

EDExcel IGCSE: CHANGES IN MEDICINE C1845- C1945 PRACTICE TEST (SAMPLE) STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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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. Why is the discovery of penicillin considered a major advancement in medicine?**
 - A. It allowed for the development of vaccinations
 - B. It significantly changed the outcomes of World War Two
 - C. It eliminated the need for surgery
 - D. It made hospitals unnecessary
- 2. Which of the following treatments irritated patients' eyes and lungs during operations?**
 - A. Chloroform
 - B. Ethanol
 - C. Ether
 - D. Nitrous Oxide
- 3. What significant advancement in medicine was made possible by the microscope?**
 - A. It allowed for the observation of human anatomy
 - B. It enabled the study of microorganisms and diseases
 - C. It facilitated surgical operations
 - D. It helped in blood transfusion processes
- 4. How did World War 1 influence the use of X-rays in medicine?**
 - A. X-rays were used less due to funding issues.
 - B. X-rays became essential for locating bullets in soldiers.
 - C. X-rays were banned for safety reasons.
 - D. The technology was largely ignored during the war.
- 5. What was one significant improvement in blood transfusions during WW1?**
 - A. Discovery of new blood types
 - B. Methods for storing blood were developed
 - C. Use of artificial blood became common
 - D. Implementation of mandatory blood donation

- 6. What historical event prompted significant changes in medical practices and innovations during the 20th century?**
- A. The Great Depression
 - B. World War I and World War II
 - C. The Industrial Revolution
 - D. The Civil Rights Movement
- 7. What was the unusual circumstance that led to Fleming's discovery of penicillin?**
- A. He infected himself with bacteria
 - B. He accidentally left petri dishes uncleaned
 - C. His microscope broke during an experiment
 - D. He was working on vaccines for smallpox
- 8. What was a significant problem faced by patients during the 1800s?**
- A. Lack of surgical expertise
 - B. Pain management difficulties
 - C. Non-existence of hospitals
 - D. Overuse of herbal remedies
- 9. How many plastic surgery operations were performed during WW1?**
- A. 5,000
 - B. 11,000
 - C. 15,000
 - D. 20,000
- 10. What germ theory did Louis Pasteur and Robert Koch contribute to in the late 19th century?**
- A. Germ theory of disease
 - B. Theory of spontaneous generation
 - C. The theory of heredity
 - D. Social Darwinism

Answers

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

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Explanations

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1. Why is the discovery of penicillin considered a major advancement in medicine?

- A. It allowed for the development of vaccinations
- B. It significantly changed the outcomes of World War Two**
- C. It eliminated the need for surgery
- D. It made hospitals unnecessary

The discovery of penicillin is indeed considered a major advancement in medicine primarily because it significantly improved medical treatment for bacterial infections, which had profound implications during events such as World War Two. Before the introduction of antibiotics like penicillin, there were limited effective treatments for infections, leading to high mortality rates from wounds and post-operative complications. With penicillin's ability to effectively treat these infections, the survival rates of injured soldiers greatly improved, and this ultimately changed the course of medical practices and battlefield care. The development of antibiotics led to a revolution in medical treatment. However, it did not eliminate the need for surgery or make hospitals unnecessary; instead, it complemented existing medical practices. Vaccinations, while also a critical component of public health, are a different category of medical intervention focusing on disease prevention rather than treatment of existing infections like penicillin. As such, linking penicillin's discovery solely to the development of vaccinations or claiming it removed the necessity for surgeries or hospitals does not accurately reflect its impact on medicine.

2. Which of the following treatments irritated patients' eyes and lungs during operations?

- A. Chloroform
- B. Ethanol
- C. Ether**
- D. Nitrous Oxide

The correct answer is ether. Ether was one of the first anesthetics used in surgical procedures, and it was administered by inhalation. While it was effective in rendering patients unconscious during operations, one of its significant drawbacks was that it caused irritation to the eyes and lungs. Patients often experienced coughing or irritation due to ether's pungent and volatile nature. Ether also had a tendency to be highly flammable, adding further risks during surgery. Understanding this characteristic of ether is crucial as it highlights the challenges of anesthesia prior to advancements in safer anesthetic agents. In contrast, chloroform, ethanol, and nitrous oxide had different effects and usages during this period in anesthesia. While chloroform is known for its effectiveness, it did not primarily irritate the eyes and lungs to the same extent as ether. Ethanol, used in a different medical context, was not typically used as an anesthetic in this manner, and nitrous oxide, although it can cause respiratory effects and sedation, does not primarily induce irritation of the lungs and eyes like ether does. This distinction is key in understanding the development and eventual changes in anesthetic practices in the medical field.

3. What significant advancement in medicine was made possible by the microscope?

- A. It allowed for the observation of human anatomy
- B. It enabled the study of microorganisms and diseases**
- C. It facilitated surgical operations
- D. It helped in blood transfusion processes

The significant advancement in medicine made possible by the microscope is the ability to study microorganisms and diseases. The invention and development of the microscope in the 17th century allowed scientists like Antonie van Leeuwenhoek to observe tiny organisms that were previously invisible to the naked eye. This pivotal advancement led to the discovery of bacteria and viruses, fundamentally changing the understanding of infectious diseases. Such insights enabled medical professionals to connect specific microorganisms to certain diseases, laying the groundwork for bacteriology and later developments in germ theory. This focus on microorganisms also led to breakthroughs in sanitation, vaccines, and antibiotics, ultimately improving public health and advancing medical science significantly. In contrast, while the microscope did contribute to the observation of human anatomy, this primarily relates to larger structures and was not its most revolutionary impact. Surgical operations were fundamentally enhanced by many other innovations, including anesthesia and antiseptics. Blood transfusion processes improved through the understanding of blood types, which occurred after initial advancements related to microorganisms. Hence, the study of microorganisms and their role in diseases is indeed the most significant advancement associated with the microscope.

4. How did World War 1 influence the use of X-rays in medicine?

- A. X-rays were used less due to funding issues.
- B. X-rays became essential for locating bullets in soldiers.**
- C. X-rays were banned for safety reasons.
- D. The technology was largely ignored during the war.

World War 1 had a significant impact on the use of X-rays in medicine, particularly in the context of battlefield injuries. As soldiers sustained injuries from bullets and shrapnel, the ability to visualize these wounds internally became crucial for effective treatment. X-rays allowed medical personnel to locate bullets and fragments within the body, which was essential for both surgical intervention and determining the extent of injuries. The urgency of providing medical care to injured soldiers, coupled with the advancements in X-ray technology since its discovery, meant that X-rays were increasingly utilized in hospitals and medical facilities to improve diagnostics and treatment outcomes. This marked a critical period where X-rays transformed from a relatively new technology to an indispensable tool in wartime medicine. In contrast, the other options do not accurately reflect the historical usage of X-rays during the war. Funding issues did not lead to a decrease in usage; rather, the demand increased due to the injuries faced. Additionally, X-rays were not banned for safety reasons during this time, and the technology was far from being ignored; it was actively employed to save lives and improve surgical techniques.

5. What was one significant improvement in blood transfusions during WW1?

- A. Discovery of new blood types
- B. Methods for storing blood were developed**
- C. Use of artificial blood became common
- D. Implementation of mandatory blood donation

The development of methods for storing blood during World War I marked a significant improvement in blood transfusions. Before this period, blood transfusions were often performed directly from donor to recipient, which was limited by the need for immediate use. The war highlighted the necessity for large quantities of blood to treat the numerous injuries sustained on the battlefield. During WW1, scientists and medical professionals implemented the use of citrate glucose as an anticoagulant, which allowed blood to be stored for longer periods. This advancement made it possible to collect blood from donors and keep it in storage for use when needed, rather than requiring a donor to be present at the time of the transfusion. This innovation greatly expanded the availability and practicality of blood transfusions, ultimately saving numerous lives. In contrast, the discovery of new blood types primarily occurred before WW1, with Karl Landsteiner's discovery of the ABO blood group system in 1901 being crucial. The use of artificial blood was not yet advanced or common during this time, and while blood donation practices were encouraged, the idea of mandatory blood donation did not take form until later. Thus, the advancement in blood storage methods was a pivotal development that transformed medical practices concerning blood transfusions during and after the war.

6. What historical event prompted significant changes in medical practices and innovations during the 20th century?

- A. The Great Depression
- B. World War I and World War II**
- C. The Industrial Revolution
- D. The Civil Rights Movement

The significant changes in medical practices and innovations during the 20th century can largely be attributed to the impact of World War I and World War II. These two global conflicts acted as catalysts for advancements in medicine for several reasons. Firstly, the large scale of the wars led to unprecedented numbers of injuries, necessitating rapid advancements in surgical techniques and the development of new medical treatments to care for wounded soldiers. For example, the need for effective triage, blood transfusions, and the use of antibiotics, particularly penicillin after its discovery, transformed battlefield medicine and had lasting implications for civilian healthcare. Secondly, the wars spurred innovations in medical technology, including advancements in anesthesia, wound care, and rehabilitation. The pressures of wartime logistics and the urgent need for solutions accelerated research and development efforts that might have taken much longer in peacetime. Additionally, the experience and knowledge gained during these wars resulted in a more organized and systematically structured approach to public health and medicine following the conflicts, as nations recognized the importance of maintaining a healthy population for future stability. In contrast, while the Great Depression, the Industrial Revolution, and the Civil Rights Movement each had profound effects on society in various ways, they did not directly drive medical innovations to the extent that the world

7. What was the unusual circumstance that led to Fleming's discovery of penicillin?

- A. He infected himself with bacteria
- B. He accidentally left petri dishes uncleaned**
- C. His microscope broke during an experiment
- D. He was working on vaccines for smallpox

The discovery of penicillin by Alexander Fleming is famously attributed to an accidental circumstance in which he left petri dishes containing Staphylococcus bacteria uncleaned. When he returned to the lab after a period away, he observed that one of the dishes had become contaminated with mold. This mold was identified as Penicillium notatum. Upon closer investigation, Fleming found that the area surrounding the mold was clear of bacteria, indicating that the mold had produced a substance that inhibited bacterial growth. This fortunate accident led to the development of penicillin, the first true antibiotic, which would revolutionize medicine and has saved countless lives since its introduction. The context surrounding this discovery highlights the significance of chance events in scientific breakthroughs, showing how meticulous laboratory practices can sometimes lead to unexpected findings with profound implications. Other scenarios, such as infecting himself, having a broken microscope, or working on smallpox vaccines, do not align with the details of Fleming's actual discovery and would not have led to the identification of penicillin in the way that the uncleaned petri dishes did.

8. What was a significant problem faced by patients during the 1800s?

- A. Lack of surgical expertise
- B. Pain management difficulties**
- C. Non-existence of hospitals
- D. Overuse of herbal remedies

During the 1800s, one of the most significant problems faced by patients was the lack of effective pain management. This era saw the use of surgery increasing, but surgeons had limited means to alleviate the pain associated with surgical procedures. Anesthesia was not widely used until the mid-19th century; ether and chloroform were discovered as anesthetic agents in the 1840s, but their adoption took time. Before this, surgeries were often performed without any pain relief, leading to traumatic experiences for patients and a high level of suffering. The inability to manage pain effectively contributed to the fear of surgical procedures and affected the overall perception and willingness of patients to seek surgical treatment. The other options, while having relevance in certain contexts, do not hold the same weight as the pain management difficulties experienced by patients during this period. For instance, although surgical expertise was certainly limited compared to modern standards, skilled surgeons did exist, and advancements in techniques were being made. The existence of hospitals was becoming more common, although accessibility and the conditions within them varied significantly. Lastly, while herbal remedies were still in use, the discussion of overuse does not directly correlate with the pronounced struggle of patients to find relief from pain during surgical interventions.

9. How many plastic surgery operations were performed during WW1?

- A. 5,000
- B. 11,000**
- C. 15,000
- D. 20,000

During World War I, approximately 11,000 plastic surgery operations were performed. This era marked a significant development in the field of reconstructive surgery due to the devastating injuries sustained by soldiers, particularly those involving facial disfigurements. Surgeons like Sir Harold Gillies pioneered techniques in this area, leading to advancements in surgical methods and understanding of skin grafting. The experiences and innovations from this period laid the groundwork for modern plastic surgery, highlighting the importance of addressing not only physical injuries but also the psychological aspects of disfigurement. This substantial number of operations reflects the urgent need for medical interventions during and after the war.

10. What germ theory did Louis Pasteur and Robert Koch contribute to in the late 19th century?

- A. Germ theory of disease**
- B. Theory of spontaneous generation
- C. The theory of heredity
- D. Social Darwinism

Louis Pasteur and Robert Koch's contributions are foundational to the germ theory of disease, which posits that many diseases are caused by microorganisms. Pasteur's experiments disproved the theory of spontaneous generation by demonstrating that microorganisms come from other microorganisms, not from non-living matter. His work focused on how bacteria could spoil food and cause disease, leading to the development of pasteurization. Robert Koch furthered the germ theory by identifying specific pathogens for specific diseases through his development of Koch's postulates. These postulates provided a systematic method for linking specific germs to particular diseases, such as his work with anthrax and tuberculosis. This scientific approach revolutionized medicine, leading to better understanding and treatment of infectious diseases. The other theories mentioned do not directly relate to Pasteur and Koch's findings. The theory of spontaneous generation was disproven by Pasteur, while heredity and Social Darwinism pertain to genetics and societal structures, respectively, and do not relate to the germ theory. Thus, the focus on the germ theory of disease accurately captures the significance of the contributions made by Pasteur and Koch in the realm of medicine.

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:

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

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