

WJEC DESIGN TECHNOLOGY PRACTICE EXAM (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. Which study deals with human body dimensions and how they affect design?**
 - A. Anthropometrics
 - B. Ergonomics
 - C. CAM
 - D. CNC

- 2. Which process involves extruding a tube of molten plastic between two halves of a mould and blowing air to form the product?**
 - A. Vacuum Forming
 - B. Injection Moulding
 - C. Extrusion Moulding
 - D. Blow Moulding

- 3. Which device is typically used to cut complex shapes from thin materials at relatively low cost?**
 - A. Laser cutter
 - B. Vinyl cutter
 - C. 3D printer
 - D. 3D CAD software

- 4. How do ergonomic adjustable features improve product accessibility?**
 - A. Increase production cost with no usability benefit.
 - B. Allow users of different sizes or abilities to adjust for comfort, reach, and use.
 - C. Only affect aesthetics, not usability.
 - D. Limit the product to a narrow range of use.

- 5. What best defines Just-in-time (JIT)?**
 - A. A cutting machine for thin materials
 - B. A type of 3D CAD software
 - C. Delivered when needed so no money is wasted on warehouses to store parts
 - D. The process of designing products for mass production

- 6. Which term describes a process that identifies the effect a product has on resources over its entire lifetime?**
- A. Ecodesign
 - B. Life-cycle analysis
 - C. Ripple effect
 - D. Conductivity
- 7. Which term describes the use of computers to control machine tools in manufacturing?**
- A. CNC
 - B. CAD
 - C. CAM
 - D. CIM
- 8. Which term describes a continuous effect from a product?**
- A. Conductivity
 - B. Ripple effect
 - C. Life-cycle analysis
 - D. Ecodesign
- 9. Which two factors are critical when evaluating a design from a user-centered perspective?**
- A. Aesthetics and cost
 - B. Usability and accessibility
 - C. Durability and reliability
 - D. Function and speed
- 10. Which two properties of timber influence its suitability for a chair frame, and why?**
- A. Density and color; affect aesthetics and cost.
 - B. Strength and stiffness; they determine load-bearing capacity and resistance to bending.
 - C. Hardness and elasticity; determine scratch resistance.
 - D. Thermal conductivity and porosity; influence comfort.

Answers

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

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Explanations

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1. Which study deals with human body dimensions and how they affect design?

A. Anthropometrics

B. Ergonomics

C. CAM

D. CNC

Anthropometrics is the study of human body dimensions and proportions and how they vary among people. Designers use this data to size products, interfaces, and spaces so they fit a wide range of users. It covers measurements like height, arm reach, finger span, and leg length, which determine things such as seat height, control placement, and display sizes. By applying anthropometric data, a product becomes more comfortable, accessible, and safe for most users, reducing strain and improving usability. Ergonomics is the broader practice of fitting systems to people and how they interact with tools and environments; it uses anthropometric data as part of its toolkit but isn't the study of body dimensions itself. CAM and CNC, meanwhile, are manufacturing technologies, not studies of human measurements.

2. Which process involves extruding a tube of molten plastic between two halves of a mould and blowing air to form the product?

A. Vacuum Forming

B. Injection Moulding

C. Extrusion Moulding

D. Blow Moulding

Blow moulding forms hollow plastic items by inflating a tube of molten plastic inside a two-part mould. The process begins by extruding a parison, a short tube of molten plastic, between the mould halves. Once in place, air is blown into the parison, pressing it against the interior walls of the mould and giving the part its final shape as it cools. This method is ideal for bottles and similar hollow shapes. It differs from vacuum forming, which uses a sheet of plastic pulled into a mould by vacuum; from injection moulding, which injects molten plastic into a mould cavity; and from extrusion moulding, which isn't about inflating a tube inside a mould to form a hollow object.

3. Which device is typically used to cut complex shapes from thin materials at relatively low cost?

A. Laser cutter

B. Vinyl cutter

C. 3D printer

D. 3D CAD software

The key idea here is choosing a tool that can precisely follow simple vector paths to cut intricate shapes out of thin, flexible materials at a low cost. A vinyl cutter does exactly that: it uses a sharp blade to cut through thin sheets like vinyl, adhesive films, and heat-transfer vinyl along programmed outlines. Because it's designed for these kinds of materials, it can produce complex contours and fine detail without the heft, speed, or safety concerns of heavier machinery, and the overall upfront and operating costs are comparatively low. This makes it ideal for signage, decals, and decorative designs that require delicate, accurate cuts. In contrast, a laser cutter, while capable of complex shapes, is a larger investment, needs proper ventilation, and can be overkill or problematic for thin vinyl due to scorching or fumes. A 3D printer builds up material rather than cuts it, so it isn't suited to cutting shapes from sheets. And 3D CAD software, though essential for designing the cut paths, is software rather than a device used to perform the cut.

4. How do ergonomic adjustable features improve product accessibility?

- A. Increase production cost with no usability benefit.
- B. Allow users of different sizes or abilities to adjust for comfort, reach, and use.**
- C. Only affect aesthetics, not usability.
- D. Limit the product to a narrow range of use.

Adjustable ergonomic features are about tailoring a product to the user's body. By letting people change things like height, reach, angles, or grip position, the item becomes comfortable and usable for individuals with different sizes, proportions, or abilities. This means controls are easier to reach, postures stay neutral, and fatigue or strain is reduced, so anyone can operate the product effectively. For example, a chair with height and backrest adjustments lets a user align the seat and spine to their own body, while adjustable handles or arms ensure a comfortable grip and precise control. Because of this adaptability, accessibility is widened rather than restricted. The other options imply no usability benefit, focus only on appearance, or limit who can use the product, which doesn't reflect the real value of adjustable ergonomics.

5. What best defines Just-in-time (JIT)?

- A. A cutting machine for thin materials
- B. A type of 3D CAD software
- C. Delivered when needed so no money is wasted on warehouses to store parts**
- D. The process of designing products for mass production

Just-in-time focuses on having materials arrive exactly when they are needed in production, so there's minimal stock held and little or no money tied up in stored parts. This lean approach reduces warehousing space, lowers carrying costs, and improves cash flow because items aren't bought far in advance or kept idle in storage. It relies on reliable suppliers, tight scheduling, and small, frequent deliveries, so the system pulls parts through production rather than pushing large batches based on forecast. The idea of delivering when needed directly captures that goal of minimizing storage and waste. The other options describe tools or aims that aren't about inventory timing or storage costs.

6. Which term describes a process that identifies the effect a product has on resources over its entire lifetime?

- A. Ecodesign
- B. Life-cycle analysis**
- C. Ripple effect
- D. Conductivity

Life-cycle analysis is the process that measures a product's environmental impact across its entire life, from extracting raw materials to end-of-life disposal. It accounts for energy and material flows at each stage—production, transport, use, and disposal—highlighting how much resources are used, how much energy is consumed, and what emissions or waste are produced. By collecting and comparing this information, it helps designers identify which stages contribute most to environmental burden and where improvements will have the greatest effect, such as choosing lower-impact materials, making production more efficient, or enabling easier recycling at the end of use. Ecodesign is about designing with environmental considerations, while life-cycle analysis provides the method to quantify impacts across the whole life cycle. The other terms don't fit because ripple effect isn't a standard environmental assessment term here, and conductivity is a physical property unrelated to lifecycle impacts.

7. Which term describes the use of computers to control machine tools in manufacturing?

- A. CNC**
- B. CAD
- C. CAM
- D. CIM

Using computers to drive machine tools in manufacturing is CNC. It stands for Computer Numerical Control, where a computer sends precise instructions—often via G-code—to machines like lathes and mills to move tools along defined paths, speeds, and feeds. This enables automated, repeatable production with high accuracy. CAD is about creating digital designs, CAM plans and programs manufacturing steps (and can generate CNC instructions), and CIM refers to integrating computer systems across the whole factory. The essential idea is direct computer control of tool movements in manufacturing.

8. Which term describes a continuous effect from a product?

- A. Conductivity
- B. Ripple effect**
- C. Life-cycle analysis
- D. Ecodesign

The idea being tested is about ongoing, indirect consequences that spread beyond how a product is used. That continuous spread of effects is described as the ripple effect. It captures how a product can create secondary and tertiary impacts that propagate through systems—like environmental, economic, or social changes that continue after the product is in the hands of users. Why this fits best: a ripple effect focuses on those cascading outcomes that extend beyond the product's immediate function, which is exactly what "continuous effect from a product" implies. The other terms don't describe this spreading, ongoing impact. Conductivity is a property of how well a material conducts electricity or heat. Life-cycle analysis is a method for assessing a product's environmental impacts across its entire life, not the ongoing propagation of effects. Ecodesign is a design approach aimed at reducing environmental impact, not the phenomenon of continuing consequences.

9. Which two factors are critical when evaluating a design from a user-centered perspective?

- A. Aesthetics and cost
- B. Usability and accessibility**
- C. Durability and reliability
- D. Function and speed

Evaluating a design from a user-centered perspective means focusing on how easy it is for real people to use the product and to access it in everyday situations. The best fit here is usability paired with accessibility. Usability looks at how straightforward tasks are to complete, how quickly a user can learn the interface, how efficient the interaction is, and how satisfied the user feels during use. Accessibility ensures that people with different abilities and in different contexts can interact with the product—considering things like clear navigation, screen reader compatibility, keyboard-only use, and good contrast. Together, usability and accessibility address the actual user experience across diverse users, which is the core aim of user-centered design. Aesthetics and cost matter for appeal and affordability but don't by themselves guarantee a usable or inclusive experience. Durability and reliability deal with performance over time, while function and speed describe what the product does and how fast it operates, which are important but don't fully capture how well all users can use it.

10. Which two properties of timber influence its suitability for a chair frame, and why?

A. Density and color; affect aesthetics and cost.

B. Strength and stiffness; they determine load-bearing capacity and resistance to bending.

C. Hardness and elasticity; determine scratch resistance.

D. Thermal conductivity and porosity; influence comfort.

When choosing timber for a chair frame, the key thing is how well the material can support people and stay stable under use. The two most important properties are strength and stiffness. Strength tells you how much load the timber can safely carry before it fails, which is essential for a frame that must support a person. Stiffness describes how much the timber flexes under load; a stiff frame resists bending and wobbling, keeping the chair's shape when someone sits down or shifts in their seat. Together, high strength and high stiffness determine the frame's load-bearing capacity and resistance to bending, which are the main reasons these properties matter for a chair. Other properties like density or color influence cost or aesthetics, while hardness, elasticity, thermal conductivity, or porosity affect wear or comfort in ways that aren't as directly about the frame's structural performance.

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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:

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

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