

令和4年度 編入学試験問題

小論文（90分）

医学群

【医療科学類】

「試験開始」の合図があるまで、この表紙を開けないこと。

以下の注意事項をよく読みなさい。

1. 「試験開始」の合図があったら、問題用紙、解答用紙、下書き用紙の枚数を確かめなさい。

問題用紙	7枚（表紙を除く）
解答用紙	7枚
下書き用紙	2枚

2. 配られたすべての解答用紙に氏名と受験番号を記入しなさい。
3. 解答は所定の解答用紙に、特に指定のない限り日本語で記入しなさい。
4. 解答用紙のホッチキスはずすこと。
5. 問題用紙と下書き用紙は持ち帰ること。解答用紙はすべて回収するので持ち帰らないこと。

問題

以下の文章を読み、問1～問7に答えなさい。

ただし、人名は英語のまま用いて良い。

1. The first paragraph discusses the importance of maintaining accurate records in a laboratory setting. It highlights the role of the laboratory manager in ensuring that all data is properly documented and that the records are easily accessible to all staff members. The text emphasizes that this is crucial for the safety and efficiency of the laboratory.

2. The second paragraph describes the various methods used to collect and analyze data in a laboratory. It mentions the use of specialized equipment and the importance of following strict protocols to ensure the accuracy of the results. The text also discusses the role of the laboratory technician in performing these tasks.

3. The third paragraph focuses on the importance of safety in a laboratory. It discusses the various safety protocols that must be followed, such as wearing protective gear and using proper handling techniques. The text also mentions the role of the laboratory manager in ensuring that all staff members are properly trained in these safety procedures.

4. The fourth paragraph discusses the importance of maintaining a clean and organized laboratory. It mentions the various cleaning procedures that must be followed and the role of the laboratory technician in performing these tasks. The text also discusses the importance of proper storage of chemicals and equipment.

5. The fifth paragraph discusses the importance of maintaining accurate records in a laboratory setting. It highlights the role of the laboratory manager in ensuring that all data is properly documented and that the records are easily accessible to all staff members. The text emphasizes that this is crucial for the safety and efficiency of the laboratory.

6. The sixth paragraph describes the various methods used to collect and analyze data in a laboratory. It mentions the use of specialized equipment and the importance of following strict protocols to ensure the accuracy of the results. The text also discusses the role of the laboratory technician in performing these tasks.

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The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that proper record-keeping is essential for ensuring the integrity and reliability of financial data. This section also covers the various methods used to collect and analyze data, highlighting the need for consistency and transparency in the reporting process.

The second part of the document focuses on the specific procedures and protocols that must be followed to ensure compliance with relevant regulations. It details the steps involved in data collection, from initial planning to final reporting, and provides guidance on how to handle any potential issues or discrepancies that may arise during the process.

The third part of the document provides a summary of the key findings and conclusions drawn from the data analysis. It highlights the most significant trends and patterns observed, and discusses the implications of these findings for future research and practice. The document concludes by emphasizing the importance of ongoing monitoring and evaluation to ensure that the data remains current and relevant.

The fourth part of the document provides a detailed overview of the data collection process, including the methods used to gather the data and the steps taken to ensure its accuracy and reliability. It also discusses the challenges faced during the data collection process and the strategies used to overcome these challenges. This section is intended to provide a clear and concise summary of the data collection process for all stakeholders involved.

The fifth part of the document provides a detailed overview of the data analysis process, including the methods used to analyze the data and the steps taken to ensure the accuracy and reliability of the results. It also discusses the challenges faced during the data analysis process and the strategies used to overcome these challenges. This section is intended to provide a clear and concise summary of the data analysis process for all stakeholders involved.

The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes the need for transparency and accountability in financial reporting.

The second part of the document outlines the various methods and techniques used to collect and analyze data. It covers both qualitative and quantitative research approaches, highlighting the strengths and limitations of each.

3. Results

The results of the study are presented in this section, showing the findings from the data analysis. The data indicates a strong correlation between the variables studied.

The findings suggest that there is a significant impact of the independent variable on the dependent variable. This is supported by the statistical analysis conducted, which shows a high level of significance.

The results also indicate that the model developed is a good fit for the data, as evidenced by the high R-squared value. This suggests that the model can effectively predict the outcome of the study.

The study concludes that the findings have important implications for practice and theory. Further research is needed to explore the underlying mechanisms and to test the model in different contexts.

The authors thank the participants and the funding agency for their support and contribution to the study. The results are presented in the following table:

The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that proper record-keeping is essential for ensuring the integrity and reliability of financial data. This section also covers the various methods used to collect and analyze data, highlighting the need for consistency and transparency in the reporting process.

Methodology

The methodology section describes the research approach and the specific techniques used to gather and analyze data. It details the selection of participants, the design of the study, and the procedures for data collection and analysis. The goal is to provide a clear and detailed account of the research process, allowing others to replicate the study if necessary.

In this study, a mixed-methods approach was used, combining quantitative surveys with qualitative interviews. The surveys were designed to measure the prevalence of certain behaviors, while the interviews provided deeper insights into the reasons behind these behaviors. This combination of methods allows for a more comprehensive understanding of the research topic.

The data analysis phase involved both statistical and thematic analysis. Quantitative data was analyzed using descriptive statistics to identify trends and patterns. Qualitative data was analyzed using a thematic analysis approach to identify common themes and insights. The results of both analyses are presented in the following sections, showing how they complement each other to provide a fuller picture of the research findings.

Results

The results section presents the findings of the study, organized into several key areas. It begins with a summary of the overall trends observed in the data, followed by a detailed breakdown of the results for each research question. The findings are supported by statistical evidence and illustrative quotes from the participants. The results indicate that there is a significant correlation between the variables studied, and that the qualitative insights provide valuable context for the quantitative data.

(*Nature*, 2020 Michael Marshall 著 “THE WATER PARADOX AND THE ORIGINS OF LIFE” より引用、一部改変)

(註*) plummet : 突入する Martian : 火星の throngs : 群衆 lobbied : 賛成運動をする intermittently : 断続的に unanimous : 合意して terrestrial : 陸上の puddles : 水たまり primordial : 原始の dubbed : ~と称する cornerstone : 基本 vulnerable : 攻撃されやすい rigorously : 厳密に implausible : 信じがたい spontaneously : 自発的に evaporating : 蒸発する momentum : 勢い prey : 被食者 harness : 利用する Goldilocks : 適した (イギリスの童話の主人公)

- 問1 下線部(1)を和訳しなさい。Jezeroはそのまま用いて良い。
- 問2 下線部(2)について、どのような考え方、また実験結果に基づいて提唱されたか、本文に即して説明しなさい。
- 問3 下線部(3)について以下の(ア)、(イ)に答えなさい。
(ア) どのようなことなのか、構造式を用いて説明しなさい。

(イ) RNAはアルカリ環境下でDNAより不安定である。その理由を詳細に説明しなさい。
- 問4 下線部(4)とは何か、50字程度で説明しなさい。
- 問5 下線部(5)について、Frenkel-Pinterらはなぜそのような選択が起きたと考えているか、本文に即して説明しなさい。
- 問6 下線部(6) protocell (プロトセル) に関して、以下の(ア)、(イ)に答えなさい。
(ア) プロトセルとはどのようなものか、本文に即して説明しなさい。

(イ) あなたの考える生命体としての細胞とはどのようなものか。その定義を3つ述べなさい。
- 問7 湿った環境(wet)、乾燥した環境(dry)、およびその循環はどのようにして生命の誕生に関与したか、本文に即して具体例を挙げて説明しなさい。