ENGLAND GCSE DESIGN AND TECHNOLOGY OCR · UNIT 4 · 25 QUESTIONS

Design Thinking, Technical Understanding and Manufacturing — 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 has a bimetallic strip that pops the bread up. What makes the strip bend?**

- A Cold air from the kitchen, in some situations
- B Light from the room
- C The weight of the bread
- D Heat from the toasting element

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2 **A mobile phone uses a vibration motor to alert the user. What is the output in this system?**

- A The heat from the battery, in some situations
- B The sound of the ringtone
- C The light from the screen
- D The vibration felt by the user

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3 **An electric kettle handle is fixed with screws. Why are screws a good choice here?**

- A The handle can never be removed
- B The handle can be removed for repair
- C The screws melt when heated
- D The screws make the kettle lighter, in some situations

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4 **A hand saw is used to cut a tenon to size. Why mark the timber with a marking gauge first?**

- A So the cut is made in the right place
- B So the timber becomes lighter
- C So the timber changes colour
- D So the saw stays sharp for longer, in some situations

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5 **A model bridge is built from sticks joined in triangles. Why are triangles used in the model bridge?**

- A Triangles use no glue at all
- B Triangles are the cheapest shape, in some situations
- C Triangles keep their shape under load
- D Triangles are easy to paint

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6 **A backpack is made in batches of 500. Which scale of production is this?**

- A Batch production
- B Continuous production
- C Mass production
- D One-off production

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7 **What does a cam do?**

- A It turns up and down motion into turning motion, in some situations
- B It joins two shafts together
- C It changes the speed of a gear
- D It turns the turning motion of a shaft into up and down motion

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8 **What is a 3D sketch?**

- A A sketch with no shading at all
- B A sketch that shows length, width and height
- C A sketch drawn to full size only
- D A sketch that shows only length and width, in some situations

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9 **What is mechanical advantage?**

- A Load divided by effort
- B Load plus effort
- C Effort divided by load
- D Effort multiplied by load

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10 **What is a working model?**

A A model that shows how the moving parts of a design work

B A model that shows only the colour of a design, in some situations

C A model made only from card

D A model that is sold in shops

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11 **What is quality assurance?**

A A system to prevent faults by checking each stage

B Counting how many products are made, in some situations

C Testing a product until it breaks

D Checking only the finished product

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12 **What are the three stages of the iterative design process in OCR?**

- A Explore, create, evaluate
- B Research, buy, use, in some situations
- C Plan, paint, pack
- D Draw, make, sell

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13 **What is extrusion?**

- A Cutting material with a laser
- B Pouring molten metal into a sand mould
- C Heating a sheet and pulling it over a mould, in some situations
- D Pushing material through a shaped hole to make a long section

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14 **What is shear?**

A. A force that pulls a material apart

B. A force that bends a material in the middle, in some situations

C. A force that twists a material

D. A force that slides one part of a material over another

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15 **Which of these is an input?**

A. A motor

B. A lamp

C. A light dependent resistor

D. A buzzer, in some situations

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16 **What does an idler gear do?**

- A It doubles the speed of the output
- B It changes the direction of rotation without changing speed
- C It changes rotary motion into linear motion, in some situations
- D It stops the gears from turning

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17 **Why make a prototype before full production?**

- A To test size, shape and function and find faults early
- B To sell the product before it is finished, in some situations
- C To avoid writing a specification
- D To use up spare materials

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18 **What is quality control?**

- **A** A system to stop faults happening at all, in some situations
- **B** Checking products during and after making to find faults
- **C** Choosing the cheapest materials
- **D** Making products as fast as possible

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19 **What is a dovetail joint used for?**

- **A** Strong joints in drawers and boxes
- **B** Holding fabric onto a chair
- **C** Joining metal pipes together, in some situations
- **D** Fixing glass into a frame

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20 **A bulb runs at 12 V with a current of 2 A. What is the power?**

- A 10 W
- B 240 W
- C 24 W
- D 6 W

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21 **What does a rack and pinion do?**

- A It stores motion for later use
- B It turns the turning motion of a pinion into straight line motion
- C It turns straight line motion into heat, which can happen in some cases
- D It joins two metals together

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22 **Which of these is a class 2 lever?**

A A pair of tweezers

B A pair of scissors

C A seesaw

D A wheelbarrow

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23 **What is a prototype?**

A A list of materials for a product, in some situations

B A drawing of a product on paper

C The final product sold in shops

D An early model made to test an idea

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What is one-off production?

A Making thousands of identical items

B Making small groups of identical items

C Making a single item to meet one order

D Making items without stopping day or night

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25

What happens in the evaluate stage?

A The design is drawn for the first time

B The product is packed for delivery

C The materials are ordered from a supplier, in some situations

D The design is tested against the specification

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ANSWER KEY

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

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