

# 1DPH LABORATORY APPARATUS PRACTICE TEST (SAMPLE)

## STUDY GUIDE



## SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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# Table of Contents

|                             |    |
|-----------------------------|----|
| Copyright .....             | 1  |
| Table of Contents .....     | 2  |
| Introduction .....          | 3  |
| How to Use This Guide ..... | 4  |
| Questions .....             | 5  |
| Answers .....               | 8  |
| Explanations .....          | 10 |
| Next Steps .....            | 15 |

SAMPLE

# 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. Which item is used to cover a beaker or to hold a small amount of solid or liquid while they are being weighed?
  - A. Petri Dish
  - B. Desiccator
  - C. Watch Glass
  - D. Separatory Funnel
2. In an acid-base titration with phenolphthalein, what is the endpoint and how is it recognized?
  - A. Endpoint is the color change from colorless to faint pink; the stoichiometric point is near neutral to slightly basic depending on the acid/base.
  - B. Endpoint is when the solution turns blue.
  - C. Endpoint is when the solution changes to orange.
  - D. Endpoint is when the color persists for 2 minutes.
3. How is percent yield calculated in a synthetic reaction?
  - A. Actual yield divided by theoretical yield  $\times 100$ .
  - B. Theoretical yield divided by actual yield  $\times 100$ .
  - C.  $(\text{Actual yield} - \text{theoretical yield}) / \text{theoretical yield} \times 100$ .
  - D. Actual yield  $\times$  theoretical yield  $\div 100$
4. Which statement about waste labeling is correct?
  - A. Label containers with their contents, hazard class, and date to ensure proper handling and disposal.
  - B. Labeling is optional if you know the contents.
  - C. Labeling should occur after disposal to save time.
  - D. Only label when the waste is being transported.
5. Which device is a metal clamp used on a flexible tube to regulate the flow of a fluid through the tube?
  - A. Wing Top
  - B. Desiccator
  - C. Petri Dish
  - D. Pinchcock

- 6. What item is used as passage lines for fluids and gases?**
- A. Watch Glass
  - B. Rubber Tubing
  - C. Desiccator
  - D. Spot Plate
- 7. Which buret is used for titrating acids because alkalies/bases have the property to attack the glass stopcock?**
- A. Mohr Buret
  - B. Geissler Buret/Acid Buret
  - C. Iodine Flask
  - D. Florence Flask
- 8. What is a burette, and what features ensure accurate titration results?**
- A. A short glass tube with a cork and scale; features include color indicators.
  - B. A digital device that automatically stops at endpoint.
  - C. A detector that measures refractive index.
  - D. A long graduated glass tube with a stopcock that allows precise, controlled addition of liquid; clear, evenly spaced markings, and good valve control.
- 9. Which instrument is a platform and beam-based balance used to measure mass?**
- A. Weighing Bottle
  - B. Analytical Balance
  - C. Triple Beam Balance
  - D. pH meter
- 10. Which container is used to hold liquids and for mixing, stirring, and heating?**
- A. Beaker
  - B. Aspirator
  - C. Iodine Flask
  - D. Wash Bottle

## **Answers**

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

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## **Explanations**

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1. Which item is used to cover a beaker or to hold a small amount of solid or liquid while they are being weighed?

- A. Petri Dish
- B. Desiccator
- C. Watch Glass**
- D. Separatory Funnel

A watch glass is the best choice because it's a shallow, curved glass disc that sits on top of a beaker, acting as a lid to keep dust out and prevent splashes or rapid evaporation. It's also ideal for weighing small amounts: you can put the solid or a small amount of liquid on the watch glass, place it on the balance pan, and tare the scale to zero before adding the sample. Its light weight and shape minimize interference with the measurement while providing a stable holder for tiny quantities. The other items have different primary uses: a Petri dish is mainly for culturing or observing samples, a desiccator is used to dry or store samples in a low-humidity environment, and a separatory funnel is used to separate immiscible liquids.

2. In an acid-base titration with phenolphthalein, what is the endpoint and how is it recognized?

- A. Endpoint is the color change from colorless to faint pink; the stoichiometric point is near neutral to slightly basic depending on the acid/base.**
- B. Endpoint is when the solution turns blue.
- C. Endpoint is when the solution changes to orange.
- D. Endpoint is when the color persists for 2 minutes.

Phenolphthalein shows no color in acidic solutions and turns pink in basic solutions, with its color change occurring in the pH range around 8.2–10.0. In an acid-base titration, the endpoint is reached when you first observe a faint pink color that remains, indicating the solution has become basic enough for the indicator to stay pink. The endpoint is tied to the indicator's color transition, which usually lies near the equivalence point, though the exact equivalence point depends on whether the reacting acids and bases are strong or weak. Because the indicator changes color in this basic range, the observed endpoint can occur slightly after the true equivalence point for many systems. The other choices don't fit phenolphthalein's behavior: it does not turn blue or orange, and there isn't a fixed 2-minute condition for declaring the endpoint.

3. How is percent yield calculated in a synthetic reaction?

- A. Actual yield divided by theoretical yield  $\times 100$ .**
- B. Theoretical yield divided by actual yield  $\times 100$ .
- C. (Actual yield – theoretical yield) / theoretical yield  $\times 100$ .
- D. Actual yield  $\times$  theoretical yield  $\div 100$

Percent yield tells you how efficient a reaction was by comparing the actual amount of product obtained to the maximum amount that could be produced from the starting materials. The standard way to express this is to take the actual yield and divide it by the theoretical yield, then multiply by 100. The actual yield is what you actually isolate; the theoretical yield comes from stoichiometry using the limiting reagent. For example, if the reaction could theoretically produce 5.0 g of product but you only recover 4.2 g, the percent yield is  $(4.2 \div 5.0) \times 100 = 84\%$ . The other forms don't represent percent yield: inverting the ratio doesn't measure efficiency and can give illogical results; subtracting yields and dividing by the theoretical yield gives percent error, not percent yield; and multiplying the yields then dividing by 100 lacks a meaningful interpretation in this context.

#### 4. Which statement about waste labeling is correct?

- A. Label containers with their contents, hazard class, and date to ensure proper handling and disposal.
- B. Labeling is optional if you know the contents.
- C. Labeling should occur after disposal to save time.
- D. Only label when the waste is being transported.**

*Labeling waste is about ensuring crucial information is available during movement from generation to disposal. The statement that best captures this is that labeling should occur when the waste is being transported, because transport is when the waste changes hands and travels through different environments and responders. Clear labels on containers and accompanying shipping papers tell handlers and emergency personnel what the waste is, what hazards it presents, and how to handle it safely. This reduces the risk of misidentification and ensures proper responses if anything goes wrong in transit. The other ideas emphasize labeling at moments that don't align with the most critical safety need—being able to identify and manage the waste reliably during transport. Optional labeling, labeling only after disposal, or delaying labeling until transport would all create opportunities for confusion, improper handling, or regulatory noncompliance.*

#### 5. Which device is a metal clamp used on a flexible tube to regulate the flow of a fluid through the tube?

- A. Wing Top
- B. Desiccator
- C. Petri Dish
- D. Pinchcock**

*Controlling the flow through flexible tubing is done with a pinchcock, a small metal clamp that presses on the tubing to occlude it. By tightening the clamp, you pinch the tube more and slow or stop the flow; loosening it releases the pressure and allows fluid to pass again. This type of device works by constricting the tube rather than opening a valve inside, giving you fine, manual control over flow rate. The other items serve different purposes: a desiccator dries substances, a Petri dish is used for culturing or observing samples, and a wing-top isn't a device for regulating flow.*

#### 6. What item is used as passage lines for fluids and gases?

- A. Watch Glass
- B. Rubber Tubing**
- C. Desiccator
- D. Spot Plate

*The item used as passage lines for fluids and gases is rubber tubing because it acts as a flexible, secure conduit that can connect pieces of glassware, taps, and adapters to transport liquids or gases from one vessel to another. Its pliability lets it fit snugly on joints and stoppers, and it can be cut to the needed length for a clean, leak-free setup. In contrast, a watch glass is a shallow dish used to hold or evaporate small amounts of liquid; a desiccator is a sealed container with drying agent to keep things dry; a spot plate is a shallow tray with multiple wells used for small-scale testing or reactions. Therefore, rubber tubing uniquely serves as the passage line for both fluids and gases.*

7. Which buret is used for titrating acids because alkalies/bases have the property to attack the glass stopcock?

- A. Mohr Buret
- B. Geissler Buret/Acid Buret**
- C. Iodine Flask
- D. Florence Flask

*In titration, the instrument you choose must withstand the chemical action of the titrant. Bases (alkalies) can attack glass, especially at the stopcock, causing leaks and unreliable readings. To avoid this, you use a buret designed to resist alkaline attack—the Geissler or acid buret. Its design and materials make the stopcock less susceptible to corrosion by bases, so you can deliver the titrant reliably when titrating acids. The other options aren't focused on this corrosion resistance: a Mohr buret is a common type but relies on a glass stopcock that can still be attacked by bases, and the iodine flask or Florence flask are not burets at all.*

8. What is a burette, and what features ensure accurate titration results?

- A. A short glass tube with a cork and scale; features include color indicators.
- B. A digital device that automatically stops at endpoint.
- C. A detector that measures refractive index.
- D. A long graduated glass tube with a stopcock that allows precise, controlled addition of liquid; clear, evenly spaced markings, and good valve control.**

*A burette is a long, graduated glass tube with a stopcock at the bottom that lets you add the titrant in very small, controlled amounts. Its design enables precise delivery: the long, narrow bore with clear, evenly spaced markings lets you read small volume changes accurately, typically to 0.1 mL or finer. The stopcock provides smooth, adjustable flow and can be closed completely to stop dripping, which keeps the titration from overshooting the endpoint. The combination of a transparent tube for visibility, accurate scale, and reliable valve control is what makes titration results repeatable and trustworthy. When using it, read the bottom of the meniscus at eye level and ensure there are no air bubbles and no leaks, so the measured volumes truly reflect what's been added. A short glass tube with a cork and scale lacks the controlled flow and precise graduations, a digital device that stops automatically isn't a burette, and a detector of refractive index measures different properties, not the precise addition of titrant.*

9. Which instrument is a platform and beam-based balance used to measure mass?

- A. Weighing Bottle
- B. Analytical Balance
- C. Triple Beam Balance**
- D. pH meter

*Mass is determined by balancing an unknown object against known masses. A platform and beam-based balance does this by placing the object on a pan and sliding weights along several beams until the arms are level. In the triple beam balance, three graduated beams carry sliding riders that add up to the object's mass. When balanced, the total mass equals the sum shown on the three beams, typically read in grams. This setup is designed specifically for straightforward mass measurements in many labs or classrooms, and it differs from instruments like a pH meter or a weighing bottle, which serve other purposes. An analytical balance is also a precision mass-measuring device, but it uses a different mechanism and readout than a beam-based triple beam balance.*

**10. Which container is used to hold liquids and for mixing, stirring, and heating?**

- A. Beaker**
- B. Aspirator**
- C. Iodine Flask**
- D. Wash Bottle**

*The main idea here is choosing a versatile container that can hold liquids and be used for mixing and heating. A beaker is designed for exactly that purpose: it's a wide-mouthed, cylindrical vessel that can hold liquids, allows easy stirring with a rod, and can be heated on a hot plate or with suitable flame exposure. Its spout aids pouring, and the flat bottom provides stability when placed on a bench or heated. While it isn't the most precise measuring tool, it excels as a general-purpose vessel for combining, heating, and transferring liquids. The other items don't fit all these tasks. An aspirator is a suction device, not a container for liquids. A wash bottle is meant for rinsing and delivering small streams of liquid, not for mixing or heating larger quantities. An iodine flask is typically used for storage with a narrow neck, not for mixing or heating. So the beaker is the best choice for holding liquids and for mixing, stirring, and heating.*

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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](mailto: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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