

令和3年8月3日実施

名古屋市立大学大学院医学研究科博士課程入学試験(1回目)

医学・生物学一般問題(問題用紙1枚、解答用紙2枚)

Select any two of the following four questions, and write your answers on answer sheets provided.

Use one sheet per question (if you need more space for answers, continue them on the reverse side of the sheet). Please make sure that you write the number of question you selected in the answer sheet.

<Question 1>

Regarding modifications of physiological function during aging and accompanying changes in drug sensitivity, answer the following two questions (Q1 and Q2).

Q1: Describe briefly on the modifications of physiological function in heart, liver, and kidney during aging.

Q2: Explain how drug sensitivity is modified by aging-associated physiological changes.

<Question 2>

Explain how to determine the localization of proteins and mRNA in tissue sections.

(1) Protein

(2) mRNA

<Question 3>

Pain has long been regarded as an early-warning physiological protective system. In addition, pain is increasingly regarded as a disease state of the nervous system. Explain what you know about "pain"?

<Question 4>

Answer the following questions (Q1 and Q2) about human sex chromosomes.

Q1: Explain what is the sex chromosomes.

Q2: List up several diseases related to sex chromosomes and explain those.