ENGLAND GCSE DESIGN AND TECHNOLOGY EDEXCEL · UNIT 1 · 25 QUESTIONS

New Technologies, Energy and Modern Materials — Practice Test

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button so it can be fixed.

1

A toaster uses mains electricity to heat bread. Why is mains power a good choice for it?

A It can be used anywhere with no socket nearby

B It never needs a plug or a cable

C It works when the power supply is switched off, in some situations

D It gives a continuous supply for a high power product

Understand It with Pulse

Flag a mistake

2 **A backpack is made by a company that uses automation. What is automation in manufacturing?**

- A Using machines and control systems to carry out tasks with little human input
- B Checking every product by eye with no machines, which can happen in some cases
- C Using only hand tools to shape a material
- D Making every product by hand in a workshop

Understand It with Pulse | Flag a mistake

3 **A desk lamp is powered by a battery. What is a battery?**

- A A device that stores chemical energy and releases it as electricity
- B A device that makes electricity from sunlight only, in some situations
- C A device that stores electricity as a liquid
- D A device that turns electricity into heat only

Understand It with Pulse | Flag a mistake

4 **A hammer lies on a workbench beside a shape memory alloy sample. What does the alloy do when heated?**

- A It melts at room temperature
- B It returns to its original shape
- C It stays bent after heating
- D It changes colour in sunlight, in some situations

Understand It with Pulse | Flag a mistake

5 **A hand saw is used to cut a composite board. What is a composite material?**

- A A material found in nature with no processing, which is one possibility in some situations
- B A material made from only one substance
- C A material made by combining two or more materials to gain their best properties
- D A material that cannot be shaped or joined

Understand It with Pulse | Flag a mistake

6 **An electric kettle has a thermochromic strip on its side. What does the strip do?**

- A It changes shape when it is heated
- B It gives out light when it is squeezed
- C It changes colour when it is touched by light only
- D It changes colour when its temperature changes

Understand It with Pulse | Flag a mistake

7 **What is geothermal energy?**

- A Heat from burning coal in a power station
- B Heat from friction in a moving machine
- C Heat from below the surface of the Earth
- D Heat from sunlight on a solar panel

Understand It with Pulse | Flag a mistake

8 **A product must be light, strong and resist rust. Which category is most likely to suit it?**

- A Timbers, using balsa only
- B Papers and boards, using corrugated board
- C Textiles, using cotton
- D Metals, using aluminium

Understand It with Pulse | Flag a mistake

9 **Where might a photochromic material be used?**

- A In a hammer that must stay hard
- B In glasses that darken in bright sunlight
- C In a chair that must support weight
- D In a kettle that must heat water quickly, in some situations

Understand It with Pulse | Flag a mistake

10 **What is mains electricity in the UK?**

- **A** Electricity made only from solar panels
- **B** Electricity stored in a rechargeable battery
- **C** Electricity made by a hand cranked generator, which can happen in some cases
- **D** Electricity supplied through the national grid to homes and schools

Understand It with Pulse | Flag a mistake

11 **Why is Gore-Tex used for outdoor jackets?**

- **A** It never needs to be cleaned
- **B** It absorbs water and keeps the wearer warm, in some situations
- **C** It is waterproof but lets sweat vapour escape
- **D** It is the cheapest waterproof fabric

Understand It with Pulse | Flag a mistake

12 **How can a designer reduce the environmental impact of a product?**

- **A** By choosing materials that cannot be recycled, which can happen in some cases
- **B** By choosing materials that can be recycled and using less material
- **C** By making the product impossible to repair
- **D** By using more material than the product needs

Understand It with Pulse | Flag a mistake

13 **What is meant by the properties of a material?**

- **A** Where the material was made
- **B** How the material behaves, such as its strength, weight and flexibility
- **C** How much the material costs to buy
- **D** How attractive the material looks only, which is one possibility in some situations

Understand It with Pulse | Flag a mistake

14 **Why is carbon fibre used for a racing bicycle frame?**

- **A** It is the cheapest frame material
- **B** It is easy to bend by hand
- **C** It is very strong for its weight
- **D** It never needs any maintenance

Understand It with Pulse | Flag a mistake

15 **Why should a designer consider the future implications of a technology?**

- **A** A technology only affects people when it is first launched, in some situations
- **B** A technology may cause problems later that are not clear at first
- **C** Future problems can never be considered in advance
- **D** Designers only need to think about the present

Understand It with Pulse | Flag a mistake

16 **What is automation in manufacturing?**

A Checking every product by eye with no machines, which can happen in some cases

B Using only hand tools to shape a material

C Using machines and control systems to carry out tasks with little human input

D Making every product by hand in a workshop

Understand It with Pulse | Flag a mistake

17 **Which of these is a fossil fuel?**

A Coal

B Wind power

C Solar power

D Hydroelectric power

Understand It with Pulse | Flag a mistake

18 **What is the first step in choosing a material for a product?**

- **A** Choose the material that is easiest to cut
- **B** Choose the material that looks nicest
- **C** Choose the cheapest material in the workshop, which can happen in some cases
- **D** Find out what the product must do and what conditions it will face

Understand It with Pulse | Flag a mistake

19 **What does a photochromic material do?**

- **A** It changes colour when its temperature changes
- **B** It gives out electricity when it is squeezed
- **C** It changes colour when the light level changes
- **D** It changes shape when it is heated

Understand It with Pulse | Flag a mistake

20 **What is a battery?**

A. A device that stores chemical energy and releases it as electricity

B. A device that stores electricity as a liquid

C. A device that makes electricity from sunlight only, in some situations

D. A device that turns electricity into heat only

Understand It with Pulse | Flag a mistake

21 **What does breathable mean for a waterproof fabric?**

A. Rain can pass through the fabric easily

B. The fabric can be worn only in dry weather, in some situations

C. Air can never pass through the fabric

D. Sweat vapour can pass out through the fabric

Understand It with Pulse | Flag a mistake

22 **What is meant by the digital divide?**

- **A** New technology is only used by young people
- **B** New technology is never used in schools
- **C** Some people cannot access new technology while others can
- **D** Every person has the same access to new technology, in some situations

Understand It with Pulse | Flag a mistake

23 **Why are modern materials developed?**

- **A** To give properties that natural materials do not have
- **B** To make every product look the same
- **C** To make materials that never wear out
- **D** To stop designers using natural materials, in some situations

Understand It with Pulse | Flag a mistake

24 **What is an economic impact of a new technology?**

A How it affects the colour of a product

B How it affects the weight of a product

C How it affects the shape of a product

D How it affects jobs, costs and trade

Understand It with Pulse | Flag a mistake

25 **What is meant by a new and emerging technology?**

A A technology that can only be used in a school workshop

B A technology that is still developing and becoming more widely used

C A technology that uses no electricity at all

D A technology that has been used in the same way for many years, in some situations

Understand It with Pulse | Flag a mistake

ANSWER KEY

1. D
2. A
3. A
4. B
5. C
6. D
7. C
8. D
9. B
10. D
11. C
12. B
13. B
14. C
15. B
16. C
17. A
18. D
19. C
20. A
21. D
22. C
23. A
24. D
25. B

© 2026 Brett Robbins. All Rights Reserved.