受験番号＿＿＿＿＿＿＿＿＿＿

令和６年８月６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>

Describe what you know about regenerative medicine.

<Question 2>

What are some potential applications of ChatGPT, a generative AI, in medical and biological research? Please provide specific examples to explain.

<Question 3>

In 1990, Handyside et al. reported the use of preimplantation genetic diagnosis (PGD) to prevent the occurrence of certain genetic disorders, such as Duchenne muscular dystrophy (DMD), which is a recessive inherited disease. Currently, preimplantation genetic testing for monogenic/single gene defect (PGT-M) is available to avoid birth defects due to single-gene diseases. Additionally, there are two types of PGT for chromosomal structural rearrangement (PGT-SR) or for chromosome aneuploidy (PGT-A) to prevent miscarriage. In Japan, PGT-M was initiated in 2004, followed by PGT-SR in 2006. However, PGT-A has been prohibited by the "Views on PGD" (formulated in 1998) by the Japan Society of Obstetrics and Gynecology.
Conversely, genes associated with diseases and traits have been identified as polygenic risk scores (PRS) and polygenic prognosis scores (PPS) through the utilisation of large-scale biobanks and genome-wide association studies. PGT-P for the birth of “intelligent” children is being conducted on a commercial basis in Europe. Please elucidate your knowledge of PGT-P.

<Question 4>

Explain the classification of allergic reactions.