
① apply ② dismiss ③ fill ④ implore ⑤ substitute

問 9 He ordered the computer (  ) the shop in the United States.  
① about ② as ③ from ④ over ⑤ to

問 10 It really pains me to turn (  ) an invitation from a friend.  
① by ② down ③ into ④ of ⑤ on

【IV】 次の問い (問 1~6) において、二つの文(a)、(b)の意味がほぼ同じになるように、文(b)の空欄に入る最も適切な語句を一つ選び、その番号をマークせよ。

問 1 (a) I'd like you to attend the meeting in my place.  
(b) I'd like you to (  ) my place at the meeting.  
① change ② get ③ make ④ take

問 2 (a) The low rent helps me out.  
(b) The low rent makes things (  ).  
① easier ② even ③ tougher ④ worse

問 3 (a) It tastes all right, but there's just something missing.  
(b) It tastes all right, but it (  ) something to be desired.  
① keeps ② leaves ③ remains ④ sets

問 4 (a) Gas seems to be leaking from somewhere.  
(b) Gas seems to be (  ) from somewhere.  
① conflicting ② escaping ③ longing ④ sneaking

問 5 (a) You should be receptive to what people say.  
(b) You should be (  ) what people say.  
① careful about ② ignorant of ③ open to ④ vulnerable as

- 問 6 (a) Living for a long time in an environment like this is detrimental to one's mental well-being.  
 (b) Living for a long time in an environment like this is detrimental to one's mental (  ).  
 ① aptitude ② attitude ③ disability ④ health

【V】 次の問い（問 1～5）の日本語の文の意味に合うように[  ]内の語句を並べかえて意味の通る英文を作り、空欄(  )～(  )に入るものを一つ選び、その番号をマークせよ。

- 問 1 日本の子供たちの肥満の割合は最も低く、5 歳から 19 歳まででわずか 14 パーセントであった。  
 Japanese children had (  ) (  ) (  ) (  ) (  ) (  ) (  ) to 19.  
 [ ① ages 5 ② at ③ of children ④ of obesity ⑤ only 14 percent ⑥ rate ⑦ the lowest ]

- 問 2 高校時代の友人たちと夕食に出かける予定でしたが、その中の一人がインフルエンザにかかり、中止にしました。  
 I was planning to go out with some friends from high school, but one of them (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) off.  
 [ ① and ② called ③ came ④ down ⑤ our dinner ⑥ the flu ⑦ we ⑧ with ]

- 問 3 今年は TOEIC で 940 点を取りましたが、わたしの英語力は父には到底及びません。  
 I got 940 on the TOEIC test this year, but (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ).  
 [ ① ability ② as ③ as good ④ is ⑤ my English ⑥ my father's ⑦ near ⑧ nowhere ]

問 4 ジョンソン教授の特別講演に出席しましたが、2 時間近い退屈な話を最後まで聴くのは大変でした。

I attended a special lecture by Professor Johnson, but it was hard for  
( ) ( ) ( 52 ) ( ) ( ) ( 53 ) ( ) ( )  
his boring speech.

[ ① hours ② me ③ nearly ④ of ⑤ sit ⑥ through ⑦ to  
⑧ two ]

問 5 昨晩は数学の宿題を終わらせる予定だったが、とても疲れていた  
ので、テレビを見ている間に寝入ってしまった。

I was planning to finish my math homework last night, but I ( )  
( ) ( ) ( 54 ) ( ) ( ) ( 55 ) ( ) watch-  
ing TV.

[ ① dropped ② I ③ off ④ so ⑤ that ⑥ tired ⑦ was  
⑧ while ]









