

医学部 (医学科)

<パート1>

設問1

(1) (c)      (2) (d)      (3) (d)      (4) (d)

設問2

1962年から2019年の間に行われた100,000以上のメジャーリーグの試合と、2015年から2019年にかけての220,000安打に関するデータを抽出し、さらに試合当日の気温の中から特定の地域や季節にしては異常に暖かいと思われるものを探し出し、球場の広さやステロイド使用の増加、ホームランを量産するための選手のスイングの変化など、他の多くの変数を考慮し調整したうえでこれらのデータを使ってホームランと気温の相関関係を調べたこと。

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設問3

日中の気温の上昇がもたらす影響を緩和するために、ナイトゲームを実施したり、空調システムが完備されたドーム球場で試合をしたりするという対策が可能である。

設問4

(b) (c) (e)

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設問1

- ① consequences
- ② aspect
- ③ incentive
- ④ wealthier
- ⑤ specific
- ⑥ hesitate
- ⑦ conditions
- ⑧ break
- ⑨ showed
- ⑩ contribute
- ⑪ exposed
- ⑫ study
- ⑬ damaged
- ⑭ appearances
- ⑮ recycled
- ⑯ waste
- ⑰ afford
- ⑱ consume
- ⑲ energy
- ⑳ throwing

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<パート2>

設問2

1.

Fast fashion refers to clothes produced and shipped at the lowest possible price and as quickly as possible. The production of fast fashion clothes results in significant environmental impacts: a large amount of water is wasted, hazardous chemicals and microplastics enter waterways, and unwanted clothes are discarded in large quantities. These practices place heavy burdens on the environment. Additionally, workers face risks of exposure to toxic chemicals and injuries in the workplace.

【別解】

Fast fashion is clothing that is mass-produced quickly and at low cost so that it can reach the customer quickly. One of the problems with fast fashion is that producing clothing on a large scale requires a lot of natural resources. Another problem is that in order to keep costs down, companies often locate clothing factories in low-income nations where there are few laws regarding manufacturing and labor. This allows them to use toxic chemicals, which can harm the environment and the health of workers who come into contact with them. In addition, it allows companies to subject workers to other dangerous conditions that lead to injuries.

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設問2

2.

In order to reduce their environmental impact, consumers can choose not to purchase fast fashion clothes and should examine carefully the environmental claims made by brands and manufacturers. On the part of brands and manufacturers, there is an opportunity to innovate within their production processes to minimize environmental damage. This could include establishing fabric recycling systems and utilizing 3D printing technologies to reduce waste.

【別解】

Consumers and clothing manufactures both have a role to play in reducing the negative effects of fast fashion. Consumers who have the means can avoid buying from companies that produce clothing in ways that harm the environment. All consumers can reduce the total amount of clothing they buy. Manufacturers can recycle materials and make it easy for customers to return used items for recycling. They can also use different processes, such as 3D printing, that cut down or eliminate waste.

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<パート3>

1.

Sarkar's mother challenged social norms in her village from a young age by earning money herself and putting herself through college, and her boldness had a profound impact on Sarkar. Sarkar's father invented devices aimed at making domestic chores easier, which ignited her passion in science and technology.

(48 words)

【別解】

Deblina Sarkar's mother had an unconventional mind for her time, which greatly influenced Sarkar and helped her to be bold as a researcher. In addition, Sarkar's father, who was passionate about inventing devices to simplify household chores, sparked her interest in science and technology, especially engineering.

(46 words)

【別解】

Sarkar's parents both greatly influenced her career. From her mother, who went against the social norms expected of young women in her day and got an education, she learned to be courageous. From her father, a self-taught engineer who devised machines to make the lives of everyday people easier, she inherited a fascination with science. (55 words)

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2.

I would like a machine to be surgically implanted into my brain to enhance my intelligence. By unlocking the full potential of my brain, I believe I could perform medical procedures, including challenging surgeries, more accurately when I become a doctor. While I feel anxious about implanting a device into my brain, as such surgeries are uncommon, I recognize that someone has to be the first to pave the way for advancements in medicine. (74 words)

【別解】

I wouldn't want such a machine because implanting it into the brain to increase intelligence requires careful consideration. While such machines promise cognitive enhancement, the possibility of unforeseen side effects caused by brain surgery may pose significant risks. Moreover, relying too heavily on artificial methods may diminish the value of human intellect and the learning processes. Exploring natural methods for cognitive enhancement is essential to ensure ethical and humane approaches to advancing human intelligence. (74 words)

【別解】

I would not want a machine implanted in my brain to make me smarter. Any type of surgery comes with some risk, and brain surgery is no exception. Moreover, this type of surgery hasn't been performed on large numbers of patients yet, so it would be extremely risky. The main reason, though, is that I fear I would become dependent on the machine and my brain would atrophy. (68 words)