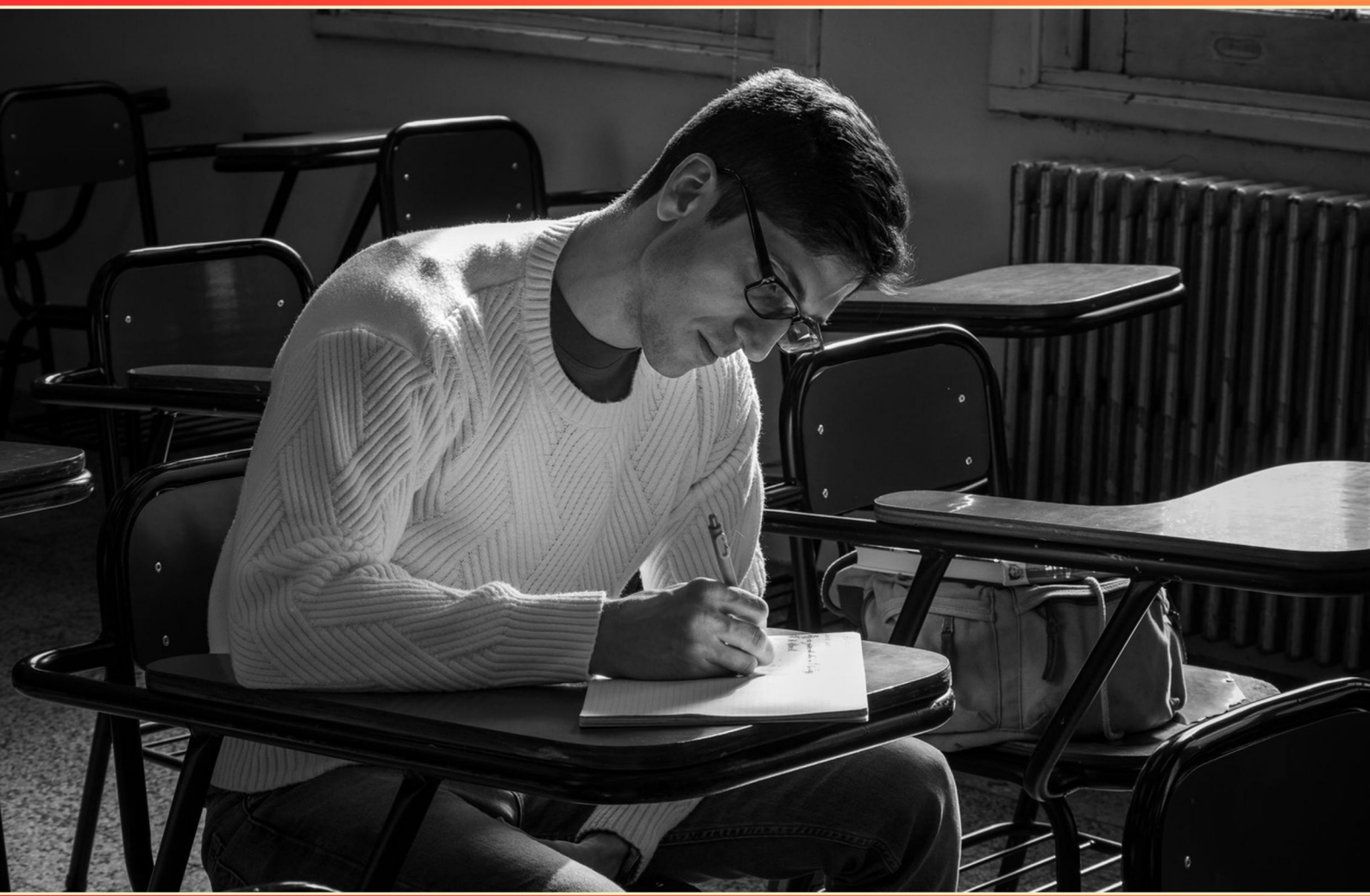
STEP 1 FIRST AID RAPID PRACTICE TEST (SAMPLE)

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. Reaction formation?

A. Projection

B. Reaction formation

C. Denial

D. Sublimation

2. In Bruton's agammaglobulinemia, what happens to germinal centers?

A. Germinal centers are enlarged

B. Germinal centers are normal

C. Germinal centers are decreased

D. Germinal centers are absent

3. 6-mercaptopurine is used for ALL and is inactivated by xanthine oxidase; allopurinol increases its toxicity. Which of the following is true?

A. Used for ALL; inactivated by xanthine oxidase; allopurinol increases toxicity

B. Used for CML; activated by xanthine oxidase; allopurinol increases toxicity

C. Not used in leukemia; hepatic metabolism only

D. Inhibits dihydrofolate reductase; same as methotrexate

4. Ethylene glycol and methanol intoxication are treated with which antidote?

A. Ethanol

B. Fomepizole

C. Methanol

D. Disulfiram

5. Sphincter of Oddi malfunction is precipitated by which of the following?

A. NSAIDs cause relaxation

B. Cholecystokinin deficiency causes relaxation

C. Opioid analgesics cause spasm and increased bile duct pressure

D. Acidic reflux reduces biliary pressure

6. Which antibiotic is used for prophylaxis of urinary tract infections?

A. Amoxicillin

B. Ciprofloxacin

C. Nitrofurantoin

D. TMP-SMX

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7. Patau syndrome is a chromosomal disorder due to trisomy 13. Which of the following statements best describes it?

A. Turner syndrome

B. Klinefelter syndrome

C. Down syndrome

D. Patau syndrome

8. In liver biopsy from alpha-1 antitrypsin deficiency, which histologic finding is observed?

A. Ground-glass hepatocytes

B. Mallory bodies

C. PAS-positive diastase-resistant globules

D. Copper deposition

9. Two weeks after a group A Streptococcus infection, which serologic marker is typically elevated?

A. Anti-DNase B titers

B. Anti-streptolysin O titers

C. C3 low

D. ESR elevated

10. Which statement about monozygotic twinning is correct?

A. They have separate placentas and chorions

B. They are always diamniotic

C. They are dizygotic

D. They share a placenta and usually have two amniotic sacs (monochorionic/diamniotic)

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Answers

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

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Explanations

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1. Reaction formation?

A. Projection

B. Reaction formation

C. Denial

D. Sublimation

Reaction formation is a defense mechanism where unacceptable impulses are converted into their opposite in thoughts, feelings, or behavior to ease anxiety. So, the outward attitude or action you see is a reversal of the inner impulse. For example, someone who secretly feels anger toward a coworker may behave with exaggerated kindness and politeness toward that person. This keeps the uncomfortable feeling out of conscious awareness by presenting the opposite stance. Projection would involve attributing one's own unacceptable thoughts to someone else, not acting opposite to one's true feeling. Denial means refusing to accept reality. Sublimation channels the impulse into a socially acceptable outlet rather than displaying the opposite emotion or behavior. Because the scenario involves showing the opposite attitude to cover up an inner impulse, reaction formation is the best fit.

2. In Bruton's agammaglobulinemia, what happens to germinal centers?

A. Germinal centers are enlarged

B. Germinal centers are normal

C. Germinal centers are decreased

D. Germinal centers are absent

Germinal centers form only when mature B cells are present in secondary lymphoid tissues and receive T cell help after antigen exposure. In Bruton's agammaglobulinemia, a mutation in BTK prevents B cell maturation, so essentially no mature B cells populate lymphoid organs. Without B cells to initiate the germinal center reaction, germinal centers do not form, leaving them absent. This mirrors the hallmark of the condition: very low immunoglobulins due to a near absence of mature B cells.

3. 6-mercaptopurine is used for ALL and is inactivated by xanthine oxidase; allopurinol increases its toxicity. Which of the following is true?

A. Used for ALL; inactivated by xanthine oxidase; allopurinol increases toxicity

B. Used for CML; activated by xanthine oxidase; allopurinol increases toxicity

C. Not used in leukemia; hepatic metabolism only

D. Inhibits dihydrofolate reductase; same as methotrexate

6-Mercaptopurine is a purine analog used primarily in acute lymphoblastic leukemia. It must be activated inside cells by HGPRT to form active metabolites that disrupt purine synthesis and DNA/RNA production, helping to curb leukemic cell growth. Its activity is limited by inactivation, especially by xanthine oxidase, which converts it to inactive forms. Because allopurinol inhibits xanthine oxidase, taking it with 6-mercaptopurine raises 6-MP levels and greatly increases the risk of bone marrow suppression and other toxicities. That is why the statement saying it is used for ALL, is inactivated by xanthine oxidase, and that allopurinol increases its toxicity is the true one. It is not used for chronic myelogenous leukemia, it is not activated by xanthine oxidase, and it does not inhibit dihydrofolate reductase like methotrexate. Additionally, genetic variations in TPMT can influence toxicity risk, which is why dose adjustments are considered in practice.

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4. Ethylene glycol and methanol intoxication are treated with which antidote?

A. Ethanol

B. Fomepizole

C. Methanol

D. Disulfiram

Blocking alcohol dehydrogenase is the key idea here. Ingested methanol and ethylene glycol cause harm mainly because they're metabolized by alcohol dehydrogenase into toxic compounds (formaldehyde, formic acid, glycolic acid, etc.). Fomepizole binds to that enzyme with high affinity and prevents the conversion, so the body clears the parent alcohols without generating the toxic metabolites. This makes fomepizole the antidote of choice. Ethanol can also inhibit the same enzyme because it competes for it, and was used historically, but fomepizole is preferred because it has fewer side effects and more predictable action. Disulfiram targets aldehyde dehydrogenase and isn't used for these poisonings, and methanol is the toxin, not an antidote. In severe cases, supportive care and dialysis may be needed to remove the toxins and acidosis.

5. Sphincter of Oddi malfunction is precipitated by which of the following?

A. NSAIDs cause relaxation

B. Cholecystokinin deficiency causes relaxation

C. Opioid analgesics cause spasm and increased bile duct pressure

D. Acidic reflux reduces biliary pressure

Opioid analgesics provoke a spasm of the sphincter of Oddi, tightening the muscle and raising the pressure in the common bile duct and pancreatic duct. This increased ductal pressure can precipitate sphincter of Oddi dysfunction, presenting as biliary or pancreatic-type pain. The key idea is that opioids cause constriction of this sphincter, contrasting with substances that promote relaxation to allow bile flow. Cholecystokinin normally helps relax the sphincter to let bile flow after a meal; a deficiency would not produce relaxation but would hinder it, so it isn't a precipitating factor. NSAIDs don't reliably trigger the sphincter to constrict, and acidic reflux doesn't directly elevate biliary pressure in a way that would cause SOD. Hence, the mechanism most consistent with precipitating sphincter of Oddi dysfunction is opioid-induced sphincter spasm with increased ductal pressures.

6. Which antibiotic is used for prophylaxis of urinary tract infections?

A. Amoxicillin

B. Ciprofloxacin

C. Nitrofurantoin

D. TMP-SMX

Prophylaxis of urinary tract infections relies on keeping the bladder environment inhospitable to bacteria, with a drug that acts where the infection usually starts and does so with minimal systemic exposure. Nitrofurantoin fits this role because it is rapidly absorbed and then excreted into urine, reaching high concentrations in the bladder. This makes it effective at suppressing the bacteria that commonly cause lower UTIs, such as E. coli, while limiting widespread systemic effects. Because its action is concentrated in the urinary tract, it's especially useful for preventing recurrent cystitis with long-term, low-dose regimens. Nitrofurantoin is not appropriate for treating kidney infections or systemic illness since it does not reach therapeutic levels in renal tissue or blood. It's also important to avoid its use in significant renal impairment, where urinary concentrations would be insufficient and toxicity risk rises. Other antibiotics may be used for treatment or prophylaxis in different contexts, but their systemic exposure and broader spectrum make them less ideal for focused urinary prophylaxis.

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7. Patau syndrome is a chromosomal disorder due to trisomy 13. Which of the following statements best describes it?

A. Turner syndrome

B. Klinefelter syndrome

C. Down syndrome

D. Patau syndrome

Patau syndrome is defined by trisomy 13—the presence of an extra chromosome 13. This chromosomal abnormality leads to multiple severe congenital anomalies, especially midline defects such as holoprosencephaly, cleft lip/palate, microphthalmia, polydactyly, and often major heart and kidney problems, with poor survival typically beyond the first year. That makes this the best description because it directly reflects the chromosomal basis and the characteristic phenotype of the syndrome. The other listed conditions are different chromosomal disorders—Turner is monosomy X in females, Klinefelter is an extra sex chromosome (XXY) in males, and Down syndrome is trisomy 21—so they don't describe Patau syndrome.

8. In liver biopsy from alpha-1 antitrypsin deficiency, which histologic finding is observed?

A. Ground-glass hepatocytes

B. Mallory bodies

C. PAS-positive diastase-resistant globules

D. Copper deposition

In alpha-1 antitrypsin deficiency, liver cells accumulate misfolded alpha-1 antitrypsin protein in the endoplasmic reticulum, causing distinctive inclusions. These appear as periodic acid–Schiff–positive, diastase-resistant globules inside hepatocytes. The PAS stain highlights glycoproteins, and because these inclusions are not glycogen (they resist diastase digestion), they stay positive after diastase treatment. This combination—PAS-positive and diastase-resistant globules in hepatocytes—is the hallmark histologic finding. For context, ground-glass hepatocytes are typical of hepatitis B due to HBsAg accumulation, Mallory bodies are seen in alcoholic liver disease from cytokeratin aggregates, and copper deposition points to Wilson disease.

9. Two weeks after a group A Streptococcus infection, which serologic marker is typically elevated?

A. Anti-DNase B titers

B. Anti-streptolysin O titers

C. C3 low

D. ESR elevated

After a group A Streptococcus infection the immune system makes antibodies to several streptococcal components, and the timing of these antibody responses differs. Antibodies to streptolysin O rise early, but antibodies to DNase B tend to become detectable slightly later and stay elevated longer. By about two weeks after infection, anti-DNase B titers are commonly elevated and remain detectable for weeks to months, making them a reliable sign of a recent GAS infection in this convalescent window. That's why anti-DNase B titers are the best choice here. In contrast, a low C3 level points more to immune complex–mediated processes like post-streptococcal glomerulonephritis, and ESR is a nonspecific marker of inflammation rather than a GAS-specific serologic indicator.

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10. Which statement about monozygotic twinning is correct?

A. They have separate placentas and chorions

B. They are always diamniotic

C. They are dizygotic

D. They share a placenta and usually have two amniotic sacs (monochorionic/diamniotic)

Monozygotic twinning comes from a single fertilized egg, and the timing of the embryo's splitting after fertilization determines how the placenta and amniotic sacs form. The typical pattern is monochorionic diamniotic: the twins share one placenta but have two separate amniotic sacs. This explains why they share a placenta (one chorion) but usually exist in two amniotic sacs (two amnions). If splitting occurs very early, you can have two placentas with two chorions and two amniotic sacs; if split happens later, you can get monochorionic monoamniotic (shared placenta and shared sac), or even conjoined twins if the division is very late.

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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://step1firstaidrapid.examzify.com

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

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