

CITI PROGRAM – BIOMEDICAL RESEARCH PRACTICE EXAM (SAMPLE)

STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

**VISIT US ONLINE FOR
THE FULL VERSION STUDY GUIDE**

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Introduction

Preparing for a certification exam can feel overwhelming, but with the right tools, it becomes an opportunity to build confidence, sharpen your skills, and move one step closer to your goals. At Examzify, we believe that effective exam preparation isn't just about memorization, it's about understanding the material, identifying knowledge gaps, and building the test-taking strategies that lead to success.

This guide was designed to help you do exactly that.

Whether you're preparing for a licensing exam, professional certification, or entry-level qualification, this book offers structured practice to reinforce key concepts. You'll find a wide range of multiple-choice questions, each followed by clear explanations to help you understand not just the right answer, but why it's correct.

The content in this guide is based on real-world exam objectives and aligned with the types of questions and topics commonly found on official tests. It's ideal for learners who want to:

- Practice answering questions under realistic conditions,
- Improve accuracy and speed,
- Review explanations to strengthen weak areas, and
- Approach the exam with greater confidence.

We recommend using this book not as a stand-alone study tool, but alongside other resources like flashcards, textbooks, or hands-on training. For best results, we recommend working through each question, reflecting on the explanation provided, and revisiting the topics that challenge you most.

Remember: successful test preparation isn't about getting every question right the first time, it's about learning from your mistakes and improving over time. Stay focused, trust the process, and know that every page you turn brings you closer to success.

Let's begin.

How to Use This Guide

This guide is designed to help you study more effectively and approach your exam with confidence. Whether you're reviewing for the first time or doing a final refresh, here's how to get the most out of your Examzify study guide:

1. Start with a Diagnostic Review

Skim through the questions to get a sense of what you know and what you need to focus on. Your goal is to identify knowledge gaps early.

2. Study in Short, Focused Sessions

Break your study time into manageable blocks (e.g. 30 – 45 minutes). Review a handful of questions, reflect on the explanations.

3. Learn from the Explanations

After answering a question, always read the explanation, even if you got it right. It reinforces key points, corrects misunderstandings, and teaches subtle distinctions between similar answers.

4. Track Your Progress

Use bookmarks or notes (if reading digitally) to mark difficult questions. Revisit these regularly and track improvements over time.

5. Simulate the Real Exam

Once you're comfortable, try taking a full set of questions without pausing. Set a timer and simulate test-day conditions to build confidence and time management skills.

6. Repeat and Review

Don't just study once, repetition builds retention. Re-attempt questions after a few days and revisit explanations to reinforce learning. Pair this guide with other Examzify tools like flashcards, and digital practice tests to strengthen your preparation across formats.

There's no single right way to study, but consistent, thoughtful effort always wins. Use this guide flexibly, adapt the tips above to fit your pace and learning style. You've got this!

Questions

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- 1. According to ICMJE guidelines, who should be recognized in the acknowledgments section?**
 - A. Only the first author of a paper.
 - B. Those who meet authorship criteria.
 - C. Individuals making noteworthy contributions without meeting authorship criteria.
 - D. All contributors regardless of their input level.
- 2. Which principle holds that individuals participating in research should be respected as autonomous agents?**
 - A. Beneficence
 - B. Justice
 - C. Respect for Persons
 - D. Informed Consent
- 3. What is true regarding IRB approval for the clinical use of a HUD in healthcare?**
 - A. The FDA permits IRB to opt-out of ongoing review
 - B. The regulations require IRB approval for clinical use
 - C. IRB approval is not needed since HUDs are marketed devices
 - D. The clinician must ensure ongoing IRB approval after initial authorization
- 4. How can data lifecycle management (DLM) be accurately described?**
 - A. Managing data during and after a research project.
 - B. Upholding confidentiality by federal law.
 - C. Obligation to share data with journals.
 - D. Data collection requirements of specific organizations.
- 5. In any collaboration, data ownership is typically determined by?**
 - A. The individual who does the most work on the project.
 - B. The relevant department chairs.
 - C. The research team with access to the best lawyers.
 - D. The type and source of funds used to support the project.

- 6. Which incident most directly contributed to the establishment of the National Research Act and the creation of the Belmont Report?**
- A. Stem cell research
 - B. The Human Genome Project
 - C. The Tuskegee Study
 - D. Crash test research
- 7. Which method is recognized as a form of data collection in social behavioral research?**
- A. Blood draws.
 - B. Interviews.
 - C. Hearing screenings.
 - D. Physical exams.
- 8. Why is the use of prisoners in research a concern under the Belmont principle of Justice?**
- A. Prisoners are less educated than the general population and have difficulty understanding research
 - B. Prisoners may not be used for research that only benefits the larger society
 - C. Prisoners are not a representative sample of the general population
 - D. Prisoners are not free to say no
- 9. Which three goals are central to data lifecycle management (DLM)?**
- A. Technology, sharing, and disposal.
 - B. Ownership, propriety, and control.
 - C. Confidentiality, availability, and integrity.
 - D. Secrecy, privacy, and disposal.
- 10. Is research concerning the effectiveness of prenatal care programs on reducing HIV risk in young women permitted under Subpart B?**
- A. No - this research is not permitted because it involves fetuses.
 - B. Yes - this research is permitted.
 - C. This research is only permitted if it also presents a direct benefit to the mother and the fetus.
 - D. No - this research is not permitted with pregnant women.

Answers

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1. C
2. C
3. D
4. A
5. D
6. C
7. B
8. B
9. C
10. B

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Explanations

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1. According to ICMJE guidelines, who should be recognized in the acknowledgments section?

- A. Only the first author of a paper.
- B. Those who meet authorship criteria.
- C. Individuals making noteworthy contributions without meeting authorship criteria.**
- D. All contributors regardless of their input level.

The correct choice highlights the importance of acknowledging individuals who have made significant contributions to the research or manuscript, even if they do not fulfill the specific criteria for authorship. The ICMJE guidelines emphasize that contributions that do not meet the authorship criteria can still be acknowledged, such as those involved in data collection, project management, or providing critical feedback that shapes the work. Recognizing these contributors in the acknowledgments section is crucial as it gives credit where it is due, fostering a culture of transparency and appreciation for all roles in the research process. Understanding this distinction is critical for maintaining ethical standards in scholarly publishing. Authorship typically requires meeting specific criteria related to making substantial contributions to the conception, design, execution, or interpretation of the study's results, whereas acknowledgments allow for the recognition of valuable contributions that might not satisfy these criteria. This fosters inclusivity and respects the efforts of all individuals involved, reflecting the collaborative nature of research in biomedical fields.

2. Which principle holds that individuals participating in research should be respected as autonomous agents?

- A. Beneficence
- B. Justice
- C. Respect for Persons**
- D. Informed Consent

The principle that emphasizes respecting individuals as autonomous agents is known as Respect for Persons. This principle recognizes the inherent dignity and capacity of individuals to make informed decisions about their own lives. It mandates that researchers must acknowledge the autonomy of their participants, ensuring that they can make voluntary choices regarding whether to partake in research. This principle is foundational in ethical research practices and involves not only recognizing autonomy but also providing the necessary information and understanding for individuals to make informed decisions about their participation. It promotes honesty and transparency about the research process, allowing potential participants to assess risks and benefits and to provide consent without coercion. In contrast, other options such as Beneficence and Justice address different aspects of ethical research. Beneficence focuses on maximizing benefits and minimizing harms, while Justice emphasizes the fair distribution of research benefits and burdens among different groups. Informed Consent, although a crucial aspect of respecting autonomy, is a process that arises from the Respect for Persons principle itself rather than a standalone ethical principle. Respect for Persons encompasses the full scope of recognizing and honoring the autonomy of research participants.

3. What is true regarding IRB approval for the clinical use of a HUD in healthcare?

- A. The FDA permits IRB to opt-out of ongoing review
- B. The regulations require IRB approval for clinical use
- C. IRB approval is not needed since HUDs are marketed devices
- D. The clinician must ensure ongoing IRB approval after initial authorization**

The statement emphasizes the ongoing responsibilities of a clinician regarding Institutional Review Board (IRB) oversight after the initial approval for the clinical use of a humanitarian use device (HUD). While a HUD may have received initial IRB approval for its use, it is crucial for the clinician to ensure that this approval remains in effect. This typically includes monitoring any changes in the use of the device, any new information that comes to light about its risks, and any potential modifications to the treatment protocol. Maintaining ongoing IRB approval helps to ensure that patient safety is prioritized throughout the clinical use of the HUD and that the device continues to be used in accordance with the ethical guidelines and regulations put forth by the IRB. Regular communication with the IRB and adherence to their requirements not only supports continuous oversight but also fosters trust and accountability in the clinical research process.

4. How can data lifecycle management (DLM) be accurately described?

- A. Managing data during and after a research project.**
- B. Upholding confidentiality by federal law.
- C. Obligation to share data with journals.
- D. Data collection requirements of specific organizations.

Data lifecycle management (DLM) refers to the practices and policies that oversee the management of data throughout its entire lifecycle, which encompasses stages from initial data collection through to its eventual archiving or deletion after the conclusion of a research project. This process ensures that data is efficiently managed and protected at each stage, addressing aspects such as data storage, accessibility, sharing, and compliance with relevant regulations. The description provided by the correct answer highlights the comprehensive approach that DLM takes, which includes planning for data handling, organization, and storage during the lifespan of a research project as well as considering what happens to the data afterward. This reflects the continuous nature of data governance and stewardship in research contexts. Other choices, while related to aspects of data management and ethical considerations in research, do not fully capture the holistic approach that DLM entails: - Upholding confidentiality by federal law pertains to specific legal requirements rather than the broader management of the entire data lifecycle. - The obligation to share data with journals is a specific aspect of dissemination and does not encompass the management of data pre- and post-publication. - Data collection requirements of specific organizations focus on the initial stage of data gathering and do not address the subsequent stages of data use and retention. Thus, the correct

5. In any collaboration, data ownership is typically determined by?

- A. The individual who does the most work on the project.
- B. The relevant department chairs.
- C. The research team with access to the best lawyers.
- D. The type and source of funds used to support the project.**

Data ownership in collaborative research is largely influenced by the type and source of funds used to support the project. This is because funding agencies often have specific policies concerning data management and ownership that researchers must adhere to. These policies can dictate how data can be used, shared, and retained after a project's conclusion, and they often reflect the interests of the funding organization. For instance, if a project is funded by a federal grant, the regulations associated with that grant may establish that the data generated from the research remains under the ownership of the institution or the grant holder. Additionally, private funding sources may impose their own requirements that set the terms for data ownership and access. In contrast, determining ownership based on who does the most work, department chairs' decisions, or the quality of legal representation does not align with standard practices in research governance. These factors may influence the collaboration itself but do not establish formal data ownership as dictated by funding agreements and institutional policies.

6. Which incident most directly contributed to the establishment of the National Research Act and the creation of the Belmont Report?

- A. Stem cell research
- B. The Human Genome Project
- C. The Tuskegee Study**
- D. Crash test research

The establishment of the National Research Act and the creation of the Belmont Report were directly influenced by the ethical concerns surrounding the Tuskegee Study. This study, conducted from the 1930s to the 1970s, involved the observation of untreated syphilis in African American men, who were not informed about their health status or given adequate treatment even after penicillin became available. The unethical nature of this study raised significant awareness about the need for ethical standards in research involving human subjects. In response to the public outcry over the Tuskegee Study and similar incidents, the National Research Act was enacted in 1974, aiming to set ethical guidelines for research and establish the requirement for Institutional Review Boards (IRBs). The Belmont Report was then developed as a guide to ethical principles supporting research involving human subjects, emphasizing respect for persons, beneficence, and justice. The legacy of the Tuskegee Study highlighted the critical need for protecting human subjects in research, leading directly to these significant developments in research ethics.

7. Which method is recognized as a form of data collection in social behavioral research?

- A. Blood draws.
- B. Interviews.**
- C. Hearing screenings.
- D. Physical exams.

Interviews are a widely recognized and valuable method of data collection in social behavioral research. This method allows researchers to gather qualitative data by engaging participants in a conversation, which can provide deeper insights into their thoughts, feelings, experiences, and behaviors. Unlike more quantitative methods that focus on numerical data, interviews enable a nuanced understanding of social phenomena, making them ideal for exploring complex human behaviors and social interactions. Interviews can be structured, semi-structured, or unstructured, providing flexibility in how the conversation unfolds. This adaptability allows researchers to probe more deeply based on participant responses, potentially revealing themes and insights that structured questionnaires might miss. Given the focus on subjective experiences in social behavioral research, interviews are particularly effective in capturing the richness of human experience and social context. In contrast, methods like blood draws, hearing screenings, and physical exams are more relevant to clinical or biomedical research, focusing on physiological measurements rather than the social and behavioral aspects that interviews effectively explore.

8. Why is the use of prisoners in research a concern under the Belmont principle of Justice?

- A. Prisoners are less educated than the general population and have difficulty understanding research
- B. Prisoners may not be used for research that only benefits the larger society**
- C. Prisoners are not a representative sample of the general population
- D. Prisoners are not free to say no

The Belmont principle of Justice emphasizes fairness in research subjects' selection and the obligation to avoid exploiting vulnerable populations. The concern regarding the use of prisoners in research arises because any research involving them should not solely benefit society at large without giving them the opportunity to experience direct benefits. This principle advocates for equity, ensuring that specific groups, particularly those who may be marginalized or coerced into participating, do not bear the burdens of research without the opportunity for corresponding advantages. In the case of prisoners, any study conducted should take into account the unique position they occupy. Research that only benefits the larger society while not addressing or ensuring benefits for the prisoners themselves raises ethical issues related to exploitation and inequality. By focusing on a fair distribution of the risks and benefits of research, the principle of Justice aims to protect these individuals from being used merely as means to an end without consideration for their wellbeing or contributions.

9. Which three goals are central to data lifecycle management (DLM)?

- A. Technology, sharing, and disposal.
- B. Ownership, propriety, and control.
- C. Confidentiality, availability, and integrity.**
- D. Secrecy, privacy, and disposal.

The choice highlighting confidentiality, availability, and integrity accurately represents the three primary goals central to data lifecycle management (DLM). These principles form the foundation of data governance and security throughout the data lifecycle. Confidentiality ensures that sensitive information is not disclosed to unauthorized individuals or processes, protecting personal and proprietary data. Availability refers to the need to ensure that data is accessible when needed by authorized users, maintaining the operational continuity of systems and processes that depend on that data. Integrity involves maintaining the accuracy and consistency of data over its entire lifecycle, ensuring that it has not been altered in unauthorized ways. Together, these elements foster robust data management practices that protect critical information while ensuring it is accessible and reliable for decision-making processes. This aligns with the overarching aim of DLM, which is to maximize the value of data throughout its lifecycle while minimizing risks.

10. Is research concerning the effectiveness of prenatal care programs on reducing HIV risk in young women permitted under Subpart B?

- A. No - this research is not permitted because it involves fetuses.
- B. Yes - this research is permitted.**
- C. This research is only permitted if it also presents a direct benefit to the mother and the fetus.
- D. No - this research is not permitted with pregnant women.

Research concerning the effectiveness of prenatal care programs on reducing HIV risk in young women is indeed permitted under Subpart B, which applies to research involving pregnant women, fetuses, and neonates. Subpart B outlines the regulations and protections for pregnant women as research subjects while allowing for research that aims to improve health outcomes for both mothers and their infants. The research in question aims to evaluate a prenatal care program, which directly ties into the health of the pregnant individual and may also have implications for the health of the fetus. Since this type of research focuses on potentially beneficial healthcare practices rather than invasive procedures or harmful interventions, it aligns with the ethical guidelines that support the inclusion of pregnant women in research that could lead to valuable findings. This research must still adhere to specific ethical standards and regulations, such as ensuring that risks are minimized and that informed consent is obtained. However, the primary focus on a health intervention that can have positive implications for both the mother and the fetus makes this research wholly permissible under Subpart B. This reinforces the notion that ethical considerations in research involving vulnerable populations, including pregnant women, are designed to enable important health interventions while prioritizing safety and rights.

Next Steps

Congratulations on reaching the final section of this guide. You've taken a meaningful step toward passing your certification exam and advancing your career.

As you continue preparing, remember that consistent practice, review, and self-reflection are key to success. Make time to revisit difficult topics, simulate exam conditions, and track your progress along the way.

If you need help, have suggestions, or want to share feedback, we'd love to hear from you. Reach out to our team at hello@examzify.com.

Or visit your dedicated course page for more study tools and resources:

<https://citibiomedresearch.examzify.com>

We wish you the very best on your exam journey. You've got this!

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