

# 大学院入学試験問題用紙

2025 年度 1 期

科目名	受験専攻	受験番号(number)	氏名 (Name)
バイオロボティクス Bio-robotics	農業工学 専攻 博士後期課程 (Doctor)		

1. AI とは何か説明をください。加えて、農業への応用例を説明してください。(15/15 点)

Explain what **AI** is. In addition, explain some examples of AI applications in agriculture.

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2. CPS (Cyber-Physical System) とは何か説明してください。また、農業への応用方法の例を説明してください。(20/20 点)

Explain what is a **CPS** (Cyber-Physical System)? Additionally, explain examples of its applications in agriculture.

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3. スズメバチを認識して駆除を行うシステムのフローチャートを描きなさい。(30 点)

Draw a flow chart for a system to **recognize and exterminate hornets**.

< flow chart >

大学院入学試験問題用紙 (1 of 3)

2025 年度 1 期

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I. 次の文章の下線部に入る最も適切な単語に○を付けなさい。

Circle the most appropriate word in the underlined part of the following sentence.

- (1) Ms. Tanaka is quite \_\_\_\_\_ about classical music and plays piano in her spare time.  
(a) knowledge (b) knowingly (c) knew (d) knowledgeable
- (2) Once the class had \_\_\_\_\_ ended, some of students started leaving the classroom.  
(a) near (b) nearing (c) nearer (d) nearly
- (3) The update to the website must be completed \_\_\_\_\_ next Friday.  
(a) beside (b) below (c) between (d) before
- (4) The rain was \_\_\_\_\_ heavy the other day that the driver had to stop the car along the roadside.  
(a) too (b) so (c) even (d) quite
- (5) The newly opened café across the Setagaya-street is very busy \_\_\_\_\_ the late evening.  
(a) especially (b) when (c) throughout (d) usually
- (6) After several months of \_\_\_\_\_, the corporation has decided to move this brunch to Tokyo.  
(a) considered (b) considers (c) considering (d) consideration
- (7) \_\_\_\_\_ the trains are running on schedule, he will arrive in Tokyo station by 6 p.m.  
(a) Upon (b) Accordingly (c) Because of (d) Provided that
- (8) In \_\_\_\_\_ one year, this company became the third largest company in the tractor industry.  
(a) recently (b) alone (c) just (d) thoroughly
- (9) The research results indicate \_\_\_\_\_ parents with children tend to purchase more organic vegetable.  
(a) much (b) about (c) that (d) to
- (10) If the shop clerk had not offered a discount, she \_\_\_\_\_ the T-shirt yesterday.  
(a) will not buy (b) will not have bought (c) would not buy (d) would not have bought

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II. 次の A から F の文章の 8 つの括弧内に入る語句を下の語群より選び記入せよ。

Fill in the eight brackets in the paragraph A to F by choosing from the <words> below.

A) According to a dictionary, conservation law is [ ]  
[ ]  
(Source: Oxford Dictionary. Application Ver. 15.5.1105, MobiSystem,Inc., 2024)

B) According to a dictionary, [ ] is [ ]  
(Source: Oxford Dictionary. Application Ver. 15.5.1105, MobiSystem,Inc., 2024)

C) According to a dictionary, GIS stands for [ ]  
(Source: Oxford Dictionary. Application Ver. 15.5.1105, MobiSystem,Inc., 2024)

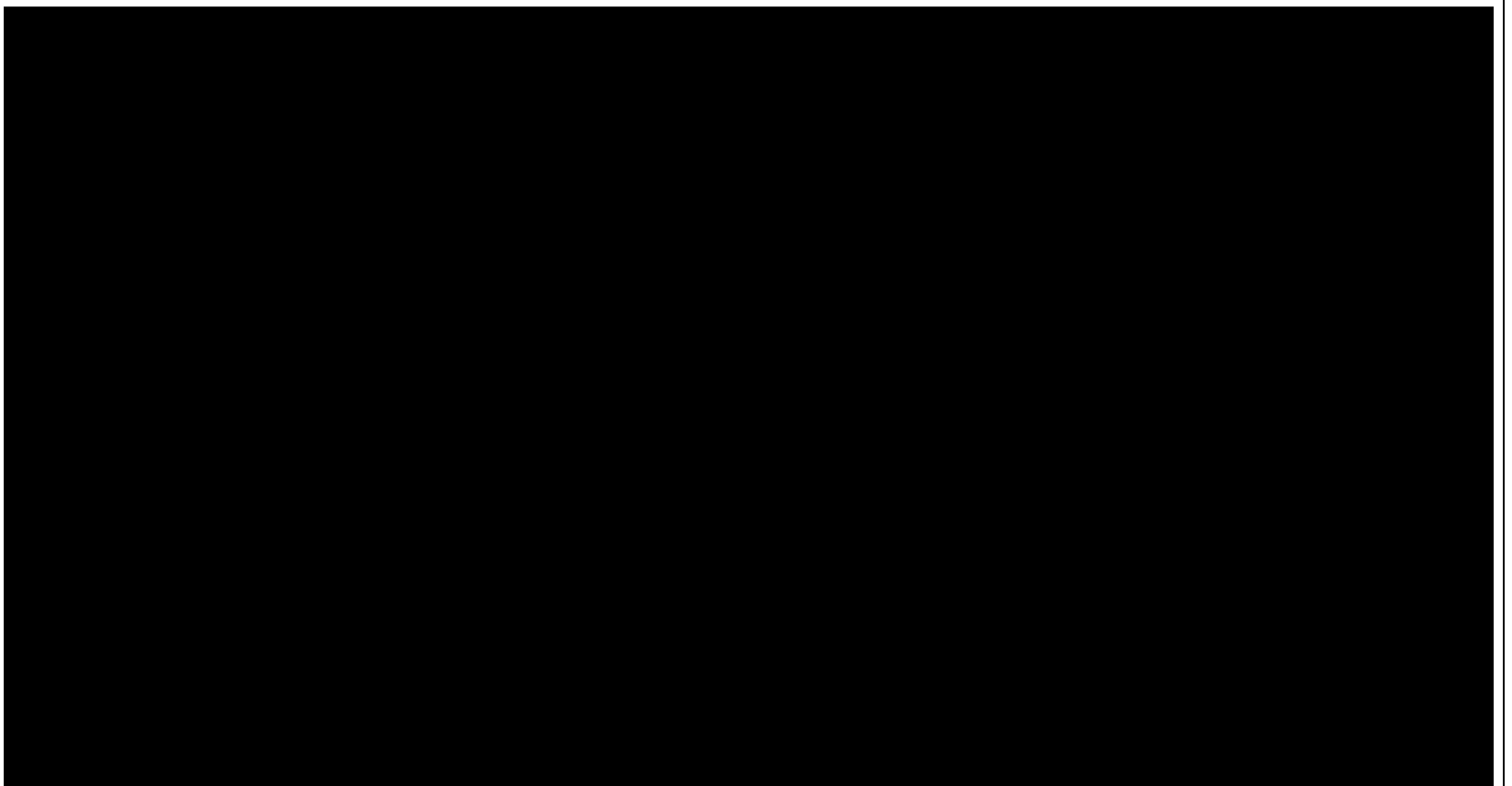
D) The gradual increase in the overall temperature of the Earth's atmosphere is called global warming, which is understood to be due to the [ ] effect.

E) According to a dictionary, [ ] is [ ]  
(Source: Oxford Dictionary. Application Ver. 15.5.1105, MobiSystem,Inc., 2024)

F) Soil texture is an indicator determined by the ratio of clay, [ ] and sand.

<words> arable, consistency, geological, geographical, global, greenhouse, ground, lens, mass, momentum, ridge, rock, silt, soil, solid, velocity, volume, world

III. 次の記事を読み質問 1 から 6 に英語で答えよ。 Read the following article and answer the questions 1-6 in English:



(Source: The Mainichi, June 20, 2024)

大学院入学試験問題用紙 (3 of 3)

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Question 1. This article describes the development of a system that can generate electricity from [ i ] and [ ii ], using the [ iii ] within it. Fill in the brackets.

<Ans.> (i) \_\_\_\_\_ (ii) \_\_\_\_\_ (iii) \_\_\_\_\_

Question 2. What power generation existing now is this new one compared to? <Ans.> \_\_\_\_\_

Question 3. This article describes an important characteristic of the spring water in this new technology is that the water temperature is [ ] throughout the year. Fill in the bracket.

Question 4. In the experiment conducted by the researchers, (i)when was the temperature difference stated to be maximum? Also, (ii)what was the average amount of electricity at that time?

<Ans.> (i) \_\_\_\_\_ (ii) \_\_\_\_\_

Question 5. Based on this article, how much volume of the annual electricity consumption (kWh) per household?

<Ans.> \_\_\_\_\_

Question 6. How, for example, does Mr. Amagai currently plan to store and use the power generated from this technology?

<Ans.> \_\_\_\_\_