

## Exam Practice Questions

### 1. What is a property of hardwoods?

- A) Grow quickly
- B) Come from deciduous trees
- C) Always softer than softwoods

### 2. Which of the following is a thermosetting polymer?

- A) Acrylic
- B) Epoxy resin
- C) Polypropylene

### 3. What is a composite material?

- A) A material made from two or more different materials
- B) A single pure material
- C) A recyclable polymer

### 4. Which metal contains iron?

- A) Aluminium
- B) Copper
- C) Mild steel

### 5. What is a property of aluminium?

- A) Corrodes easily
- B) Lightweight and corrosion-resistant
- C) Magnetic

## **6. Which of the following is a non-ferrous metal?**

- A) Cast iron
- B) Steel
- C) Copper

## **7. What does “malleable” mean?**

- A) Can be stretched into wire
- B) Can be hammered or rolled into shape
- C) Can resist corrosion

## **8. What is ergonomics?**

- A) The study of how products are comfortable and efficient for users
- B) The study of how materials react to heat
- C) The study of how products are advertised

## **9. What is anthropometrics?**

- A) Human measurements used in design
- B) The visual appeal of a product
- C) Energy efficiency

## **10. What does CAD stand for?**

- A) Computer-Aided Drawing
- B) Computer-Aided Design
- C) Controlled Assembly Drawing

### **11. What is the purpose of a prototype?**

- A) Final product for sale
- B) Early model used for testing ideas
- C) A digital drawing

### **12. Which of the following is a technical textile?**

- A) Cotton
- B) Kevlar
- C) Wool

### **13. What does LDR stand for?**

- A) Light Dependent Resistor
- B) Low Density Relay
- C) Light Digital Reader

### **14. What does an LED do in an electrical circuit?**

- A) Stores energy
- B) Lights up when current flows in one direction
- C) Measures temperature

### **15. What is a lever?**

- A) A type of gear
- B) A simple machine that uses a fulcrum to lift loads
- C) An electrical switch

### **16. What are the three parts of a lever?**

- A) Gear, Shaft, Pulley
- B) Load, Fulcrum, Effort
- C) Motor, Axle, Frame

### **17. What is a cam used for?**

- A) To convert rotary motion into reciprocating motion
- B) To store energy
- C) To reduce friction

### **18. Which of these is a renewable material?**

- A) Plastic
- B) Oak
- C) Aluminium

### **19. What is the carbon footprint of a product?**

- A) The amount of carbon dioxide produced during its life cycle
- B) The amount of water used in production
- C) The weight of the product

### **20. What is market pull?**

- A) When new technology creates a new product
- B) When consumer demand drives new product design
- C) When products are made in bulk

### **21. What is technology push?**

- A) When new technology allows new products to be made
- B) When customers request new designs
- C) When prices are reduced

**22. Which polymer is used to make plastic bottles?**

- A) PET
- B) PVC
- C) HIPS

**23. Why do designers use iterative design?**

- A) To repeat and improve ideas based on testing
- B) To make only one model
- C) To avoid making prototypes

**24. What is oxidation?**

- A) Reaction of metals with oxygen
- B) Cooling of metals
- C) Polishing metal surfaces

**25. What is the main advantage of using automation in manufacturing?**

- A) Increases errors
- B) Improves consistency and efficiency
- C) Increases labour costs

## Long Answer Questions

1. Describe how ergonomics and anthropometrics influence product design. Use an example to support your answer (6 marks)

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2. Discuss the environmental impact of using non-renewable materials in product design. (6 marks)

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