INTRODUCTION TO EPIDEMIOLOGY AND CONCEPTS OF INFECTIOUS DISEASE PRACTICE TEST (SAMPLE)

STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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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.

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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!

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Questions

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1. An increase, often sudden, in disease cases above baseline level is called

A. Epidemic

B. Outbreak

C. Cluster

D. Sporadic

2. Which term best describes strong immune activation with protective memory, often durable immunity?

A. High immunogenicity

B. Low immunogenicity

C. Non-immunogenic

D. Immunosuppression

3. What does the basic reproduction number R0 imply in a completely susceptible population?

A. The average number of secondary cases produced by a typical infectious case in a fully susceptible population; if R0 > 1 the outbreak can grow, if R0 < 1 it will likely die out

B. The proportion of the population that is immune

C. The time until the outbreak peaks

D. The number of new cases per person per year

4. What minimum information is needed for a basic outbreak report?

A. Time of onset, place, number of cases, case definition, link to exposure, line listing, person characteristics.

B. Time of onset and place only.

C. Only number of cases and case definition.

D. Time to outbreak end and funding details.

5. What is used to separate ill persons who have a communicable disease from those who are healthy?

A. Isolation

B. Quarantine

C. Screening

D. Monitoring

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6. Which department focused on Epidemiology & Preventive Medicine was established by Dr Schwabe at UC Davis?

A. Epidemiology & Preventive Medicine

B. Microbiology and Immunology

C. Public Health Policy

D. Biostatistics

7. An epidemiologist's job is to detect ____ in health outcomes.

A. Patterns

B. Causes

C. Cures

D. Treatments

8. Which study design is most appropriate to estimate relative risk?

A. Cohort study

B. Case-control study

C. Cross-sectional study

D. Ecological study

9. Nosocomial infection is?

A. Infections acquired in the community

B. Vector-borne infections

C. Infections acquired in hospital

D. Occupational health hazards

10. Which metric reflects the risk of developing disease over a defined time period?

A. Incidence

B. Prevalence

C. Attack rate

D. Case fatality rate

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Answers

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

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Explanations

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1. An increase, often sudden, in disease cases above baseline level is called

A. Epidemic

B. Outbreak

C. Cluster

D. Sporadic

The main idea here is recognizing how we describe unusual increases in disease frequency. An epidemic is an increase in the number of disease cases above the expected baseline in a population, and it is often sudden and observed over a defined area and time. This makes it the best fit for the description, since it captures a broader rise in cases rather than just a few scattered ones. An outbreak is a more localized form of this phenomenon, typically confined to a smaller setting like a school or a neighborhood. A cluster refers to a group of cases in a specific area or time frame that appears to be more than expected, but isn't necessarily wide-ranging. Sporadic describes cases that occur irregularly with no clear pattern.

2. Which term best describes strong immune activation with protective memory, often durable immunity?

A. High immunogenicity

B. Low immunogenicity

C. Non-immunogenic

D. Immunosuppression

Strong immune activation that leads to protective memory and durable immunity is described by high immunogenicity. An antigen with high immunogenicity effectively stimulates the immune system to activate B and T cells and to form memory cells and long-lived plasma cells, so re-exposure triggers a rapid, protective response. This is exactly what durable, protective immunity relies on. In vaccines, maximizing immunogenicity helps ensure lasting protection. Immunogenicity is influenced by the antigen's properties, the use of adjuvants, the dose and route of delivery, and host factors. By contrast, low immunogenicity means a weak response with poor memory, non-immunogenic means no meaningful immune activation, and immunosuppression refers to a dampened immune system regardless of exposure.

3. What does the basic reproduction number R0 imply in a completely susceptible population?

A. The average number of secondary cases produced by a typical infectious case in a fully susceptible population; if R0 > 1 the outbreak can grow, if R0 < 1 it will likely die out

B. The proportion of the population that is immune

C. The time until the outbreak peaks

D. The number of new cases per person per year

R0 is the average number of secondary infections produced by one infectious person when the population is completely susceptible. This means there are no immune individuals to block transmission, so the pathogen's potential to spread is at its maximum. When this number is greater than 1, an infected person, on average, creates more than one new infection, allowing the outbreak to grow. If it's less than 1, each infection leads to fewer than one new infection on average, so transmission cannot be sustained and the outbreak tends to die out. R0 is not the proportion immune, nor the time to peak, nor a yearly incidence rate; those describe immunity levels, epidemic timing, or incidence, not the inherent ability of the pathogen to spread in a fully susceptible population.

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4. What minimum information is needed for a basic outbreak report?

A. Time of onset, place, number of cases, case definition, link to exposure, line listing, person characteristics.

B. Time of onset and place only.

C. Only number of cases and case definition.

D. Time to outbreak end and funding details.

The essential idea is to identify what information is truly necessary to register a basic outbreak report: you need to know who counts as a case and how many there are. Establishing a clear case definition is what makes the count meaningful, because it ensures consistency in who is included as a case. Once you have a defined group of cases, you can report the magnitude of the outbreak—the total number of people meeting that definition. Other details, like the time of onset, where it occurred, connections to exposure, and even a full line listing, are extremely helpful for investigating and controlling the outbreak, but they aren't required to produce a basic report. The time to outbreak end and funding details aren't about identifying or quantifying the event, so they aren't part of the minimum information needed. So the minimum information needed to report a basic outbreak is the count of cases and the criteria used to define who is a case.

5. What is used to separate ill persons who have a communicable disease from those who are healthy?

A. Isolation

B. Quarantine

C. Screening

D. Monitoring

Separating ill persons who have a communicable disease from those who are healthy is called isolation. The aim is to prevent transmission by removing people who can spread infection from contact with healthy individuals, typically until they are no longer infectious (for example, until symptoms resolve or contagious tests are negative). Quarantine, by contrast, applies to people who have been exposed but are not yet ill, restricting their movement during the incubation period to see if disease develops. Screening is about testing a group to identify cases, including many who may not have symptoms, rather than separating infected individuals from others. Monitoring refers to ongoing observation of people or populations to detect changes or progression. Isolation best fits the need to physically separate those who are contagious from the healthy.

6. Which department focused on Epidemiology & Preventive Medicine was established by Dr Schwabe at UC Davis?

A. Epidemiology & Preventive Medicine

B. Microbiology and Immunology

C. Public Health Policy

D. Biostatistics

The question tests recognition of a department whose title directly matches the focus described—epidemiology and preventive medicine. The department established by Dr. Schwabe at UC Davis is named Epidemiology & Preventive Medicine, so its title itself signals the exact areas of study: epidemiology, which looks at how diseases occur and spread in populations, and preventive medicine, which emphasizes preventing illness and promoting health. This direct naming aligns with the question's emphasis on that combined focus and confirms the department's association with Dr. Schwabe at UC Davis. The other departments point to microbiology and immunology, public health policy, or biostatistics—distinct fields that do not reflect the same combined focus or historical founding by Dr. Schwabe.

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7. An epidemiologist's job is to detect ____ in health outcomes.

A. Patterns

B. Causes

C. Cures

D. Treatments

Finding patterns in how health outcomes occur across populations over time and space is the central idea. Epidemiologists look for patterns—how disease frequency varies by person, place, and time. These patterns show who is affected, where clusters appear, and when trends rise or fall. Recognizing such patterns is crucial because it signals where to focus surveillance and where to look for potential determinants, guiding public health actions to prevent illness. Why this is the best fit: pattern detection lays the groundwork for deeper questions about causes and prevention. It describes the distribution and trends that alert us to problems and help generate hypotheses. In contrast, identifying causes is about etiologies inferred from further study, while cures or treatments are clinical solutions for individuals, not the descriptive work of detecting how health outcomes are spread in a population. For example, noticing a winter spike in flu-like cases in specific neighborhoods points to a pattern that then prompts investigation into factors like vaccination coverage, viral spread, or environmental conditions.

8. Which study design is most appropriate to estimate relative risk?

A. Cohort study

B. Case-control study

C. Cross-sectional study

D. Ecological study

Estimating risk directly requires observing how often an outcome occurs in people exposed to a factor versus those not exposed over time. A cohort study does just that: it follows exposed and unexposed groups prospectively, records new cases, and allows calculation of incidence in each group. From those incidences you can compute the risk ratio (relative risk) = incidence in exposed divided by incidence in unexposed. Other designs don't provide direct incidence data. Case-control studies start with cases and controls and look back for exposure, yielding an odds ratio rather than a risk ratio, and they don't give incidence in the groups. Cross-sectional studies capture exposure and outcome at a single point in time, so they measure prevalence, not incidence, making risk ratios inappropriate. Ecological studies use aggregate data and link population-level measures, which cannot estimate individual-level relative risk and are prone to ecological bias. So the cohort design is best suited for estimating relative risk because it directly measures incidence in defined exposure groups over time.

9. Nosocomial infection is?

A. Infections acquired in the community

B. Vector-borne infections

C. Infections acquired in hospital

D. Occupational health hazards

Nosocomial infection is an infection that develops during a hospital stay or after receiving care in a health-care setting. It is acquired in the hospital environment, not in the community, and is typically recognized when symptoms begin 48 hours or more after admission (or within a defined window after a procedure). This category includes urinary tract infections from catheters, surgical site infections, ventilator-associated pneumonia, and infections like Clostridioides difficile, all arising from exposure to pathogens in the hospital or from invasive devices and procedures. In contrast, infections acquired outside the health care setting occur in the community; vector-borne infections are transmitted by carriers such as mosquitoes or ticks; and occupational health hazards refer to risks to workers, not infections diagnosed in patients in care.

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10. Which metric reflects the risk of developing disease over a defined time period?

A. Incidence

B. Prevalence

C. Attack rate

D. Case fatality rate

Incidence reflects the risk of developing disease over a defined time period. It counts new cases that arise in a population at risk during a specific interval and expresses them as a proportion of the at-risk population, which is exactly what we mean by the probability that someone will become a case in that time frame. For example, if 1,000 people disease-free at the start are followed for one year and 30 develop the disease, the cumulative incidence is 30/1000 = 3% for that year. Prevalence, in contrast, measures how widespread the disease is at a given moment or over a period—the total number of existing cases, not the risk of new disease. The attack rate is similar to cumulative incidence but is typically used in outbreak investigations for a defined group over a short period, whereas the broader question targets the general concept of risk over time. Case fatality rate looks at the proportion of cases that die, reflecting severity, not the chance of developing the disease.

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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://introtoepidemiology.examzify.com

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

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