

IB DESIGN TECHNOLOGY PRACTICE EXAM (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.

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. What is the main focus of ergonomics?

- A. The aesthetics of product design
- B. The process of designing and refining products to be best suited for human use
- C. The cost-effectiveness of manufacturing products
- D. The environmental impact of product disposal

2. What technology involves hardening photosensitive resin using a laser?

- A. Fused deposition modelling (FDM)
- B. Laminated object manufacturing (LOM)
- C. Stereolithography
- D. Solid modelling

3. In the context of data scales, what does an ordinal scale signify?

- A. Data exists on a fixed numerical scale
- B. Data that exists on an arbitrary numerical scale where order matters but not the exact value
- C. Data with true zero points facilitating comparisons between values
- D. Purely qualitative data without any ranking

4. What does the cradle to grave philosophy consider?

- A. The product's manufacturing to its disposal
- B. The recycling process of the product only
- C. The design phase of a product exclusively
- D. The marketing strategies throughout the product's lifecycle

5. What should be done with HIPS during handling?

- A. Use with caution
- B. Always wear protective gear
- C. Store in a cool environment
- D. Dispose immediately after use

- 6. In a flow chart, what does the term "process" most closely relate to?**
- A. A series of simple tasks
 - B. A physical version of the model
 - C. An input or output function
 - D. A specific action within a system
- 7. Which measurement is critical in designing tools and equipment for human use?**
- A. Ergonomic data
 - B. Economic data
 - C. Environmental data
 - D. Experimental data
- 8. What does individual energy generation refer to?**
- A. The collective generation of energy for a community
 - B. The use of devices by individuals to create small amounts of energy
 - C. The large-scale production of energy from renewable sources
 - D. The regulation of energy consumption by households
- 9. What influences market pull in innovation?**
- A. The demand for innovative products by consumers
 - B. The cost of production
 - C. Strict regulatory requirements
 - D. The experience of the company's workforce
- 10. What does recycling involve in terms of material use?**
- A. Using obsolete products to create new items
 - B. Disposing of materials in landfills
 - C. Storing materials for future use
 - D. Transforming materials into waste

Answers

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

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Explanations

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1. What is the main focus of ergonomics?

- A. The aesthetics of product design
- B. The process of designing and refining products to be best suited for human use**
- C. The cost-effectiveness of manufacturing products
- D. The environmental impact of product disposal

The primary focus of ergonomics is on the design and refining of products to ensure they are optimally suited for human use. This field integrates knowledge about human anatomy, physiology, and psychology to enhance usability, comfort, and efficiency. By understanding how people interact with products and environments, ergonomics aims to improve safety, performance, and overall user experience. For example, in designing a workspace, ergonomics would assess factors such as chair height, desk layout, and tool placement to reduce strain and increase productivity. This holistic approach not only enhances the efficiency of interactions between users and products but also plays a significant role in preventing injuries. In contrast, other aspects such as aesthetics, cost-effectiveness, or environmental considerations, while important, do not encapsulate the core intent of ergonomics. The aesthetic aspect focuses primarily on the visual appeal of a product rather than its usability. Cost-effectiveness deals with the financial implications of manufacturing and selling products, whereas environmental impact relates to sustainability and disposal practices. Thus, ergonomics is distinctly centered on improving and optimizing the relationship between people and their tools or environments.

2. What technology involves hardening photosensitive resin using a laser?

- A. Fused deposition modelling (FDM)
- B. Laminated object manufacturing (LOM)
- C. Stereolithography**
- D. Solid modelling

Stereolithography is indeed the correct technology associated with hardening photosensitive resin using a laser. This additive manufacturing process employs ultraviolet (UV) light to selectively cure and solidify layers of liquid resin into a solid structure. The laser scans across the resin surface, tracing the shape of the desired object, and upon exposure, the resin becomes a solid polymer. The unique aspect of stereolithography is its precision and ability to create highly detailed objects with complex geometries that would be difficult to achieve through traditional manufacturing methods. The ability to layer the resin means that parts can be created with intricate internal structures and features that enhance both their functionality and aesthetics. In contrast, other technologies mentioned, such as fused deposition modeling, utilize methods like extruding thermoplastic filament, which does not involve photosensitive resin or lasers. Laminated object manufacturing consists of bonding layers of material together rather than curing a liquid resin. Solid modeling refers to a form of 3D modeling used to create objects in a virtual space but does not describe a physical manufacturing process involving resin and lasers.

3. In the context of data scales, what does an ordinal scale signify?

- A. Data exists on a fixed numerical scale
- B. Data that exists on an arbitrary numerical scale where order matters but not the exact value**
- C. Data with true zero points facilitating comparisons between values
- D. Purely qualitative data without any ranking

An ordinal scale signifies a type of data that is organized in a specific order or rank, where the relative positioning of values is meaningful, but the precise differences between those values are not defined. This means that while you can determine which data points are greater or lesser than others, you cannot quantify the exact difference between them. For instance, in a survey where participants rate satisfaction levels from "very dissatisfied" to "very satisfied," the responses can be ordered, but the difference between "satisfied" and "very satisfied" is not numerically defined. This characteristic is what distinguishes an ordinal scale from other data scales, such as nominal scales, which do not have any order, and interval scales, which have both order and known differences between values. Therefore, the correct option accurately reflects how ordinal scales allow for ranking but do not measure exact differences among ranked items.

4. What does the cradle to grave philosophy consider?

- A. The product's manufacturing to its disposal**
- B. The recycling process of the product only
- C. The design phase of a product exclusively
- D. The marketing strategies throughout the product's lifecycle

The cradle to grave philosophy encompasses the entire lifecycle of a product, from its initial design and manufacturing stages through to its end of life and disposal. This comprehensive perspective allows designers and manufacturers to evaluate the environmental and social impacts of a product at every stage. By considering aspects such as material sourcing, production methods, usage, and eventual disposal or recycling, the cradle to grave approach promotes sustainability and responsible practices throughout the product's existence. The other options are more limited in scope. Focusing solely on the recycling process overlooks the essential phases of production and use that also contribute to a product's overall impact. Similarly, concentrating exclusively on the design phase excludes critical later stages, such as manufacturing and disposal, that are integral to the cradle to grave philosophy. Lastly, marketing strategies, while important for product success, do not address the environmental concerns tied to the product lifecycle in the same holistic manner as the cradle to grave approach does.

5. What should be done with HIPS during handling?

- A. Use with caution**
- B. Always wear protective gear
- C. Store in a cool environment
- D. Dispose immediately after use

When handling HIPS (High-Impact Polystyrene), it is important to exercise caution due to its physical properties and the potential safety risks associated with its processing. Using HIPS with caution entails being aware of its characteristics, such as its ability to snap, which could lead to injuries if proper handling techniques are not employed. Operators should be mindful of sharp edges and avoid putting undue stress on the material, as this can cause it to fracture unexpectedly. While wearing protective gear is generally a good safety practice, it may not be strictly necessary for all tasks involving HIPS, depending on the specific context. Therefore, the emphasis on careful handling is the most relevant approach. Ultimately, exercising caution ensures that users are vigilant about their surroundings and their own actions when working with this type of material, which can mitigate potential hazards and enhance overall safety in the workspace.

6. In a flow chart, what does the term "process" most closely relate to?

- A. A series of simple tasks
- B. A physical version of the model
- C. An input or output function
- D. A specific action within a system**

In the context of a flow chart, the term "process" refers specifically to a distinct action or set of actions that are performed within a system to achieve a certain outcome. This encompasses steps that transform inputs into outputs, making it integral to understanding how a system functions. Each process in a flow chart usually represents a single stage or operation in a sequence, helping to visualize workflows and the interactions between different components. By representing a process clearly, it allows for effective analysis and optimization of the system being depicted. This clarity is essential in fields such as design technology, as it helps to map out complex systems systematically. Other choices may provide relevant concepts, such as tasks or inputs and outputs, but they do not capture the essence of a "process" as a specific action taken within a defined system.

7. Which measurement is critical in designing tools and equipment for human use?

- A. Ergonomic data**
- B. Economic data
- C. Environmental data
- D. Experimental data

In designing tools and equipment for human use, ergonomic data is critical because it focuses on understanding the physical, cognitive, and emotional needs of users. Ergonomics involves studying human anatomy, biomechanics, and psychology to ensure that products fit the user comfortably and efficiently, thereby minimizing discomfort and the risk of injury while maximizing productivity. The incorporation of ergonomic principles into design leads to better user interaction with tools and equipment, as it considers factors such as body size, strength, posture, and the way individuals move and operate within their environments. Effective ergonomic design enhances safety, usability, and satisfaction, which are essential for the acceptance and success of any tool or equipment aimed at human users. Other types of data, while important in their respective contexts, do not directly focus on the interaction between humans and the products they use. Economic data relates to cost-effectiveness and market viability, environmental data pertains to sustainability and ecological impact, and experimental data can provide insights into performance and usability but lacks the specific focus on human factors that ergonomic data provides.

8. What does individual energy generation refer to?

- A. The collective generation of energy for a community
- B. The use of devices by individuals to create small amounts of energy**
- C. The large-scale production of energy from renewable sources
- D. The regulation of energy consumption by households

Individual energy generation refers to the use of devices by individuals to create small amounts of energy, typically at a personal or household level. This concept emphasizes the capabilities of individuals or small entities to harness energy from renewable sources such as solar panels, small wind turbines, or even micro-hydro systems for their own consumption. By generating their own energy, individuals can reduce reliance on grid-supplied power, lower their energy bills, and contribute to sustainability efforts. This approach not only empowers homeowners and individuals but also promotes a distributed energy system, enabling greater resilience and energy independence within a larger energy framework. This concept stands in contrast to the other options, which focus on community-level energy initiatives, large-scale production of energy, and consumer regulation, rather than individual efforts to produce energy at home.

9. What influences market pull in innovation?

- A. The demand for innovative products by consumers**
- B. The cost of production
- C. Strict regulatory requirements
- D. The experience of the company's workforce

Market pull in innovation primarily refers to the demand-driven aspect of product development, where consumer needs and preferences heavily influence the direction of innovation. When consumers express a desire for new or improved products, businesses are motivated to develop innovations that meet those demands. This process ensures that new products are aligned with the actual needs and desires of the market, enhancing the likelihood of successful adoption and sales. In this context, the influence of consumer demand is paramount because it directly shapes the focus and priorities of designers and manufacturers. By identifying trends, preferences, and gaps in the market, companies can drive innovation that resonates with consumers, leading to successful product launches and sustained market interest. The other factors mentioned, while important in different contexts, do not primarily drive market pull. The cost of production may affect pricing strategies and profitability but does not inherently influence consumer demand. Regulatory requirements can impose constraints or stipulations for products but usually arise from external pressures rather than market-driven needs. Lastly, while the experience of a company's workforce contributes to its innovative capabilities, it is not a direct influencer of market demands. Therefore, the correct answer captures the essence of market pull effectively.

10. What does recycling involve in terms of material use?

A. Using obsolete products to create new items

B. Disposing of materials in landfills

C. Storing materials for future use

D. Transforming materials into waste

Recycling involves using obsolete products to create new items, which is accurately reflected in the selected response. This process is critical for minimizing waste and conserving resources, as it allows materials that would otherwise be discarded to be reprocessed and repurposed into new products. For instance, materials like paper, metal, and plastic can be collected, sorted, and then transformed into new goods through various methods such as melting, shredding, or pulping. This not only reduces the amount of waste sent to landfills but also lessens the demand for raw materials, thereby aiding in environmental sustainability. The other options do not accurately describe recycling. Disposing of materials in landfills refers to disposal rather than recycling, which is focused on reusing materials. Storing materials for future use does not involve transformation or reprocessing, which is a key component of recycling. Transforming materials into waste implies a negative outcome that is counter to the purpose of recycling, which is to give materials a second life rather than allowing them to become waste. Thus, the correct choice emphasizes the positive aspect of recycling as a means of reusing obsolete products to create new items.

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://ibdesogntech.examzify.com>

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

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