

2026年度【I期】 玉川大学大学院農学研究科資源生物学専攻  
修士課程入学試験問題

※試験場への持込

1. 不可

2. 可 イ. 辞書

ロ. その他

( )

科目名	外国語 (英語)	受験番号		氏名	
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設問1～4の英文を和訳しなさい。4枚の解答用紙それぞれに受験番号と氏名を記入し、解答用紙の左上の設問番号に該当する解答を記入すること。

### 設問1

Rivers and other freshwater environments support a disproportionately high level of biodiversity, given that they cover less than 1% of Earth's surface. There is evidence that they are among the world's most threatened ecosystems, with some of the largest reported declines in biodiversity, linked to a combination of factors, such as intense exploitation by humans, pollution and the changing climate.

disproportionately: 釣り合いなほどに given that ~: ~を考えれば  
threatened ~: 脅威にさらされた~ exploitation: 開発

### 設問2

One gram of soil contains from 6,000 to 50,000 bacterial species and up to 200 meters of fungal hyphae, although both are largely invisible to the naked eye. Many of these soil organisms consume living and dead plant materials. Plants have an array of defenses they can use against potentially harmful soil organisms. In many cases, however, plants actively encourage fungi and bacteria to infect their roots.

hyphae: 菌糸 an array of: さまざまな

### 設問3

There are numerous effects of climate change on agriculture, many of which are making it harder for agricultural activities to provide global food security. Rising temperatures and changing weather patterns often result in lower crop yields due to water scarcity caused by drought, heat waves and flooding. These effects of climate change can also increase the risk of several regions. Currently this risk is rare but if these simultaneous crop failures occur, they could have significant influences for the global food supply.

yield: 収量 water scarcity: 水不足 drought: 干ばつ crop failures: 不作

### 設問4

Sharing basic science knowledge drives technological innovation and economic growth by providing foundational understanding for new applications and solutions to societal challenges. This process involves creating collaborative environments, fostering open access to information, and implementing effective knowledge management systems within organizations to ensure that scientific discoveries are translated into practical, beneficial technologies for all, especially those in developing countries.

drives: 推進する societal challenges: 社会的課題 fostering: 育てる implementing: 実装する

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### 設問1

The greenhouse effect may cause rising global temperatures and shifts in precipitation and wind. Such climate changes can strongly influence crop insect pests, not only by directly altering their distribution and abundance, but also through impacts on host plants, competitors, and natural enemies, ultimately affecting pest population dynamics and agricultural systems.

precipitation: 降水量    crop insect pests : 農作物害虫    abundance: 個体数    ultimately: 最終的に

### 設問2

Photosynthesis is the process by which plants and other organisms use light energy to create nutrients such as starch. Oxygenic photosynthesis, which breaks down water to produce oxygen and fixes carbon dioxide into organic matter, was first initiated by prokaryotic organisms called cyanobacteria approximately 2.8 billion years ago. Cyanobacteria live symbiotically within the cells of eukaryotic organisms and become chloroplasts, a process that is still carried on in plants and algae today.

prokaryotic: 原核の    symbiotically: 共生的に    eukaryotic: 真核の    carried on: に受け継がれる

### 設問3

A food chain is a system in which living things are connected by a relationship of “eating” and “being eaten.” This relationship continues like a chain, with plants making their own nutrients being eaten by herbivores, who in turn eat them, and carnivores eating them. Ultimately, decomposers (bacteria, fungi, etc.) that break down the carcasses and waste of living organisms return the nutrients to the soil, where they can be used again by plants, creating a circular system.

food chain: 食物連鎖    herbivores: 草食動物    carnivores: 肉食動物    carcasses: 死骸

### 設問4

Scientific progress is the reduction in uncertainty. In fact, many researchers argued that the information gain from an experiment might be more important than its concrete output. Challenging earlier models of research and development, they call for a more general formulation of knowledge production. Although uncertainty about outcomes is ubiquitous in science, very few formulations of this type have since been proposed in the literature.

uncertainty: 不確実性    concrete output: 具体的な成果    general formulation: 一般的な定式化  
outcome: 結果    ubiquitous: どこにでもある    literature: 文献、論文

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次の英文を和訳しなさい。専修免許状取得コースの志願者は設問1、2、3、4の計4問を選択すること。専修免許状取得コース以外の志願者は設問1、2および設問5、6の計4問を選択すること。

各自、選択した4問の解答用紙のそれぞれに受験番号と氏名を記入し、解答用紙の左上の設問番号に該当する解答をそれぞれ記入すること。試験終了後、全ての問題用紙、解答用紙を回収する。

設問1 (全員選択)

Living things are composed of lifeless molecules. When these molecules are isolated and examined individually, they conform to all the physical and chemical laws that describe the behavior of inanimate matter. But living organisms have extraordinary characteristics not shown by collections of inanimate molecules. If we examine some of these special properties, we can approach the study of biochemistry with a better understanding of the fundamental questions for life.

inanimate: 無生物の      extraordinary: 異常な

設問2 (全員選択)

Mammals are of central interest in ecology and conservation science. Here, we estimate the trajectory of mammal biomass globally over time, including humans, domesticated and wild mammals. According to our estimates, in the 1850s, the combined biomass of wild mammals was about 200 million tonnes, roughly equal to that of humanity and its domesticated mammals at that time.

conservation science: 保全科学      trajectory: 軌跡

設問3 (専修免許状取得コースの志願者のみ選択)

Regarding free schools, which serve as alternatives for children who refuse to attend regular school, 97.3% of teachers said they "think it is good that free schools exist as an option." However, 73.3% said they "lack knowledge about free schools," and 84.7% expressed the need for "improved instruction and content regarding training on school refusal."

school refusal: 不登校

設問4（専修免許状取得コースの志願者のみ選択）

AI translation has made significant strides in recent years, now handling tasks once considered uniquely human, such as translating manga and literary works. Schools have also begun introducing applications that correct English compositions and evaluate pronunciation. AI is rapidly becoming more significant to the learning of foreign languages and the ways they are taught.

AI: artificial intelligence の略      strides: 歩み、進歩      manga: 漫画

設問5（専修免許状取得コース以外の志願者のみ選択）

The first photosynthetic organisms probably evolved early in the evolutionary history of life and most likely used reducing agents such as hydrogen or hydrogen sulfide, rather than water, as sources of electrons. Cyanobacteria appeared later there and the excess oxygen they produced contributed directly to the oxygenation of the Earth, which made the evolution of complex life possible.

oxygenation: 酸素化

設問6（専修免許状取得コース以外の志願者のみ選択）

Yellow star-thistle is a spiny annual plant native to the Mediterranean region. The species has invaded several regions of the United States. It is a noxious weed that is unpalatable to livestock. A farmer discovered that one hectare of his 128-hectares farm has been invaded by yellow star-thistle. A year later, he found that the weed population has grown to cover two hectares.

Yellow star-thistle: イガヤグルマギク      spiny: 棘のある      noxious: 有害な      unpalatable: 採食されない  
hectare: ヘクタール