# WJEC Design Technology Practice Exam (Sample)

## Study Guide


**Everything you need from our exam experts!**

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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

**1. Which term is another name for one-off production?**

**A. Jobbing**

**B. Volume Production**

**C. Batch Production**

**D. Continuous Production**

**2. Which term refers to materials that combine multiple substances to create a material with enhanced properties?**

**A. Micro encapsulation**

**B. Composite materials**

**C. Thermochromic ink**

**D. QTC**

**3. Anthropometric measurements are the related science that measures what?**

**A. Human physical dimensions**

**B. Weather patterns**

**C. Electrical resistance**

**D. Material density**

**4. CAM stands for?**

**A. Computer Integrated Manufacturing**

**B. Computer Numerical Control**

**C. Computer Aided Manufacturing**

**D. Computer Aided Design**

**5. Which term describes a process in which active substances are coated by extremely small capsules?**

**A. What is "buzz off"**

**B. Smart materials**

**C. Polymorph**

**D. Micro encapsulation**

**6. Which term describes the ability of a material to permanently change in shape?**

A. Elasticity

B. Plasticity

C. Ductility

D. Fusibility

**7. Which statement about non-ferrous metals is true?**

A. They contain lots of iron and rust easily.

B. They rust easily and are magnetic.

C. They contain little iron, do not rust easily, and are not magnetic.

D. They are made of iron.

**8. Which is a correct description of the 7 R's?**

A. Reduce, Reuse, Recycle, Rethink, Replant, Resist and Refuse.

B. Reduce, Reuse, Recycle, Rethink, Replant, and Respect.

C. Reduce, Reuse, Recycle, Rethink, Replant and Refuse.

D. Reduce, Reuse, Recycle, Revise, Replant, and Refuse.

**9. Which term is another name for mass production?**

A. Jobbing

B. Volume Production

C. Batch Production

D. Custom Production

**10. Which statement about ferrous metals is true?**

A. They are non-metallic.

B. They contain little iron and do not rust easily.

C. They are not magnetic.

D. They contain lots of iron, rust easily when exposed to moisture, and are magnetic.

# Answers

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

# Explanations

## 1. Which term is another name for one-off production?

**A. Jobbing**

**B. Volume Production**

**C. Batch Production**

**D. Continuous Production**

**One-off production means making a single item or a very small number of items tailored to one customer, so the term that fits best is jobbing. It describes flexible, customized work where each job can be different and needs individual attention, rather than a repeated, standardized process. The other production types are about high-volume, standardized output. Volume production aims for large quantities of identical products; batch production makes a group of identical items before switching to another group; continuous production runs nonstop to produce large quantities of the same product. These don't align with one-off, highly customized work, which is why jobbing is the correct term.**

## 2. Which term refers to materials that combine multiple substances to create a material with enhanced properties?

**A. Micro encapsulation**

**B. Composite materials**

**C. Thermochromic ink**

**D. QTC**

**Combining two or more substances to create a material with enhanced properties is described by composite materials. In composites, a reinforcement (like fibers or particles) is embedded in a matrix (such as a polymer or cement). The reinforcement provides strength and stiffness, while the matrix holds everything together and transfers stress, so the final material can be stronger, tougher, or lighter than its individual parts. Classic examples include fiberglass (glass fibers in a polymer) and reinforced concrete (steel or other fibers in cement). The beauty of composites is the synergy—the whole material gains qualities that none of the components have on their own. The other terms point to different ideas: micro encapsulation is about enclosing substances to protect or control their release; thermochromic ink changes color with temperature; and QTC, or Quantum Tunneling Composite, is a material whose electrical resistance changes under pressure. None of these describe the general idea of combining materials to form a new material with enhanced properties in the way composites do.**

## 3. Anthropometric measurements are the related science that measures what?

**A. Human physical dimensions**

**B. Weather patterns**

**C. Electrical resistance**

**D. Material density**

**Anthropometric measurements focus on the sizes and shapes of the human body. This field collects data on dimensions such as height, reach, seated height, hip width, and hand span, which designers use to ensure products and spaces fit a range of people. In Design Technology, this helps create comfortable, safe, and usable furniture, tools, and environments by matching dimensions to how people of different sizes interact with them. The other topics involve different sciences entirely: weather patterns belong to meteorology, electrical resistance relates to physics and electronics, and material density is a property of materials. Therefore, anthropometric measurements are about human physical dimensions.**

## 4. CAM stands for?

**A. Computer Integrated Manufacturing**

**B. Computer Numerical Control**

**C. Computer Aided Manufacturing**

**D. Computer Aided Design**

**CAM stands for Computer Aided Manufacturing. It uses computer software to plan, manage and control manufacturing operations. In practice, CAM takes design data from CAD and turns it into instructions that drive machine tools, such as CNC machines, to produce parts automatically. This brings greater accuracy, consistency, and efficiency, and it allows quick adjustments to tooling and processes. It's different from CAD, which is about designing the product; CNC, which is the numeric control of machines; and CIM, which is a broader idea of integrating all parts of manufacturing with IT.**

## 5. Which term describes a process in which active substances are coated by extremely small capsules?

**A. What is "buzz off"**

**B. Smart materials**

**C. Polymorph**

**D. Micro encapsulation**

**Microencapsulation is the process of enclosing active substances within tiny capsules. By forming a microscopic shell around each particle, the core is protected from moisture, oxygen, or heat, and its release can be controlled over time or triggered by specific conditions. This makes the substance more stable, easier to handle, and capable of masking taste or odor. The other terms don't describe this coating process: a slang phrase isn't a technical term; smart materials are about substances that change properties in response to stimuli, not about coating; and polymorphs are different crystal forms of a substance, which affects properties but not the creation of micro capsules around the core.**

## 6. Which term describes the ability of a material to permanently change in shape?

A. Elasticity

B. Plasticity

C. Ductility

D. Fusibility

**Permanently changing shape under stress is called plasticity. When a material deforms and does not spring back after the force is removed, the change is plastic deformation. By contrast, elastic behavior means the material returns to its original shape once the load is removed. Ductility describes how much plastic deformation a material can undergo before it breaks, which is related but not the exact idea of a permanent shape change. Fusibility refers to melting, not deformation under load. So the term that describes the ability to permanently change in shape is plasticity.**

## 7. Which statement about non-ferrous metals is true?

A. They contain lots of iron and rust easily.

B. They rust easily and are magnetic.

C. They contain little iron, do not rust easily, and are not magnetic.

D. They are made of iron.

**Non-ferrous metals are metals that do not contain iron. Because rust is the corrosion of iron, these metals don't rust in the same way iron does. They also tend to be not magnetic, unlike many ferrous metals. So the statement that they contain little iron, do not rust easily, and are not magnetic fits the general behaviour of non-ferrous metals. There are some exceptions with certain alloys that may be slightly magnetic, but overall these metals are not magnetic and resist rust compared with iron.**

## 8. Which is a correct description of the 7 R's?

A. Reduce, Reuse, Recycle, Rethink, Replant, Resist and Refuse.

B. Reduce, Reuse, Recycle, Rethink, Replant, and Respect.

C. Reduce, Reuse, Recycle, Rethink, Replant and Refuse.

D. Reduce, Reuse, Recycle, Revise, Replant, and Refuse.

**The idea being tested is how the actions starting with R guide reducing waste and resource use in sustainable design and consumption. The best description includes actions that cover cutting down what we use, getting more value from what we have, and reconsidering how products are created and used. Reducing and reusing focus on cutting demand and extending the life of items. Recycling turns materials into new products after they're used. Rethinking encourages designers and users to change habits and rethink how products are designed and used to avoid waste. Replant reflects restoring ecosystems or increasing planting, which supports resource renewal. Refuse is about saying no to unnecessary or over-packaged items. Together these aspects form a coherent approach: use less, reuse what you have, recycle what can't be reused, rethink the whole approach, support natural regeneration, and refuse wasteful choices. Other options include terms like Respect, Revise, or Resist, which aren't standard parts of the common list of Rs, so they don't fit as well.**

## 9. Which term is another name for mass production?

**A. Jobbing**

**B. Volume Production**

**C. Batch Production**

**D. Custom Production**

**Mass production centers on making large quantities of the same product efficiently. The name that best fits this focus on output volume is volume production. It highlights the high quantity of items produced, typically with standardised processes and economies of scale, often via assembly-line methods. This differs from jobbing, which handles small, customized jobs; batch production, which makes items in limited lots before changing setup; and custom production, which is tailored to individual specifications. So volume production is the natural term for mass production because it emphasizes the large-scale, repetitive output.**

## 10. Which statement about ferrous metals is true?

**A. They are non-metallic.**

**B. They contain little iron and do not rust easily.**

**C. They are not magnetic.**

**D. They contain lots of iron, rust easily when exposed to moisture, and are magnetic.**

**Ferrous metals are metals that contain iron, and that iron gives them two key traits: magnetism and a tendency to rust when exposed to moisture and oxygen. So the statement that they contain lots of iron, rust easily in moisture, and are magnetic is accurate for ferrous metals in general. The other options conflict with these facts: they're not non-metallic, they do contain iron and can rust, and they are magnetic, not non-magnetic. (Note that some alloys like stainless steel resist rust, but the basic property of ferrous metals being iron-containing and magnetic still applies.)**

# 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://wjecdesigntech.examzify.com**

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