



2023학년도 한국외국어대학교 편입학전형 필답고사 문제지

㉮형 출제문항 : 영어 25문항, 수학 20문항 - 90분

지망학부(과)	수험번호	성명

[배점 1-8: 각 2점; 9-10: 각 3점; 11-12: 각 4점; 13-20: 각 5점; 21-25: 각 6점. 총 100점]

[배점 26-29: 각 4점; 30-31: 각 4.7점; 32: 4.8점; 33-38: 각 5점; 39: 5.2점; 40-41: 각 5.3점; 42-45: 각 6점. 총 100점]

[1~8: 2 points each]

[1-3] Choose the one that best completes the sentence.

- With economic conditions so uncertain, she felt it was not a _____ time to make a big investment.
① parsimonious ② penitent
③ pompous ④ propitious
- Seth makes up the main focus of the book, but even the _____ characters are just as wittily drawn.
① tangential ② notable
③ paramount ④ focal
- In the U.S., presidential _____ need to be at least 35 years old to run for this office.
① defendants ② aspirants
③ litigants ④ confidants

[4-6] Choose the one that best replaces the underlined word.

- He never expunged from his mind the shame of having to flee from the enemy.
① entrenched ② inserted
③ removed ④ prevailed
- Olympism is a philosophy of life, exalting and combining the qualities of body, will, and mind.
① extolling ② exhorting
③ exhaling ④ extracting
- The global economic crisis has compounded the problem for people dealing with pay cuts.
① composed ② alleviated
③ worsened ④ extenuated

[7-8] Choose the one that is closest in meaning to the CONTEXTUAL meaning of the underlined word.

- The new engineer manipulated the dials of the complex machinery in a surprisingly skillful manner.
① swayed ② influenced
③ operated ④ exploited
- The whole team deserves credit for bringing the project in on time.
① belief ② payment
③ praise ④ asset

[9~10: 3 points each]

[9] Choose the one that is closest in meaning to the given sentence.

- The attorney came up with far-fetched arguments in a vain attempt to buttress his weak case.
① Although the attorney couldn't devise probable arguments, he succeeded in defending his case.
② The attorney thought up unconvincing arguments and failed to support his weak case.
③ The attorney lost his case as he tried to strengthen his case with plausible arguments.
④ Strong arguments improvised by the attorney bolstered his weak case.

[10] Choose the one that best completes the sentence.

- A brewing conflict threatens to reduce gas supplies to Europe, triggering fears of _____ of the energy supply.
① charged a shutdown politically
② a politically charged shutdown
③ a charged politically shutdown
④ politically a shutdown charged

[11~12: 4 points each]

[11] Choose the one that makes the sentence grammatically INCORRECT.

11. During ①times of adversity, leaders ②compel to show more composure ③than ever in the workplace to make their employees ④feel safe.

[12] Choose the one that is grammatically INCORRECT.

12. ① He was advised to increase his fiber intake.
 ② She was stopped by the police for speeding.
 ③ Careful consideration was given to all applications.
 ④ The starving were provided for a hundred tomatoes.

[13~20: 5 points each]

[13-25] Read the following passages and answer the questions.

[13-14] More than 240 million people around the world play soccer regularly. The game has grown from kicking an animal-hide ball around into the World Cup sport. Records trace the history of soccer back more than 2,000 years ago to ancient China and Greece; but it was England that transitioned soccer into the game we know today. The English are acknowledged with recording the first rules for the sport, including forbidding tripping opponents and touching the ball with the hands. As the sport developed, more rules were implemented. For example, the penalty kick was introduced in 1891. Red and yellow cards were introduced during the 1970 World Cup finals. More recent changes include goalkeepers being banned from handling deliberate back passes in 1992 and tackles from behind becoming red-card penalties in 1998.

13. Which of the following is the best title for the passage?
 ① The Evolution of Soccer
 ② The Origin of the Soccer Ball
 ③ The Rules Implemented by the English
 ④ The Popularity of Soccer around the World
14. According to the passage, which of the following is NOT true?
 ① Soccer was played in China and Greece 2,000 years ago.
 ② The original soccer ball was made from animal skin.
 ③ In 1970, the two-color card system came into force.
 ④ One of the earliest rules forbade goalkeepers from picking up the ball passed to them.

[15-16] Sunsets are romantic, inspiring, and Instagrammable, yet most of us make time for this special experience only when we are on vacation. However, you do not need to be in an exotic place to enjoy the calming and beautiful moments of a sunset. There is simply no reason you cannot take a few minutes to (A)_____ your day with wonder and stop to enjoy this magical moment. Watching the sunset will put you in a better mood. Sunsets have many psychological effects that (B)_____ long-lasting satisfaction about life and relieve stress. Taking the time to experience some of the breathtaking moments of a sunset will be worth it. Nature is a natural fuel for the soul, and just 10 to 20 minutes of fresh air while watching the sunset will refresh you. This timeless and powerful daily experience has a transcendent spiritual element that can have a positive effect when integrated into your life. Earth gives us this free gift every single day, so get out there and accept this enchanting present!

15. Which of the following is the major topic of the passage?
 ① Reasons you should make time to watch the sunset
 ② The importance of spiritual awareness in your daily life
 ③ Ways to relieve stress and improve satisfaction about life
 ④ Why you should take pictures of the sunset for Instagram
16. Which of the following ordered pairs best fits into (A) and (B)?
 ① subdue - trigger
 ② instill - consume
 ③ infuse - enhance
 ④ fulfill - exacerbate

[17-18] Each day, billions of people rely on caffeine to wake up or to get through an afternoon slump. In fact, this natural stimulant is one of the most commonly used ingredients in the world. Caffeine is often talked about for its negative effects on sleep; however, it has various health benefits. Once consumed, caffeine is quickly absorbed from the gut into the bloodstream. From there, it travels to the liver and is broken down into constituents that can assist the function of various organs. Additionally, caffeine exerts its effects quickly. The amount found in one cup of coffee can take as little as 20 minutes to reach the bloodstream. Caffeine may improve mood, stimulate brain function, and protect against Alzheimer's and Parkinson's diseases. Coffee consumption is linked to several other health benefits: it may promote a healthy liver, skin, and digestive tract. Experts consider a daily intake of 400 milligrams of caffeine to be safe. This amounts to 2-4 cups of coffee per day. Caffeine isn't as unhealthy as it was once believed. In fact, it may be just the opposite. Therefore, it's safe to regard your daily cup of coffee or tea as an enjoyable way to promote good health.

17. Which of the following is the major topic of the passage?

- ① Diverse health benefits of caffeine
- ② Pros and cons of caffeine consumption
- ③ How caffeine travels in and affects the body
- ④ The organs that may be improved by caffeine

18. According to the passage, which of the following is true of caffeine?

- ① Consuming 400 milligrams per day is unhealthy.
- ② It can enter the bloodstream in twenty minutes.
- ③ Drinking coffee impedes the digestion of food.
- ④ It is a permanent remedy for Parkinson's disease.

[19-20] In 1950, Alan Turing said, if a machine can fool a human into thinking it's a human, then it has strong AI. In response, contemporary American philosopher John Searle constructed a famous thought experiment called the "Chinese Room," designed to show that passing for human isn't sufficient to qualify for strong AI. Imagine you're a person who speaks no Chinese. You're locked in a room with boxes filled with Chinese characters, and a code book in English with instructions about what characters to use in response to what input. Native Chinese speakers pass written messages, in Chinese, into the room. Using the code book, you figure out how to respond to the characters you receive, and you pass out the appropriate characters in return. You have no idea what any of it means, but you successfully follow the code. You do this so well that the native Chinese speakers believe you know Chinese. But you do not know Chinese. You just know how to rearrange symbols—without understanding—in a way that fools people into thinking you know something you don't. Likewise, according to Searle, the fact that a machine can fool someone into thinking it's a person doesn't mean it has strong AI.

19. Which of the following is the major topic of the passage?

- ① The use of Chinese to develop strong AI
- ② How AI handles symbols in the Chinese room
- ③ A counterargument over what strong AI is
- ④ The role of thought experiments in AI

20. According to the passage, which of the following is true?

- ① The Chinese room experiment endorses Turing's view.
- ② The attributes of strong AI are debated in the field of philosophy.
- ③ Searle claims manipulating Chinese is sufficient to say you know Chinese.
- ④ When machines behave like people, it means they think like people in Searle's view.

[21~25: 6 points each]

[21-22] Jisoo, a member of South Korea's popular girl group Blackpink, turned 27 years old on Tuesday as fans wished her a happy birthday and sent her a ton of gifts, worth approximately \$573,000. A post on a fandom site says that they have prepared wonderful gifts to send to Jisoo. The majority of those presents are fancy and exquisite items such as Cartier watches. This lavish treatment of idols quickly stirred up criticism and concern among some fans who questioned whether such materialistic support was necessary. "I think it is too much and unnecessary. Isn't buying their music a better way to support our idols?" asked one fan. Supporting idols with expensive gifts is part of a fan culture that originated in South Korea in the late 1990s, but has now widely expanded to countries such as China and Japan. "It is very common for fans to send gifts to their idol, but sending such luxurious gifts is a bit vain. A fan's decision to support their idol is harmless. The real point that is questionable is the fact that this expensive support is not entirely out of love for their idol but to help the idol save face," emphasized another fan.

21. Which of the following is the best title for the passage?
- ① Various Ways of Saving Face of Idols
 - ② Luxury Items Preferred by Blackpink
 - ③ The Rise and Fall of Idol Fan Culture
 - ④ Criticism of Fans' Extravagant Gifts to Idols
22. According to the passage, which of the following is true?
- ① Blackpink members received gifts worth \$573,000.
 - ② Fans agree that supporting their idol with luxurious gifts is harmless.
 - ③ Chinese fans were the first to give idols expensive gifts.
 - ④ The fan culture of gifting luxurious items to idols is also present in Japan.

[23-25] A U.S. judge has ruled that movie fans disappointed that their favorite actor was cut from a film after appearing in the trailer can sue the studio for false advertising. Two film enthusiasts say Universal Pictures tricked them into renting 2019 flick *Yesterday* because the trailer featured actor Ana de Armas. The two say they forked over \$3.99 each to watch the comedy on Amazon Prime, only to discover that de Armas had not made the final cut. A class action suit filed earlier this year alleges that fans had been led to expect she would feature prominently. However, they "did not receive a movie with any appearance of Ana de Armas at all," says the suit. Accordingly, "such consumers did not get any value for their rental or purchase," the suit added. Universal had asked the judge to throw out the complaint, arguing that trailers are protected by the first amendment of the U.S. constitution, which guarantees free speech. But in his ruling, the judge rejected the studio's argument, saying trailers were commercial speech and (A) subject to laws around honest advertising. "At its core, a trailer is an advertisement designed to sell a movie by showing consumers a preview of the movie," the judge wrote. The suit is claiming at least \$5 million on behalf of disappointed fans.

23. Which of the following is the best title for the passage?
- ① Movie Fans Receive Huge Sum in Lawsuit
 - ② Freedom of Speech Is Violated by Universal
 - ③ Ana de Armas' Veto Sparks Universal Lawsuit
 - ④ Lawsuit over Misleading Trailer Gets the Go Ahead
24. According to the passage, which of the following is true?
- ① Universal alleged that the fans received no value.
 - ② Trailers were ruled to not be protected speech.
 - ③ The film fans purchased the movie in 2019.
 - ④ The judge sided with the studio's defense.
25. Which of the following is closest in meaning to (A)?
- ① must obey legislation covering paid promotions
 - ② depended on the purpose of the advertising
 - ③ free from liabilities regarding product promotion
 - ④ covered under the jurisdiction of the first amendment

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26. 모든 실수에서 정의된 함수 $f(x) = \frac{1}{2}(3-x)^2 + |x|$ 가 $x=a$ 에서
최솟값 b 를 가질 때, $2b-a$ 의 값은? [4점]

- ① 3 ② 5
③ 7 ④ 9
⑤ 11

27. 점 $P(5,6)$ 에서 원 $x^2 + y^2 - 2x - 6y = -5$ 에 그은 두 접선의 접점을
A, B라 할 때, 선분 AB의 길이는? [4점]

- ① 2 ② $\sqrt{5}$
③ 3 ④ $\frac{3\sqrt{5}}{2}$
⑤ 4

28. 한 축구팀에 선수 A와 B가 있다. A가 출전하는 경우 B가 출전할
확률은 90%이고, A가 출전하지 않는 경우 B가 출전할 확률은 100%이
다. A가 출전할 확률이 20%라고 할 때, B가 출전할 확률은? [4점]

- ① 99% ② 98%
③ 97% ④ 96%
⑤ 95%

29. 다항식 $(ax^2 - y)^5$ 의 전개식에서 모든 계수의 합이 243일 때, 양
수 a 의 값은? [4점]

- ① 1 ② 2
③ 3 ④ 4
⑤ 5

30. $0 \leq \theta \leq 2\pi$ 일 때, x 에 대한 이차방정식

$$x^2 + 2\sqrt{2}x \sin \theta - 3 \cos 2\theta = 0$$

이 실근을 갖도록 하는 θ 값 중 정수의 개수는? [4.7점]

- ① 3 ② 4
③ 5 ④ 6
⑤ 7

31. 부등식 $|(a-4) + (b-4)i| \leq 3$ 을 만족하는 실수 a, b 에 대하여
 $|a| + |b|$ 의 최댓값을 M , 최솟값을 m 이라 할 때, $M-m$ 의 값은? 단,
 $i = \sqrt{-1}$ 이고, 복소수 z 에 대하여 $|z| = \sqrt{z\bar{z}}$ 이다. [4.7점]

- ① 4 ② $4\sqrt{2}$
③ 6 ④ $6\sqrt{2}$
⑤ 8

32. 자연수 n 에 대하여 두 곡선 $y = x^{n+1}$, $y = x^{n+2}$ 으로 둘러싸인 영역의 넓이를 a_n 이라 할 때, $\sum_{n=1}^{\infty} a_n$ 의 값은? [4.8점]

- ① $\frac{1}{4}$ ② $\frac{1}{3}$
 ③ $\frac{1}{2}$ ④ 1
 ⑤ ∞

33. 좌표평면 위를 움직이는 점 P의 시각 $t(t \geq 0)$ 에서의 위치 (x, y) 가 $x = e^{-2t} + e^t$, $y = 3t$ 이다. 점 P의 속력이 최소일 때, 점 P의 가속도의 크기는? [5점]

- ① $3\sqrt[3]{2}$ ② $3\sqrt[3]{4}$
 ③ $4\sqrt[3]{2}$ ④ $4\sqrt[3]{4}$
 ⑤ $9\sqrt[3]{4}$

34. 음함수의 식 $x \ln y + y^3 - 2xy + 2x^2 = 5$ 로 주어진 함수 $y = f(x)$ 가 점 P(2,1)을 지나고 $x = 2$ 에서 미분가능하다. $y = f(x)$ 위의 점 P에서의 접선의 기울기는? [5점]

- ① -1 ② $-\frac{3}{2}$
 ③ -3 ④ $-\frac{9}{2}$
 ⑤ -6

35. $x > 1$ 에서 정의된 함수 $f(x) = (x-2)e^x$ 에 대해, 함수 $g(x)$ 는 미분가능하고 $g(x) = f^{-1}(6x-6)$ 을 만족한다. $\lim_{x \rightarrow 0} \frac{g(e^x) - g(1)}{e^{2x} - 1}$ 의 값은? [5점]

- ① $\frac{2}{e^2}$ ② $\frac{3}{e^2}$
 ③ $\frac{6}{e^2}$ ④ $\frac{e^2}{6}$
 ⑤ $\frac{e^2}{3}$

36. 곡선 $y = kx^2 + e^{2x} + e^{-2x}$ 이 변곡점을 갖도록 하는 실수 k 의 값의 범위는? [5점]

- ① $k \geq 4$ ② $k > 4$
 ③ $k \leq -4$ ④ $k < -4$
 ⑤ $k \geq 4$ 또는 $k \leq -4$

37. 당일 주가지수가 상승할 확률은 전날 상승 시 $\frac{2}{3}$ 이고, 전날 하락 시 $\frac{1}{2}$ 이다. 월요일에 주가지수가 상승했을 때, 같은 주 목요일에 주가지수가 상승할 확률은? 단, 당일 주가지수 등락 여부는 전날에만 영향을 받고, 전날과 같은 경우는 없다. [5점]

- ① $\frac{61}{108}$ ② $\frac{7}{12}$
 ③ $\frac{65}{108}$ ④ $\frac{67}{108}$
 ⑤ $\frac{23}{36}$

38. 함수

$$f(x) = \begin{cases} \frac{\ln(1 + \tan^2 ax)}{3x^2}, & x \neq 0 \text{ 일 때} \\ 4, & x = 0 \text{ 일 때} \end{cases} \quad (\text{단, } a \text{ 는 상수})$$

가 $x=0$ 에서 연속이 되도록 하는 양수 a 의 값은? [5점]

- ① $2\sqrt{3}$ ② $3\sqrt{3}$
 ③ 6 ④ $4\sqrt{3}$
 ⑤ 12

39. 수열 $\{a_n\}$ 에서 $a_n = \frac{n}{3} + \frac{n-1}{3^2} + \frac{n-2}{3^3} + \dots + \frac{2}{3^{n-1}} + \frac{1}{3^n}$ 일 때, $\lim_{n \rightarrow \infty} \left(a_n - \frac{n}{2} \right)$ 의 값은? [5.2점]

- ① $-\frac{1}{3}$ ② $\frac{1}{3}$
 ③ $-\frac{1}{4}$ ④ $\frac{1}{4}$
 ⑤ $-\frac{1}{6}$

40. 두 함수 $f(x) = 2\sqrt{2-x^2}e^x$, $g(x) = n$ 에 대하여, 방정식 $f(x) = g(x)$ 가 서로 다른 두 실근을 갖도록 하는 정수 n 의 개수는? [5.3점]

- ① 3 ② 4
 ③ 5 ④ 6
 ⑤ 7

41. $\lim_{n \rightarrow \infty} \frac{1}{n^2} \left(\sqrt{n^2 - \frac{1^2}{2}} + \sqrt{n^2 - \frac{2^2}{2}} + \dots + \sqrt{n^2 - \frac{(n-1)^2}{2}} \right)$ 의 값은?

[5.3점]

- ① $\frac{\sqrt{2}\pi}{8} - \frac{\sqrt{2}}{4}$ ② $\frac{\sqrt{2}\pi}{8} + \frac{\sqrt{2}}{4}$
 ③ $\frac{\pi}{6} - \frac{\sqrt{3}}{4}$ ④ $\frac{\pi}{6} + \frac{\sqrt{3}}{4}$
 ⑤ $\frac{\pi}{2}$

42. 두 곡선 $y=e^{2x}$ 과 $y=m\sqrt{x}$ (단, $m>0$ 인 상수)가 한 점에서 접할 때, 이 두 곡선과 y 축으로 둘러싸인 영역의 넓이는? [6점]

- ① $\frac{\sqrt{e}}{3}-\frac{1}{2}$ ② $\frac{\sqrt{e}}{3}$
 ③ $\frac{\sqrt{e}}{3}+\frac{1}{2}$ ④ $\frac{2\sqrt{e}}{3}$
 ⑤ $\frac{2\sqrt{e}}{3}+1$

43. 양의 실수에서 정의되고 연속 미분가능한 함수 $f(x)$ 가

$$\int_a^{e^x} t f'(t) dt = x e^x \quad (\text{단, } a > 0 \text{인 상수})$$

을 만족하고 $f(a)=1$ 일 때, $f(e^2)$ 의 값은? [6점]

- ① 3 ② 4
 ③ 5 ④ 6
 ⑤ 7

44. 자연수 n 에 대하여 $a_n = \int_1^{\infty} \frac{(\ln x)^{n-1}}{x^3} dx$ 일 때, $\sum_{n=1}^{\infty} \frac{1}{a_n}$ 의 값은?

[6점]

- ① $\frac{1}{2}(e^2-1)$ ② e^2-1
 ③ e^2 ④ $2(e^2-1)$
 ⑤ $2e^2$

45. 2개의 주사위를 동시에 던져 두 눈의 곱을 구하는 시행을 반복한다. 두 눈의 곱이 홀수가 나올 때까지의 시행 횟수를 X 라고 할 때, X^2 의 기댓값 $E(X^2)$ 은? [6점]

- ① 4 ② 12
 ③ 20 ④ 28
 ⑤ 112