

2017학년도 수시모집 특기자전형 국제계열

[언더우드학부(인문사회)]

## 면접구술시험문제

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[수험생용]

[Question 1]

Passage 1:

The Idols of the Cave are the idols of the individual man. For everyone has a cave of his own, which refracts and discolours the light of nature, owing either to his own peculiar nature; or to his education and conversation with others; or to the reading of books, and the authority of those whom he admires; or to his mood when he first hears an idea; or to some other similar factor. So that the spirit of man is in fact variable and full of disturbance, and governed as it were by chance. Hence men look for knowledge in their own lesser worlds, and not in the greater or common world.

How do you understand the phrase “men look for knowledge in their own lesser worlds” and why do you think the author regards this as a problem? Consider the implications for both the individual and society.

What steps can one take to free oneself from the Idols of the Cave?

**[Question 2]**

**Passage 2:**

The Party said that Oceania had never been in alliance with Eurasia. He, Winston Smith, knew that Oceania had been in alliance with Eurasia as short a time as four years ago. But where did that knowledge exist? Only in his own consciousness, which in any case must soon be annihilated. And if all others accepted the lie which the Party imposed — if all records told the same tale — then the lie passed into history and became truth. ‘Who controls the past,’ ran the Party slogan, ‘controls the future: who controls the present controls the past.’

The narrator claims that Winston “knew” that Oceania had been in alliance with Eurasia, but that this was based only on a conscious memory. Do you agree that Winston really knew the supposed fact? Explain your answer. What objection might a critic raise to your view and how would you respond to this objection?

**[Question 3]**

The author of Passage 2 seems to be suggesting that the only way Winston has to avoid the Party’s lie, however temporarily, is by relying on his own consciousness. In what way(s) does this thought contrast with that of Passage 1? Is there one of these authors that you more agree with? Explain your answer.

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[언더우드학부(생명과학)]

## 면접구술시험문제

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[수험생용]

[Question 1]

Passage 1:

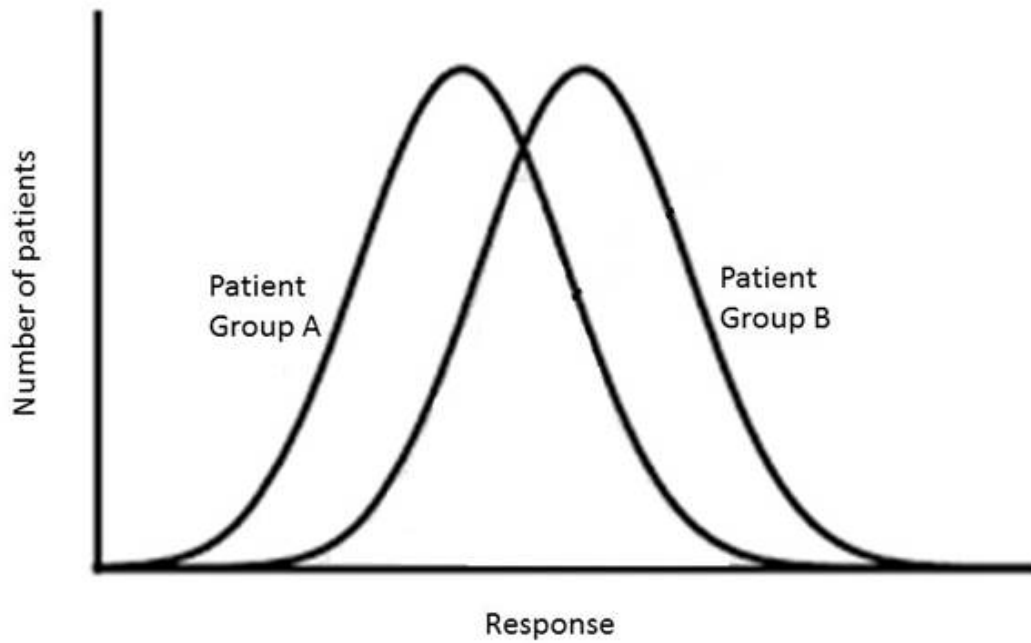
The Idols of the Cave are the idols of the individual man. For everyone has a cave of his own, which refracts and discolours the light of nature, owing either to his own peculiar nature; or to his education and conversation with others; or to the reading of books, and the authority of those whom he admires; or to his mood when he first hears an idea; or to some other similar factor. So that the spirit of man is in fact variable and full of disturbance, and governed as it were by chance. Hence men look for knowledge in their own lesser worlds, and not in the greater or common world.

How do you understand the phrase “men look for knowledge in their own lesser worlds” and why do you think the author regards this as a problem? Consider the implications for both the individual and society.

What steps can one take to free oneself from the Idols of the Cave?

[Question 2]

Graph 1:



Graph 1 shows the biological responses of two different groups of patients to the same medical treatment.

1. Explain clearly how the distributions of responses of Patient Groups A and B are different and how they are similar.
2. Give a concrete example of a biological response that might produce the kind of distribution shown on the graph. In relation to this example, what might explain the difference in the distributions of responses of the two groups?

**[Question 3]**

Many people claim that “knowledge is power.” What do you think of this claim?

## 2017 학년도 수시모집 특기자전형 국제계열

[아시아학부(ASD) · 융합인문사회계열(HASS) · 글로벌인재학부(GLD)]

# 면접구술시험 문제

[수험생용]

[Question 1] – Answer in English or Korean

Passage 1:

The Party said that Oceania had never been in alliance with Eurasia. He, Winston Smith, knew that Oceania had been in alliance with Eurasia as short a time as four years ago. But where did that knowledge exist? Only in his own consciousness, which in any case must soon be annihilated. And if all others accepted the lie which the Party imposed — if all records told the same tale — then the lie passed into history and became truth. ‘Who controls the past,’ ran the Party slogan, ‘controls the future: who controls the present controls the past.’ And yet the past, though of its nature alterable, never had been altered. Whatever was true now was true from everlasting to everlasting. It was quite simple. All that was needed was an unending series of victories over your own memory. ‘Reality control,’ they called it: in Newspeak, ‘doublethink.’

- A. According to the passage, how does ‘doublethink’ work? Explain in your own words.
- B. Please give an example of ‘doublethink’ from film, literature, current events, or from your own experience. Be ready to explain the extent to which it is ‘doublethink.’

- A. 위의 제시문에 따르면 ‘doublethink’는 어떻게 작동하는지 본인의 말로 설명하십시오.
- B. 영화, 문학작품, 현재의 사건들, 또는 자신의 경험에 근거한 ‘doublethink’의 사례를 제시하십시오. 답변 시 제시한 사례와 ‘doublethink’와의 관련성에 유의하기 바랍니다.

**[Question 2] – Answer in English or Korean**

**Passage 2:**

In a study trial lawyers are sure to find of interest, Israeli scientist Micah Edelson has found that people's recollections of recent events can be altered by peer pressure. The study (published in *Science*) asked participants to view a movie in small groups. Directly after the movie, participants were questioned individually about it. Some participants were very sure their answers to interviewers' questions about the movie were correct.

Four days later, the interviewers asked participants about the movie again (especially on the items the participant felt strongly they had answered correctly). However, this time, the interviewers presented the participants with false information about the film, allegedly provided by the other people in the participant's viewing group. Edelson found that in nearly 70% of cases, the participant changed his or her correct memory about the movie to match the group's incorrect memory. And in nearly half of these cases, the participant's memory switch was long-lasting, meaning they might no longer remember their own, individual, correct version of the movie: instead, it had been replaced with the group's inaccurate memory.

"Our memory is surprisingly susceptible to social influences," Edelson said. This can be a source of concern to some, he noted, since "studies have shown that... [witnesses] often discuss crime details with each other before testifying, and this can definitely have an influence on court cases." As Edelson's recent paper shows, a crime witness who's had his or her true recollection of an event altered by someone else's faulty recollection may lose their initial memory of the event forever. It's neurologically possible for a witness's (or a juror's) memory of an event to truly change under social pressure.

- A. In what other area of contemporary life can one's individual memory or opinion be susceptible to social influence in a way that leads to a social problem? What are the dangers of such influence?
  - B. Compare and contrast the issues raised in the above passage with those raised in passage 1, from diverse perspectives.
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- A. 사회문제를 일으킬 정도로 개인의 기억이나 의견이 사회적 영향에 취약할 수 있는 현대생활의 분야는 무엇인가? 그리고 그러한 영향의 위험은 무엇인가?
  - B. 첫 번째 문제의 지문과 두 번째 지문에 제시된 주제를 다양한 각도로 서로 비교하고 대조하십시오.

**[Question 3] – Answer in English**

Many people claim that “knowledge is power.” What do you think of this claim?

‘지식이 힘이다’라는 말이 있다. 이 주장에 대해 어떻게 생각하는가?



# 2017학년도 수시모집 특기자전형 국제계열

## [융합과학공학계열(ISE)]

# 면접구술시험문제

[수험생용]

### Part I.

Plants can convert carbon dioxide ( $\text{CO}_2$ ) and water ( $\text{H}_2\text{O}$ ) into carbohydrates and oxygen ( $\text{O}_2$ ) using light energy. This process is called 'photosynthesis', which occurs mainly in plant leaves (**Figure 1**).

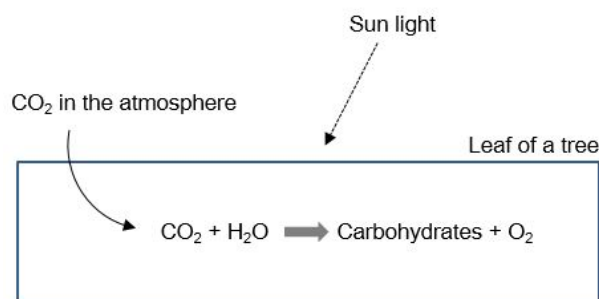


Figure 1. Chemical reaction of photosynthesis that occurs in tree leaves.

Temperate deciduous forests are dominated by trees that lose their leaves in autumn and winter, while performing active photosynthesis in summer. The forests are found in wide areas in the Northern Hemisphere in places such as the East coast of North America, Europe, and far-Eastern Asia, including Korea, China and Japan. In contrast, relatively smaller areas of temperate deciduous forests exist in the Southern Hemisphere (**Figure 2**).

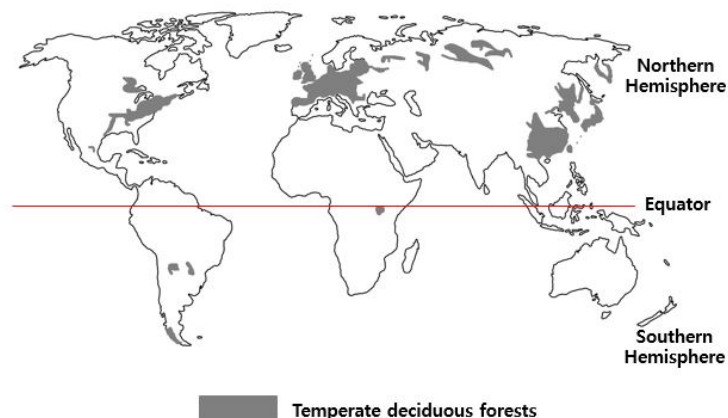


Figure 2. Global distribution of temperate deciduous forests.

Atmospheric CO<sub>2</sub> concentrations in the Northern Hemisphere exhibit seasonal variations as presented in **Figure 3**. The concentration reaches its annual maximum in late spring (May) while it goes down to its minimum in late summer (September).

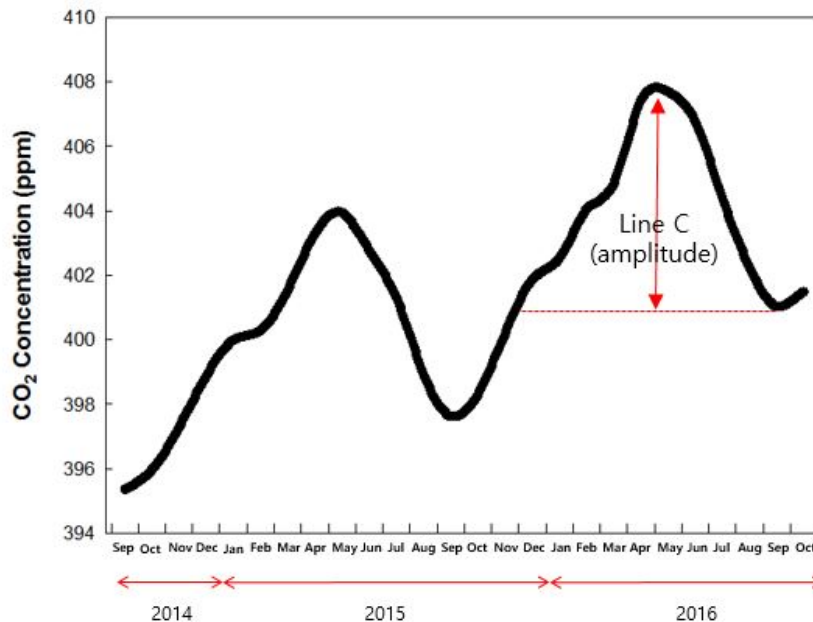


Figure 3. Seasonal variations of CO<sub>2</sub> concentrations in the atmosphere that were monitored in the Northern Hemisphere between 2014 and 2016.

[문항 1]

- 왜 이산화탄소 농도는 늦봄에 최고치에 달하고, 늦여름에 가장 낮은 농도를 보이는가? 그림 1과 2에 주어진 정보를 토대로 설명하시오.
- 만일 같은 측정을 남반구에서 수행했다면 어떤 형태가 예상되는가? 최고점과 최저점이 나타나는 시점, 파장의 진폭 (Line C)의 상대적 크기 등을 대상으로 설명하시오.

[Question 1]

- Why does CO<sub>2</sub> concentration reach its peak in late spring while it exhibits the lowest value in late summer? Explain it using the information provided in the Figures 1 and 2.
- What kind of pattern do you expect if the concentrations would be measured in the Southern Hemisphere? Explain it in terms of the timing of peaks and valleys, and the relative size of the amplitude (Line C) of the cycle.

## Part II.

Humans have trichromatic color vision, as our ability to perceive colors is produced by the stimulation of three types of cones in the eye: blue or short-wavelength (S) cones; green or medium-wavelength (M) cones; and red or long-wavelength (L) cones (**Figure 1**). The ability to see all the colors from stimulation of the three types of cones is exploited by color displays where a picture element or a pixel, the smallest addressable element, reproduces color using sub-pixels of only red, green, and blue.

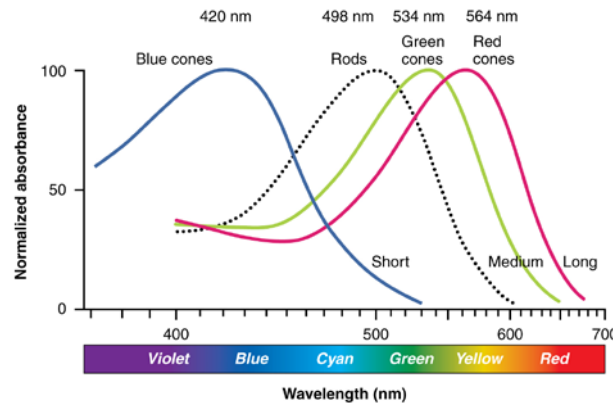


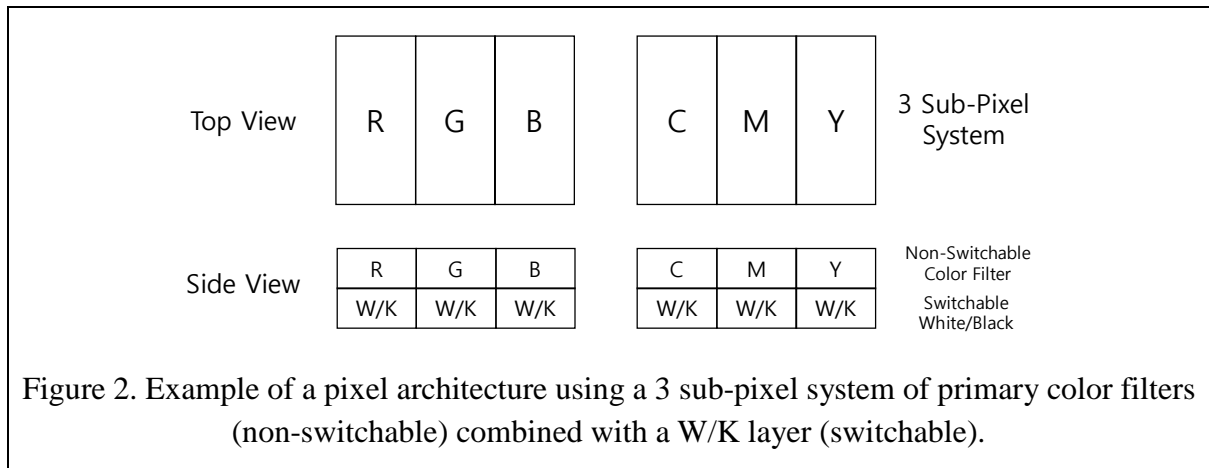
Figure 1. The three types of cones absorb light best at wavelengths perceived as blue (B), green (G), and red (R).

Currently, *transmissive* displays such as liquid crystal displays (LCDs) or *emissive* displays such as organic light emitting diodes (OLEDs) utilize an additive color system of red (R), green (G), and blue (B). On the other hand, color inkjet printing utilizes a subtractive color system of cyan (C), yellow (Y), and magenta (M). The additive color system starts with a dark screen (black K) and adds primary colors to create a wide range of colors, while the subtractive color system starts with white paper (white W) and subtracts primary colors from the light, giving it color.

Printed papers provide an advantage as you can read in daylight without extra power. Increasing demand for a sustainable display solution requires a technological innovation in *reflective* displays. The technology requires a pixel architecture to achieve maximum reflection for brightness and maximum color fraction for colorfulness. Color fraction is the effective fraction of the pixel area that can display a primary color. To estimate the maximum reflection and maximum color fraction, we use the following assumptions.

- 1) Sub-pixel provides uniform primary color with its area of 33 % (3 sub-pixel system).
- 2) R, G, or B covers 33% and C, M, or Y covers 66% of visible wavelength range.
- 3) White sub-pixel is 100 % reflective and black sub-pixel is 100 % absorptive.

**Figure 2** illustrates one example of a reflective pixel architecture using a 3 sub-pixel system of RGB or CMY color filters combined with a switchable black-to-white layer.



[문항 2]

- 그림 2에 나타난 RGB 및 CMY 서브 픽셀(화소)들을 갖는 픽셀 구조에서 최대 반사율 및 최대 색상율을 구하시오.
- 위의 RGB 컬러필터의 경우 흰색을 추가하여 4개의 서브 픽셀 시스템으로 픽셀 구조를 다시 디자인 하는 경우 최대 반사율 및 최대 색상율을 구하시오.

[Question 2]

- Estimate maximum reflection and maximum color fraction for the pixel architectures with RGB sub-pixels and CMY sub-pixels, respectively, as shown in Figure 2.
- If we now re-design the pixel architecture with a 4 sub-pixel system by adding a white sub-pixel to the case of RGB color filter, estimate the maximum reflection and maximum color fraction.

### Part III.

Steve Jobs mentioned in his famous commencement speech, “Stay Hungry, Stay Foolish” and also talked about “Connecting the Dots”. Explain what you think he meant, how they can be related, and whether they are relevant to you.

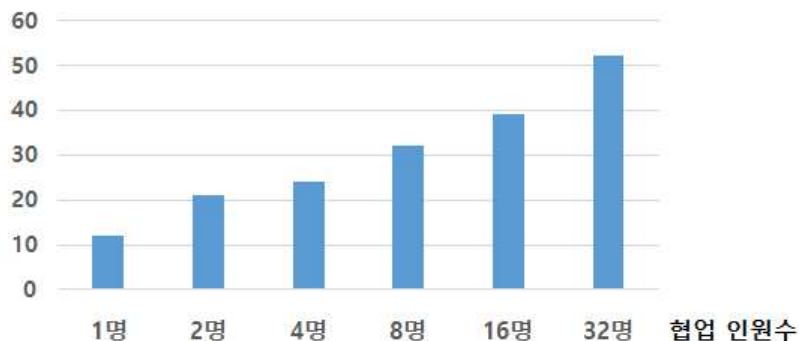
2017학년도 학생부종합전형  
(학교활동우수자, 사회공헌자, 사회배려자)  
**면접구술시험문제**

## [면접질문]

다음 제시문을 읽고 물음에 답하시오.

자연재해에 효과적으로 대응하기 위해 한 연구팀은 트위터에 올라오는 글들을 관찰하여 자연재해 발생여부를 실시간으로 파악하는 협업 시스템을 개발하였다. 연구팀의 실험 결과에 따르면, 협업 시스템에 참여하는 인원수가 늘어남에 따라 1인당 평균 재해 파악도는 좋아지는 반면 [그림 1], 1인당 들이는 노력은 줄어들었다[그림 2].

[그림1] 1인당 재해 파악도(%)



[그림2] 1인당 노력(시간)



- 1) 본인의 협업 경험에 비추어 제시문의 실험 결과를 평가하시오.
- 2) 위 평가에 근거하여 성공적인 협업을 도모할 수 있는 방안을 제시해 보시오.