

平成 28 年度 東北薬科大学入学試験問題

医学部 一般・英語

《 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○の中を塗りつぶすこと。

(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
⑨	⑨	⑨	⑨	⑨

2. この問題冊子は、12ページあります。

3. 解答方法は次の通りである。

(1) 各問題には、正しい答えは一つしかないので、最も適当と思われる答えを一つ選び、次の例にならって解答用紙に記入すること。

※一つの問に二つ以上解答した場合は誤りとなる。

(例) 問1 東北薬科大学のある都市は次のうちどれか。

1. 札幌市 2. 青森市 3. 仙台市 4. 秋田市
5. 山形市 6. 盛岡市 7. 福島市 8. 横浜市

正しい答えは、3 であるので解答用紙の


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

のうち ③ を塗りつぶして

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

とすればよい。

- (2) 解答の作成にはH、F、HBの鉛筆を使用し、○の中を塗りつぶすこと。
尚、解答以外に印をつけた場合は、必ず消しておくこと。

- (3) 答えを修正した場合は、プラスチック製の消しゴムであとが残らないように**完全に消すこと**。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すること。

- (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、特に注意すること。

4. 問題の内容については、質問しないこと。

(問題冊子は回収しません)

平成28年度 一般入試（医学部）

問題訂正

受験者に対して、試験開始前に問題訂正があることを口頭で伝えた上、
試験開始直後に下枠の内容を、黒板に板書するなどにより周知してください。

12時00分開始 外国語

問題訂正

外国語

P.7 第2問 問1 [4] 20

	訂正前	→	訂正後
選択肢①	having to rule	→	having rule

第1問 次の英文を読み、問い（問1～4）の中の 1 ～ 16 の答えをそれぞれの選択肢の中から一つずつ選び、その番号をマークせよ。

Developed in 1939, DDT was the most powerful pesticide the world had ever known. It was used throughout the 1940s and 1950s to clear regions of mosquitoes carrying malaria. Its inventor was awarded the Nobel Prize. When DDT became (ア) available for purely commercial use and was sprayed over crops, only a few people, like Rachel Carson, felt that there was some danger. (1) When she finally published her book, *Silent Spring*, her fears were heard loud and clear. The impact of *Silent Spring* was great; with this book, Rachel Carson (A) the foundation for the modern environmental protection movement.

Carson did not originally intend to write a book about the harmful effects of DDT. Her interest in the subject was sparked by a letter from old friends telling about the damage that aerial spraying had done to the ecological system on their land. Although Rachel Carson was a best-selling author, no magazine would agree to her idea for an article investigating the negative effects of DDT. (2) She decided to go ahead and deal with the issue in a book, *Silent Spring*, which took her four years to complete. It described how DDT entered the food chain and accumulated in the fatty tissues of animals, including human beings, and caused cancer and genetic damage. The book's most famous chapter, "A Fable for Tomorrow," depicted a nameless American town where all life—from fish to birds to apple blossoms to children—had been "silenced" by the insidious effects of DDT.

First serialized in *The New Yorker* magazine in June 1962, the book (イ) alarmed readers across the country and, not surprisingly, brought howls of anger from the chemical industry. "If man were to faithfully follow the teachings of Miss Carson," complained an executive of the American Cyanamid Company, "we would return to the Dark Ages, and the insects and diseases would once again (ウ) inherit the earth." Some of the attacks were more personal, questioning Carson's integrity and even her sanity.

(3) Her careful preparation, however, had paid off. Foreseeing the reaction of the chemical industry, she had written *Silent Spring* like a law-

yer's brief, with no fewer than 55 pages of notes and a list of experts who had read and approved the manuscript. Many well-known and respected scientists rose to her defense, and when President John F. Kennedy ordered the President's Science Advisory Committee to examine the issues the book raised, its report supported both *Silent Spring* and its author. (B), DDT came under much closer government supervision and was eventually banned.

Conservation had never attracted much public interest before Rachel Carson's book, but the dangers she analyzed were too frightening to ignore. (4)For the first time, the need to regulate industry in order to protect the environment became widely accepted, and environmentalism was born. Carson was well aware of the implications of her book. Appearing on a CBS documentary about her work shortly before her death from breast cancer in 1964, she remarked:

The public must decide whether it wishes to continue on the present road, and it can only do so when in full possession of the facts. We still talk in terms of conquest. We haven't become mature enough to think of ourselves as only a tiny part of a vast and incredible universe. Man's attitude toward nature is today critically important simply because we have now acquired a fateful power to alter and destroy nature. But man is part of nature, and his war against nature is inevitably a war against himself.

One of the landmark books of the twentieth century, *Silent Spring* still speaks to us today, many years after its publication. Equally inspiring is the example of Rachel Carson herself. Against (㊦)overwhelming difficulties and hardship, (C) her own shyness and reserve, and motivated only by her love of nature, she rose like a gladiator in its defense.

問 1 次の[1]～[5]の文において、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

DDT was first developed for military purposes during World War II.

[2]

According to Rachel Carson, DDT is dangerous because, entering the food chain, it accumulates in the fatty tissues of animals, including human beings, and increases the risk of developing cancer.

[3]

When Rachel Carson serialized articles in *The New Yorker* magazine, the chemical industry in the United States criticized her idea that DDT was extremely harmful to our environment.

[4]

Rachel Carson got all the experts to read and approve the manuscript of *Silent Spring* before she published the book.

[5]

Silent Spring frightened the public and therefore failed to attract their attention.

問 2 本文中の空欄(A)～(C)に入る最も適当な語句を一つ選べ。

[1] 空欄(A)

- ① laid ② lain ③ lay ④ laying ⑤ lies

[2] 空欄(B)

- ① As a result ② However ③ Incidentally
④ Namely ⑤ Nevertheless

[3] 空欄(C)

- ① because of ② beside ③ despite ④ except ⑤ from

問 3 本文中の下線部(ア)～(エ)の単語の意味に最も近いものを一つ選べ。

[1] 下線部(ア) available

- ① beneficial ② benevolent ③ dangerous ④ optional ⑤ ready

[2] 下線部(イ) alarmed

- ① attracted ② disappointed ③ embarrassed
④ offended ⑤ warned

[3] 下線部(ウ) inherit 11

- ① adapt to ② inquire into ③ live off
④ spread over ⑤ succeed to

[4] 下線部(エ) overwhelming 12

- ① economic ② efficient ③ emotional
④ financial ⑤ irresistible

問 4 本文中の下線部(1)～(4)の英文の意味として最も適当なものを一つ選べ。

[1] 下線部(1) 13

- ① 彼女の死後に『沈黙の春』が出版されたとき、読者は彼女の懸念をしっかりと認識した。
② 彼女が最終的に著書を出版したとき、『沈黙の春』と彼女の不安は周囲の人々に知られることとなった。
③ 『沈黙の春』の最後の版を出版した際、周囲の人々は、彼女が声高に不安を述べるのを聞いた。
④ 晩年に『沈黙の春』を出版した際、彼女の懸念ははっきりと読者に届いた。
⑤ 彼女が最終的に『沈黙の春』を出版した際、彼女の懸念ははっきりと読者に届いた。

[2] 下線部(2) 14

- ① 彼女は『沈黙の春』という著書の中で扱われている問題に対応しようと決心したが、すべて終えるのに4年かかってしまった。
② 彼女は、見切り発車とは言え、『沈黙の春』の執筆に取りかかる決心をしたが、完成までに4年かかってしまった。
③ 彼女は敢えてその問題を『沈黙の春』という著書の中で扱おうと決心し、それを書き上げるまでに4年間を費やした。
④ 彼女はいろいろな所をまわって、『沈黙の春』で取り上げた問題の解決の手掛りを探す決心をしたが、それが終了するまで4年かかった。
⑤ 彼女は出版社を念入りにまわって、『沈黙の春』で扱うべき問題の証拠を集める決心をしたが、それが終わるまでには4年を要した。

[3] 下線部(3) 15

- ① それにもかかわらず、彼女は準備を怠ったので、評価を得られなかった。
- ② とは言え、彼女の入念な準備にはお金がかかった。
- ③ どれほど入念に準備をしても、採算が合わなかった。
- ④ しかし、彼女の入念な準備は報われた。
- ⑤ けれども、彼女の入念な準備は評価されなかった。

[4] 下線部(4) 16

- ① 環境を保護しようという考えが広く受け入れられ、産業を規制する必要性が初めて高まり、環境保護主義が生まれた。
- ② 環境を保護するために産業を規制する必要性は、過去に一度だけ広く受け入れられ、環境保護主義が生まれた。
- ③ 産業を規制する必要性が過去に一度叫ばれた結果、環境保護が広く受け入れられ、環境保護論者が生まれた。
- ④ 環境を保護するために産業を規制する必要性が初めて広く受け入れられ、環境保護主義が生まれた。
- ⑤ 環境を保護するために、産業を規制する必要性が広く受け入れられ、環境保護論者が初めて出現した。

第2問 次の新聞記事を読み、問い(問1～4)の中の 17 ～ 32 の答えをそれぞれの選択肢の中から一つずつ選び、その番号をマークせよ。

Children at high risk of getting asthma may be missing some important *gut bacteria in their first few months of life, according to a study Wednesday that helps explain why asthma is on the rise.

*Cases of asthma—a lifelong condition that causes wheezing, coughing and difficulty breathing—(A) sharply since the 1950s, particularly in Western countries where up to 20 percent of children are affected, experts say.

But the cases have not (B) in the developing world. That has

raised concerns that environmental factors or the trappings of modern life—such as higher rates of Caesarean births, reliance on formula to feed babies rather than breast-feeding, overuse of antibiotics, or other factors—may be to blame.

While scientists still do not have a (1)definitive answer, the findings in the journal *Science Translational Medicine* identified for the first time four specific bacteria that appear to protect the immune system against asthma.

“(2)This research supports the hygiene hypothesis that we’re making our environment too clean,” said study co-author Brett Finlay, professor of microbiology and immunology at the University of British Columbia.

“It shows that gut bacteria play a role in asthma, but it is early in life when the baby’s immune system is being established.”

The study involved more than 300 children whose *stool samples were tested at age three months and one year.

The samples showed lower levels of four specific gut bacteria in three-month-old infants who were at an increased risk for asthma.

When *fecal samples were studied at age one, there were fewer differences among the children, suggesting that the first 100 days of life is a *critical window for a baby’s developing immune system.

As years passed, 22 children with less (2)diverse gut bacteria were tracked, and eight of them developed asthma. The rest of the group was considered at higher risk of asthma than other children in the study.

But it remains unclear exactly how infants acquire these particular bacteria—they are named *Faecalibacterium*, *Lachnospira*, *Veillonella* and *Rothia*—and researchers said more study is needed to find out (C) some babies naturally acquired them from their environments and others did not.

“We know very little about them,” co-author Marie-Claire Arrieta of the University of British Columbia told reporters.

“There are known (3)inhabitants of different parts of our *gastrointestinal tract, but we’re just starting to do analysis to learn more about them.”

None of the 22 children at high risk for asthma were treated with *antibiotics in the first months of life, (D) that out as a (4)potential cause for the less diverse bacteria.

But the researchers also said they did not examine the children's mothers for the same bacteria, nor did they examine whether birth vaginally or by C-section, or bottle versus breast-feeding, could have played a role—though these are directions for future study.

"This study, I think, maybe starts to (5)emphasize that we need to revisit our relationship with bacteria," said co-author Stuart Turvey, a doctor at the British Columbia Children's Hospital, who cautioned against seeking the answer in store-bought products.

"We're starting to discover this massive universe of bacteria," said Turvey.

"And the bacteria that are often presented in the *probiotics we can buy at the health food store or the supermarket are just one small handful of bacteria, and certainly don't include this flavor combination that we've identified."

*注 gut bacteria=腸内細菌 / cases=症例(数) / "stool", "fecal"=便 /
critical window=臨界期 / gastrointestinal tract=消化管 / antibiotics
=抗生物質 / probiotics=プロバイオティック(善玉菌などを含む食品)

問1 空欄(A)～(D)に入るものとして最も適当なものを一つ選べ。

[1] 空欄(A) 17

- ① have risen ② having raised ③ having risen ④ rise ⑤ rose

[2] 空欄(B) 18

- ① climbed ② comprised ③ declined ④ merged ⑤ nourished

[3] 空欄(C) 19

- ① in ② on ③ what ④ which ⑤ why

[4] 空欄(D) 20

- ① having to rule ② rule ③ ruling
④ were to be ruled ⑤ were ruled

問 2 下線部(1)～(5)の単語の意味に最も近いものを一つ選べ。

[1] 下線部(1) definitive 21

- ① conclusive ② intensive ③ massive
④ progressive ⑤ relative

[2] 下線部(2) diverse 22

- ① decreased ② infected ③ invisible ④ recent ⑤ various

[3] 下線部(3) inhabitants 23

- ① characteristics ② institutions ③ researchers
④ residents ⑤ territories

[4] 下線部(4) potential 24

- ① appropriate ② beneficial ③ possible
④ prevalent ⑤ similar

[5] 下線部(5) emphasize 25

- ① adopt ② dilute ③ impair ④ stress ⑤ test

問 3 下線部(ア) This research の結果についての記述①～⑤の中で、本文の内容と一致するものを一つ選べ。 26

- ① 便検査の結果、病気になるリスクが高い3か月児は、そうではない3か月児と比べ、体内の4種の腸内細菌の量が多いことがわかった。
② 1歳児に便検査をしたところ、その子によって腸内細菌の量に少なからぬ違いが見られた。
③ 子どもの免疫系の発達の鍵をにぎるのは、生後100日間であることが判明した。
④ 体内の腸内細菌が少なかった子ども22人を追跡調査したところ、そのうち8人が腸疾患を発症した。
⑤ 子どもが腸内細菌を獲得するしくみがようやく明らかになってきた。

問 4 次の文[1]～[6]において、本文の内容と一致する場合は①を、一致しない場合は②をそれぞれマークせよ。

[1]

In Western countries, one third of children are suffering from asthma.

[2]

There seems to be a difference in the cases of asthma between advanced and developing countries.

[3]

The research in the journal *Science Translational Medicine* has found that four specific gut bacteria seem to guard the immune system against asthma.

[4]

The hygiene hypothesis is based on the idea that too much cleaning can be bad for our health.

[5]

Concerning gut bacteria, the researchers including Brett Finlay and Marie-Claire Arrieta examined both children and their mothers.

[6]

At the health food store or the supermarket, we can easily buy probiotics containing gut bacteria that prevent asthma.

第3問 次の問い（問1～5）の英文中の空欄(33)～(37)に入る最も適当なものを①～④の中から一つ選び、その番号をマークせよ。

問 1 (33) by meteorites whose impact formed craters of all sizes.

- ① The moon whose surface shaped
- ② The surface of the moon was shaped
- ③ The surface of the shaped moon
- ④ The surface was forming the shape of the moon

問 2 Scientists have speculated that the destruction of Earth's ozone layer would (34) us to damaging ultraviolet rays.

- ① expose ② exposed
③ have been exposed ④ have been exposing

問 3 The problem facing most tourists is () among so many possibilities.

- ① should they see what ② they should see what
③ what should they see ④ what they should see

問 4 The Swedish scientist (36) to people who have done something important to help humankind.

- ① Alfred B. Nobel left money to be awarded
- ② Alfred B. Nobel left to be awarded money
- ③ awarding money to Alfred B. Nobel to be left
- ④ left money to be awarded to Alfred B. Nobel

問 5 By far (37) of Saudi Arabia is oil.

- ① it is the most important export
- ② that is the most important export
- ③ the most important export
- ④ the most important export is

第4問 次の問い（問1～5）の下線部①～④のうち、語法上誤りのある箇所を一つ選び、その番号をマークせよ。

問1 38

①The chairperson couldn't ②make herself ③to hear ④over the sound of the marching band.

問2 39

①Though we met ②for the first time, I recognized her ③at once, because she was ④the very similarity of her mother.

問3 40

The worker tried ①to fix his car ②on the spot, ③where he found ④quite difficult to do.

問4 41

I don't think ①it'll rain this afternoon, but I'll ②take an umbrella ③in case ④it won't.

問5 42

①The number of people ②fail to recognize ③that quality is ④much more important than quantity.

第5問 次の問い（問1～5）の日本語の意味に合うように、[]内の語句を並びかえて意味の通る英文を作るとき、空欄(43)～(52)に入る最も適当な語句を一つ選び、その番号をマークせよ。
(選択肢は、文頭に来る文字も小文字で表記してある。)

問1 ジョニーは日曜日には大抵は早起するが、たまに昼まで寝ていることがある。

Johnny usually gets up early on Sundays, () (43) ()
() (44), he sleeps until noon.

[① a ② but ③ in ④ once ⑤ while]

問 2 さびとは、たとえば鉄が水分と接した時に、その上にできる茶色の物質のことである。

Rust is a brown substance that () () (), for example () () () () () with water.

[① comes ② contact ③ forms ④ into ⑤ iron ⑥ it ⑦ on ⑧ when]

問 3 印象は人によって異なるものだ。ジョンは親しみやすいと言う人もいるし、無愛想だと言う人もいる。

() () () () from person to person; () () as sociable () () as standoffish.

[① and ② describe ③ John ④ others ⑤ perceive ⑥ some ⑦ varies ⑧ we ⑨ what]

問 4 日本では、駐車スペースがどんなに広くても、多くの人々はそこに自動車を後ろ向きで入れる。

In Japan, many people back their cars into parking spaces () () () () () () ().

[① are ② how ③ large ④ matter ⑤ no ⑥ spaces ⑦ the]

問 5 20 世紀後半、人類は大量消費によって、地球の温暖化や資源の枯渇といった深刻な課題に直面した。

In the latter half of the 20th century, () () () () () (), () () global warming and the depletion of resources from mass consumption.

[① as ② came ③ challenges ④ face to face ⑤ grave ⑥ humanity ⑦ such ⑧ with]