

医学部医学科英語入試問題

下記の注意事項をよく読んで解答してください。

◎注意事項

1. 配付された問題冊子および解答用マークシート（受験番号のマークの仕方）

に、それぞれ受験番号(4桁)ならびに氏名を記入し、解答用マークシートの受験番号欄に自分の番号を正しくマークしてください。

受験番号			
千	百	十	一
0	0	7	2

2. マークには必ずHBの鉛筆を使用し、濃く正しくマークしてください。

記入マーク例：良い例 ●
 悪い例 ○ ◐ ◑ ◒

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

3. マークを訂正する場合は、消しゴムで完全に消してください。

4. 所定の記入欄以外には何も記入しないでください。

5. 解答用マークシートを折り曲げたり、汚したりしないでください。

6. 「止め」の合図があったら、問題冊子の上に解答用マークシートを重ねて置いてください。

受験番号

氏名

[I] 次の英文を読み、後に続く質問 1～13 にもっとも適する答えを選びなさい。

Glaucoma is a category of eye diseases in which pressure in the eye results in damage to the optic nerve. With almost 7 million people affected by it, glaucoma is the second leading cause of blindness worldwide. Risk factors for glaucoma include age, diabetes, high-blood pressure, near or farsightedness, and a history of eye injury. Since the effects of glaucoma cannot be reversed, early diagnosis and treatment are essential for **preserving** people's eyesight.

Fluids inside the eye help it maintain its shape, like the air inside a basketball, and also provide it with oxygen and nourishment. The aqueous humor, the fluid in the front part of the eye, is produced by the ciliary body, a small gland that surrounds the lens of the eye. **This fluid** runs through the pupil into the anterior chamber to provide oxygen and nourishment to the lens and cornea. The aqueous humor then exits through the trabecular meshwork, a series of **channels** found at the angle where the cornea, the front covering of the eye, joins the iris, the colored part of the eye.

Glaucoma is caused by a buildup of fluid pressure inside the eye. If the trabecular meshwork becomes **clogged**, the aqueous humor cannot drain out as fast as it is produced and pressure builds up inside the eye. Pressure inside the eye will also increase if the ciliary body produces more fluid than the trabecular meshwork can normally handle. This intraocular pressure pushes against the optic nerve and damages its fibers, causing vision loss.

Chronic simple glaucoma, the most common variety, shows no symptoms at its onset and does not cause discomfort since the buildup of pressure inside the eye is so gradual. Unless the patient is tested for glaucoma, the first indication of the disease is a degradation of the **peripheral** vision. Most people do not notice this loss at the sides of their eyesight. Because the symptoms of glaucoma occur so gradually, patients often suffer some vision

loss before they are aware that they have the disease. Before vision loss occurs, however, glaucoma can be **diagnosed** by a tonometry test, in which a machine blows a puff of air into the eye or pushes against it to measure the pressure inside. Another test is to measure the peripheral vision to see if any loss has occurred. If discovered, glaucoma can be treated by either medicine to reduce the pressure or surgery to increase the rate at which the fluid drains out.

1. The word “preserving” in line 7 is closest in meaning to

- (a) investigating
- (b) finding a cure
- (c) becoming worse
- (d) keeping at the same level

2. The phrase “this fluid” in line 11 refers to

- (a) the aqueous humor
- (b) the ciliary body
- (c) the anterior chamber
- (d) the trabecular meshwork

3. The word “channels” in line 14 refers to

- (a) the aqueous humor
- (b) the ciliary body
- (c) the anterior chamber
- (d) the trabecular meshwork

4. The word “clogged” in line 17 is closest in meaning to
- (a) damaged
 - (b) blocked
 - (c) opened
 - (d) drained
5. The word “peripheral” in line 25 is closest in meaning to
- (a) in general
 - (b) on the edges
 - (c) in the middle
 - (d) complete
6. The word “diagnosed” in line 29 is closest in meaning to
- (a) identified
 - (b) treated
 - (c) measured
 - (d) removed
7. According to the text, glaucoma
- (a) cannot be detected before vision loss occurs
 - (b) is caused by pressure outside the eye
 - (c) causes permanent damage
 - (d) has no effective treatment
8. All of the following were mentioned as increasing the chance of glaucoma **EXCEPT**
- (a) age
 - (b) nearsightedness
 - (c) diet
 - (d) diabetes

9. According to the text, the function of the aqueous humor is to
- (a) reduce pressure in the anterior chamber
 - (b) carry oxygen to the lens and cornea
 - (c) drain the trabecular meshwork
 - (d) all of the above
10. According to the text, pressure inside the eye can result from
- (a) clogging of the trabecular meshwork
 - (b) increased production of fluid by the ciliary body
 - (c) inability of the aqueous humor to drain out
 - (d) all of the above
11. According to the text, the most common type of glaucoma
- (a) does not show any signs at first
 - (b) requires immediate surgery
 - (c) affects mainly older people
 - (d) has no symptoms at all
12. The purpose of the tonometry test is to
- (a) measure peripheral vision
 - (b) check the angle of the iris and cornea joint
 - (c) detect increased pressure in the eye
 - (d) look for vision loss
13. The topic of the fourth paragraph is best described as
- (a) testing and treatment of glaucoma
 - (b) loss of peripheral vision
 - (c) the tonometry test
 - (d) glaucoma surgery

〔Ⅱ〕 次の英文を読み、後に続く質問 14～30 にもっとも適する答えを選びなさい。

Along with surgery and radiotherapy, chemotherapy is one of the tools used by oncologists in the treatment of cancer. It involves the use of drugs that move throughout the patient's body attacking cancer cells. Unlike surgery and radiotherapy, which are mainly effective on cancers that have not yet spread beyond specific areas, chemotherapy is effective on cancers that have **metastasized** into other parts of the body. Chemotherapy can be used by itself or **in conjunction with** surgery or radiotherapy. When used before surgery or radiotherapy, it can make the cancer area smaller and thus easier to remove or treat. When used after surgery, it can kill any cancer cells that are left over. In cases of incurable cancer, chemotherapy can be used to slow the disease's progress and extend the life of the patient.

Chemotherapy works by attacking cells during their growth cycle. Cells duplicate themselves in order to replace cells that have died. Healthy cells have a mechanism that enables them to stop dividing when they have no more room to grow. Cancer cells, however, lack **this mechanism** and continuously divide, forming into tumors or blood cancer. By specifically targeting cells that are undergoing **replication**, chemotherapy drugs are able to destroy cancer cells while leaving the majority of normal cells unharmed.

Chemotherapy drugs may be divided into two broad categories depending on whether they attack cells during a specific stage of a cell's growth or during any stage. Cells divide in a four-step **sequence** known as the cell cycle, which is composed of the G1, S, G2, and M phases. Cell-cycle specific drugs are active only in certain phases of a cell's growth cycle, such as the S phase when DNA replication is most active. Drugs that affect different phases of the cell cycle are often combined in order to kill as many cancer cells as possible. Cell-cycle nonspecific drugs are active in any phase of the cell cycle. These drugs

will even kill cancer cells during their resting phase, when cell-cycle specific drugs will not affect them.

Chemotherapy treatment is often accompanied by several characteristic side effects that are the result of chemotherapy drugs being unable to **distinguish** between healthy cells and cancerous ones. Since chemotherapy works by attacking cells that divide rapidly, any healthy cells that share this **trait** are targeted as well. These cells include those found in the lining of the mouth and digestive system, hair follicles, and bone marrow. The most common side effects are nausea and vomiting, hair loss, and fatigue. Damage to the bone marrow may cause more serious side effects such as anemia, increased chance of infection, and hemorrhaging. Most of the side effects of chemotherapy disappear once the treatment is ended, and for the **duration** of the treatment they can be controlled with medication and careful monitoring by the physician.

14. The word “metastasized” in line 6 is closest in meaning to

- (a) disappeared
- (b) spread
- (c) become cancerous
- (d) become toxic

15. The phrase “in conjunction with” in line 7 is closest in meaning to

- (a) combined with
- (b) separate from
- (c) immediately after
- (d) instead of

16. The phrase “this mechanism” in line 15 refers to
- (a) the cell’s growth cycle
 - (b) chemotherapy
 - (c) the ability to duplicate
 - (d) the ability to stop dividing
17. The word “replication” in line 17 is closest in meaning to
- (a) complication
 - (b) concentration
 - (c) duplication
 - (d) continuation
18. The word “sequence” in line 21 is closest in meaning to
- (a) division
 - (b) growth
 - (c) cycle
 - (d) result
19. The word “distinguish” in line 31 is closest in meaning to
- (a) get between
 - (b) target
 - (c) protect
 - (d) tell the difference
20. The word “trait” in line 33 is closest in meaning to
- (a) characteristic
 - (b) division
 - (c) side effect
 - (d) treatment

21. The word “duration” in line 38 is closest in meaning to
- (a) strength
 - (b) pain
 - (c) ending
 - (d) time
22. The best title for this reading would be
- (a) Chemotherapy's Side Effects
 - (b) Common Cancer Treatments
 - (c) An Overview of Chemotherapy
 - (d) How Chemotherapy Kills Cancer
23. What best describes the topic of the first paragraph?
- (a) types of cancer treatment besides chemotherapy
 - (b) definition of chemotherapy
 - (c) how to become an oncologist
 - (d) how cancers metastasize
24. According to the text, chemotherapy
- (a) is less effective than other cancer treatments
 - (b) should only be used by itself
 - (c) is mainly effective on cancers that have not spread
 - (d) can be used with other cancer treatments
25. According to the text, cancer cells
- (a) lack the mechanism to divide
 - (b) stop dividing when they have replaced dead cells
 - (c) mainly form into cancers of the blood
 - (d) do not stop dividing

26. According to the text, healthy cells
- (a) are never affected by chemotherapy
 - (b) target cancerous cells
 - (c) form into tumors
 - (d) divide only when they have enough space
27. Which sentence best summarizes the third paragraph?
- (a) Chemotherapy drugs can be classified as either cell-cycle specific or cell-cycle nonspecific.
 - (b) Cell division is called the cell cycle.
 - (c) Chemotherapy drugs affect cells' DNA.
 - (d) Some drugs affect cells in the S phase.
28. What is **NOT** mentioned as a side effect of chemotherapy?
- (a) headaches
 - (b) anemia
 - (c) fatigue
 - (d) hair loss
29. The side effects of chemotherapy are caused by
- (a) toxins in the chemotherapy drugs
 - (b) chemotherapy drugs attacking any cells that are dividing
 - (c) healthy cells not dividing
 - (d) chemotherapy drugs targeting hair follicles
30. All of the following are mentioned in the text **EXCEPT**
- (a) chemotherapy's side effects on the patient
 - (b) how chemotherapy works
 - (c) how drugs are introduced into the patient's body
 - (d) the stages of cell duplication

〔Ⅲ〕 以下の英文をもっとも適当な順序に並べ替えなさい。

31.

- a) The total amount of light reaching the eye depends far more on the level of illumination in any scene than it does on the percentage of light that any given surface reflects.
- b) Indeed, a black surface in bright light can easily send more light to the eye than a white surface in shadow.
- c) This is why no robot today can identify the gray shade of an object in its field of view.
- d) Although a white surface reflects about 30 times as much light as a neighboring black surface in the same illumination, in bright sunlight that same white surface can reflect millions of times more light than it does in moonlight.
- e) The robot can measure only the amount of light that a given object reflects, but as it is now clear, any amount of light can be reflected from any surface.

(a) a—b—c—d—e

(b) a—b—e—d—c

(c) a—c—d—e—b

(d) a—d—b—c—e

(e) a—e—d—c—b

32.

- a) Humans, like all primates, are highly visual creatures.
- b) Most of the back of our brain is devoted to visual processing, and half of the cortex is involved with sight.
- c) This supremacy (or dominance) is why, for example, ventriloquism is so compelling.
- d) We see the dummy talking, and we are fooled into hearing the voice coming from it — a case of what scientists call “visual capture.”
- e) In addition, when visual inputs conflict with clues from other senses, vision tends to dominate.

(a) a—b—e—c—d

(b) b—d—c—e—a

(c) c—e—a—b—d

(d) d—b—e—a—c

(e) e—b—d—c—a

33.

- a) They recall something that makes sense in context but is actually a detail fabricated by their brain.
- b) This bias may be unfair, according to a growing number of research studies.
- c) For instance, when adults read the words “dream,” “pajamas,” and “bed,” they often mistakenly remember seeing the word “sleep.”
- d) Children, the new research shows, do not make such errors as often as adults.
- e) In court, many people assume that adult witnesses are more reliable than children.
- f) Although adults remember a greater amount of accurate information, they tend to focus on the meaning of an event, which leads to more “false memory” mistakes.

(a) a—b—e—f—c—d

(b) c—d—f—e—a—b

(c) d—b—e—f—a—c

(d) e—b—f—a—c—d

(e) f—a—c—d—e—b

34.

- a) Of course, the brain is not going to talk to us, per se, so it's rather like playing a game of 20 questions.
- b) To get a clear answer, we must start with at least two competing hypotheses.
- c) Vision scientists force the brain to reveal its secrets using a method called psychophysics.
- d) We ask the brain only yes or no questions: Do you work this way or that way?
- e) Then we must carefully construct a test image that contains a critical "target" surface that should look like a competing explanation.

(a) a—e—b—c—d

(b) b—a—e—d—c

(c) c—a—d—b—e

(d) d—e—c—a—b

(e) e—d—a—c—b

35.

- a) Some research has shown that the presence of a favorite pet during a stressful task, such as doing difficult mental arithmetic, tends to prevent a sudden increase in blood pressure.
- b) In 1857, British novelist George Eliot wrote, "Animals are such agreeable friends. They ask no questions and they pass no criticism."
- c) But are animals good for our psychological and physical health, either as pets or as "therapists"?
- d) They can also make us feel better in the short term, but whether or not they can produce long-term changes in the core symptoms of psychological conditions is yet unknown.
- e) So it is no surprise that scholars have long been intrigued by the possibility that animals possess therapeutic powers.
- f) Various other research has also shown that many animals can be valued companions and provide social support.

(a) a—c—d—f—b—e

(b) a—d—b—e—f—c

(c) b—a—c—f—d—e

(d) b—e—c—a—f—d

(e) e—f—d—b—c—a

〔IV〕 次の英文を読み、後に続く質問 36～45 にもっとも適する答えを選びなさい。

It was a bold and bald-faced — or rather, bald-headed — act of friendship: On March 11, 13 fifth-grade boys lined up to have their pates shaved at the Men's Room, a San Marcos, Calif., hair salon. Valuing substance over style, the boys embraced the full-sheared look because their classmate Ian O'Gorman, 11, about to undergo chemotherapy for cancer, would soon lose his hair. Says Ian's pal Erik Holzhauser, also 11: "You know, Ian's a really nice kid. We shaved our heads because we didn't want him to feel left out."

If compassion were a subject, the Bald Eagles, as the boys now call themselves, would clearly get A's. They took notice in early February that Ian was starting to lose weight. Then on February 18, doctors removed a tumor the size of an orange from Ian's small intestine. The diagnosis was non-Hodgkin's lymphoma, which has a 68 percent survival rate after five years for children under the age of 15. Two days later, Ian's best friend, Taylor Herber, came to the hospital. "At first I said I would shave my head as a joke, but then I decided to really do it," says Taylor. "I thought it would be less traumatizing for Ian." At school he told the other boys what he was planning, and they jumped on the baldwagon.

"Soon," says Erik, "just about everyone wanted to shave their heads." That included a few girls, who never went through with it, much to Erik's relief — "I don't think Ian wanted to be followed around by a bunch of bald girls," he observes — and Jim Alter, 50, their teacher, who did. "They did all this by themselves," he says. "They're just really good kids. It was their *own* idea. The parents have been very supportive."

Ian, who completes his chemo in May, is already well enough to be playing first base on his Little League baseball team. "(44) my friends did really made me feel stronger. It helped me get through all of this," he says

gratefully. "I was really amazed that they would do something like this for me."

And they won't stop until it's over. "When Ian gets his next CAT scan," vows Erik, "if they decide to do more chemotherapy, we'll shave our heads for (45) nine weeks."

36. What does the word 36 mean?

- (a) foreheads
- (b) faces
- (c) heads
- (d) hairs

37. Underlined part 37 is closest in meaning to

- (a) accepted that they were going to be bald-headed
- (b) accepted how bold they could be.
- (c) received a piece of advice on how they should look
- (d) received a hateful look from their friend Ian.

38. The phrase 38 is closest in meaning to

- (a) feel friendly
- (b) feel unfriendly
- (c) feel excluded
- (d) feel included

39. The word 39 is closest in meaning to

- (a) hatred
- (b) sympathy
- (c) contempt
- (d) respect

40. The word **40** is closest in meaning to
- (a) stone
 - (b) bruise
 - (c) growth
 - (d) bud
41. Underlined part **41** is closest in meaning to
- (a) it wouldn't cause trauma to Ian
 - (b) it would alleviate Ian's pain less
 - (c) it wouldn't cause damage to Ian
 - (d) it would hurt Ian less
42. Underlined part **42** is closest in meaning to
- (a) reached the conclusion without any trouble.
 - (b) promised that they all would go through difficulties for Ian.
 - (c) concluded that they all would see Ian in hospital together
 - (d) decided to shave their heads at once
43. Underlined part **43** can be paraphrased as
- (a) who shaved his head
 - (b) who never went through with it
 - (c) who was followed around by a bunch of bald girls
 - (d) who himself supported the boys' idea
44. Which of the following is most appropriate for blank **44** ?
- (a) That
 - (b) What
 - (c) How
 - (d) Why

45. Which of the following is most appropriate for blank 45 ?

- (a) another
- (b) other
- (c) more
- (d) the other

[V] 次の英文を読み、後に続く質問 46～55 に答えなさい。

For years, pregnant and nursing women have been warned to limit the amount of fish they eat, because many marine species may contain high levels of mercury, which endangers newborns and fetuses. Yesterday, however, a children's health group challenged the conventional wisdom, advising pregnant women and nursing mothers to eat more fish so as to ensure optimal brain development in their babies.

Currently, the Food and Drug Administration advises pregnant women to limit their weekly seafood consumption to no more than 12 ounces, or about two servings, per week. The newest recommendation comes from the National Healthy Mothers, Healthy Babies Coalition, a nonprofit group that focuses on childhood health issues. That group's scientific advisors say that pregnant women and nursing mothers should eat at least 12 ounces of fish per week.

Although both recommendations acknowledge that pregnant women can safely eat about two servings a week, fears of mercury contamination in seafood have prompted many pregnant women to forgo fish entirely. And here's the conundrum: an increasing number of studies indicate that omega-3 fatty acids, found mostly in fish, are essential to brain development in fetuses and newborns.

“The real problem here are the women who are just eliminating fish from their diet,” said Judy Meehan, executive director of the National Healthy Mothers, Healthy Babies Coalition. “Eating 12 ounces is a very safe, smart move, and nobody is disputing that.”

For women who want the health benefits but worry about mercury and other toxins, the wisest course is to choose fish with the lowest levels of mercury. A ⁵⁰ recent report in The Journal of the American Medical Association concluded that the health benefits are likely greatest from such oily fish as salmon, herring and sardines — which are all generally low in mercury anyway. Among the fish to avoid are shark, swordfish, king mackerel and tilefish, all of which may contain high levels of mercury.

46. Which most appropriately expresses the meaning of underlined part 46 ?

- (a) women taking care of patients
- (b) women breastfeeding babies
- (c) women working for nursery schools
- (d) women looking after children

47. Which most appropriately expresses the meaning of underlined part 47 ?

- (a) babies in the womb
- (b) babies younger than 6 months old
- (c) babies aged 6 months to 2 years
- (d) small children 2 to 3 years of age

48. Which most appropriately expresses the meaning of underlined part 48 ?

- (a) take in
- (b) depend on
- (c) give up
- (d) stick to

49. Which most appropriately expresses the meaning of underlined part 49 ?
- (a) difficult problem
 - (b) clear evidence
 - (c) concise statement
 - (d) surprising fact
50. Which most appropriately expresses the meaning of underlined part 50 ?
- (a) poisons
 - (b) metals
 - (c) benefits
 - (d) fishes
51. What advice was traditionally given to pregnant or nursing women about eating fish?
- (a) Consume more fish.
 - (b) Eliminate fish consumption.
 - (c) Consume only certain types of fish.
 - (d) Reduce the amount of fish they consume.
52. Which of the following statements is true?
- (a) The Food and Drug Administration says that pregnant women can safely eat more than 12 ounces of fish per week.
 - (b) The Food and Drug Administration recommends that pregnant women eat at least 12 ounces of fish per week.
 - (c) The National Healthy Mothers, Healthy Babies Coalition advises that pregnant and nursing women eat no more than 12 ounces of fish per week.
 - (d) The National Healthy Mothers, Healthy Babies Coalition advises that pregnant and nursing women eat 12 ounces of fish or more per week.

53. Regarding omega-3 fatty acids, which of the following statements is true?
- (a) Omega-3 fatty acids are produced as a result of mercury contamination in seafood.
 - (b) Omega-3 fatty acids enhance best brain development in young babies.
 - (c) Many pregnant women stop eating fish because of the omega-3 fatty acids it contains.
 - (d) Many pregnant women keep eating fish in spite of the omega-3 fatty acids it contains.
54. Choose the statement that best matches the idea of paragraph 5.
- (a) If you want to eat fish because of its health benefits, you should choose such fish as salmon, herring and sardines.
 - (b) If you want to eat fish because of its health benefits, you should eat such fish as swordfish and king mackerel.
 - (c) Not eating fish is the best way to avoid having health problems.
 - (d) You can avoid worrying about mercury if you do not eat fish.
55. Which sentence agrees best with the conclusion of the article?
- (a) You should not limit the amount of omega-3 fatty acids you take in.
 - (b) Stop eating fish when it endangers newborns and fetuses.
 - (c) You should eat more fish with the lowest levels of mercury.
 - (d) You should be more alert to mercury in fish.

[VI] 次の英文を読み、それぞれのカッコ内のもっとも適する語句を選びなさい。

Alzheimer's disease is the most common cause of dementia, [56] (a. which b. that c. what d. it) is the loss of intellectual and social abilities severe enough to interfere with daily functioning. Dementia occurs in people with Alzheimer's disease because healthy brain tissue degenerates, [57] (a. to cause b. caused c. causing d. having caused) a steady decline in memory and mental abilities.

About 4.5 million older Americans have Alzheimer's, a disease that usually develops in people age 65 or older. This number [58] (a. expects b. expected c. will expect d. is expected) to quadruple by the year 2050 as the population ages.

Although there's no cure for Alzheimer's disease, researchers have made progress. Treatments are available that help [59] (a. improve b. improved c. improving d. having improved) the quality of life for some people with Alzheimer's. Also, more drugs are being studied, and scientists have discovered several genes [60] (a. associate b. associated c. are associated d. that associated) with Alzheimer's, which may lead to new treatments to block progression of this complex disease.

In the meantime, caring for someone with Alzheimer's takes patience and a focus on the things a person can still do and enjoy. Those with Alzheimer's — [61] (a. not only for b. as well as c. in addition d. as much as) those who care for them — need support and affection from friends and family to cope.

Everyone has occasional lapses in memory. It's often quite normal to forget the names of people whom you **62** (a. rarely b. sometimes c. once in a while d. quite often) see. But it's not a normal part of **63** (a. age b. aging c. ages d. aged) to forget the names of familiar people and objects.

Alzheimer's disease — which is a progressive, degenerative brain disease — goes **64** (a. with b. without c. beyond d. behind) simple forgetfulness. It may start with slight memory loss and confusion, but it **65** (a. initially b. deeply c. reportedly d. eventually) leads to irreversible mental impairment that destroys a person's ability to remember, reason, learn and imagine.

〔Ⅶ〕 次の 66～70 の英文のそれぞれについて、誤りを含んだ下線部の記号をマークしなさい。

66. According to a recent report by environmental scientists, the totally
(a) (b)
amount of pollution in the oceans is projected to double by the year 2020.
(c) (d)

67. The laboratory is so efficient that a sample sent in by 10:00 a.m. it will
(a) (b) (c)
be finished by 5:00 p.m. the same day.
(d)

68. The popularity of dieting seems to have increased since the past couple of
(a) (b) (c) (d)
years.

69. Please read the enclosed instructions carefully as they contain some
(a) (b) (c)
important informations.
(d)

70. No matter how long time it takes to finish the project, you must be sure to
(a) (b) (c)
do it properly.
(d)