ENGLAND GCSE DESIGN AND TECHNOLOGY AQA · FINAL EXAM · 50 QUESTIONS

Final Exam — 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 to let Brett know so he can fix it.

1 **An electric kettle has a thermochromic strip that changes colour as the water heats. What is a thermochromic material?**

- **A** A material that changes shape when it is heated
- **B** A material that gets heavier when it is cooled
- **C** A material that changes colour when its temperature changes
- **D** A material that changes colour when light shines on it, in some situations

Understand It with Pulse | Flag a mistake

2 **An electric kettle has a display that shows the temperature. Why is a display used as an output?**

- **A** It shows numbers or words for the user to read
- **B** It gives a light signal the user can see
- **C** It gives movement to turn a wheel
- **D** It gives a sound warning the user can hear, in some situations

Understand It with Pulse | Flag a mistake

3 **A wooden chair has a triangular bracket under its seat. What is a triangular bracket that strengthens a joint called?**

- A A lamination
- B A fold
- C A rib
- D A gusset

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4 **A desk lamp is redesigned after testing, again and again. What is this called?**

- A Batch production
- B Quality control
- C User-centred design
- D Iterative design

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5 **A backpack is made from Gore-Tex fabric. What is Gore-Tex?**

- A A fabric that melts when it gets wet
- B A fabric that is used only for making curtains
- C A fabric that keeps rain out but lets sweat escape
- D A fabric that lets rain in but keeps sweat inside, in some situations

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6 **A hammer is used to tap a chisel. The chisel moves in a straight line. What type of movement is this?**

- A Oscillating
- B Linear
- C Rotary
- D Reciprocating

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7 **A hand saw cuts a plank into thin layers for laminating. What is lamination?**

- A Raised strips added to a surface to add strength, in some situations
- B Thin layers glued together to make a stronger material
- C Triangles built into a frame to keep it rigid
- D Folds pressed into a material to make it stiffer

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8 **A cordless drill is used to make a product from a design brief. What is a design brief?**

- A A list of what the product must do
- B A short statement of the problem to be solved
- C A drawing of the product with notes, in some situations
- D A working model of the product

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9 **A hammer handle is made from hickory, a hardwood. Where does hardwood come from?**

A Slow growing broad leaf trees

B Sheep kept on a farm

C Fast growing cone bearing trees

D Crude oil pumped from the ground

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10 **Why is a buzzer used as an output?**

A It shows numbers and words on a screen

B It gives a light signal the user can see, in some situations

C It gives a sound warning the user can hear

D It gives movement to turn a wheel

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11 What is casting?

A Liquid material poured into a mould and left to set

B Material cut into shape with a router

C Material spun on a lathe and shaped with a tool, in some situations

D Material pushed through a shaped hole

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12 What is an example of user-centred design?

A Copying a handle from another product exactly

B Choosing the cheapest material without asking users, in some situations

C Making a handle without testing it at all

D Testing a handle shape with the people who will hold it

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13 **How can new technology help the environment?**

A It can stop all factories from using energy

B It can make every product last forever

C It can cut the waste and energy used in making products

D It can remove all waste from the world at once, in some situations

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14 **Why are sensors used in a system?**

A So the system can work with no output at all, in some situations

B So the system can react to changes without a person

C So the system never needs any power to run

D So the system never needs to be tested

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15

Where does timber come from?

A Sheep

B Trees

C Crude oil

D Ore dug from the ground

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16

What is a tight tolerance?

A No allowed difference at all in the size

B A small allowed difference that needs accurate making

C A size that may be any size at all

D A large allowed difference that needs rough making, in some situations

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17 **What are papers and boards made from?**

A Crude oil

B Molten metal

C Wood pulp

D Sheep wool

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18 **A driver gear turns at 90 rpm. The driven gear has 2 times as many teeth. How fast does the driven gear turn?**

A 45 rpm

B 22 rpm

C 450 rpm

D 90 rpm

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19 **What does paint do to a product?**

A It gives a clear coat that shows the grain

B It gives a coloured coat that protects it and makes it look good

C It coats steel with zinc to stop rust

D It soaks into the timber and leaves no coat at all, in some situations

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20 **What is a 2D model?**

A A flat model used to test shape and size

B A drawing made by freehand sketching

C A working model used to test with users

D A solid model used to test how a product works

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21 **A cordless drill runs on a rechargeable battery. How is a rechargeable battery different from a single use battery?**

- A It can be charged and used many times
- B It can only be used once and then thrown away
- C It holds no energy until it is thrown away
- D It works only when it is connected to the Sun

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22 **A wooden chair has a reclining back worked by a linkage. What does a linkage do?**

- A It stores energy for later use
- B It measures light or temperature
- C It changes the direction or type of movement
- D It joins two materials into a composite, in some situations

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23 **What is tube stock?**

- A A thick board of timber
- B Flat material such as a sheet of plywood
- C A long solid length of material
- D A hollow long length of material

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24 **What is sampling in quality control?**

- A Checking every single product that is made
- B Checking no products at all in a batch
- C Checking only the first product that is made, in some situations
- D Checking some products from a batch to judge the whole batch

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25 **A hand saw cuts a plank of pine. Is pine a hardwood or a softwood?**

- A Softwood
- B A ferrous metal
- C A thermoplastic
- D Hardwood

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26 **What is a microcontroller?**

- A A motor that turns a wheel in a system
- B A sensor that measures light or heat
- C A large screen that shows numbers and words, in some situations
- D A small programmable chip that controls a system

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27 **What is one-off production?**

A A single product made for one customer

B A set number of identical products

C Very large numbers of identical products

D A product made non-stop day and night

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28 **A part is 200 mm +/- 5 mm. What is the largest size it may be?**

A 2050 mm

B 200 mm

C 205 mm

D 195 mm

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29 **What is carbon fibre?**

A A soft and heavy material made from thick ropes, in some situations

B A very strong, stiff and light material made from thin fibres

C A weak and brittle material made from glass

D A cheap material made from recycled paper

Understand It with Pulse | Flag a mistake

30 **Where is an LDR used?**

A In a burglar alarm mat under a carpet, in some situations

B In a fridge that keeps food cold

C In automatic lights that switch on when it gets dark

D In a motor that turns a wheel

Understand It with Pulse | Flag a mistake

31 **An electric kettle is made by injection moulding its plastic parts. What is injection moulding?**

- A Liquid metal poured into a mould and left to set, in some situations
- B Material spun on a lathe and shaped with a tool
- C Material pushed through a shaped hole
- D Melted plastic forced into a mould to make a shape

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32 **A hammer is used to make a product to a drawing. Why must the product be made accurately?**

- A So it matches the drawing and fits together
- B So it looks good in a shop, in some situations
- C So it takes longer to make
- D So it costs more to make

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33 **A heater rated at 1 kW runs for 4 hours. How much energy does it use?**

- A 3 kWh
- B 5 kWh
- C 4 kWh
- D 40 kWh

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34 **What does a parallel motion linkage do?**

- A It changes movement through 90 degrees
- B It keeps parts parallel as they move
- C It turns rotary movement into a straight line
- D It makes the output move the opposite way to the input

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35 **Why does local timber have a smaller footprint than imported hardwood?**

A It is cut from older trees than hardwood

B More fuel is used to transport it

C Less fuel is used to transport it

D It is grown in a warmer country

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36 **What is user-centred design?**

A Design where the looks drive every decision

B Design where the maker drives every decision, in some situations

C Design where the needs of the user drive every decision

D Design where the cost drives every decision

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37 **What is one benefit of wind power?**

A Wind turbines need no land to stand on

B No fuel is burned while it generates electricity

C Wind power works even when the air is still

D Wind power stores electricity for many years, in some situations

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38 **A load of 90 N is lifted with an effort of 30 N. What is the mechanical advantage?**

A 4

B 2

C 30

D 3

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39 **A hand saw is used to cut steel bar. The bar is bought as bar stock. What is bar stock?**

- **A** A long solid length of material
- **B** Flat material such as a sheet of plywood
- **C** A hollow long length of material
- **D** A thick board of timber

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40 **A model bridge is built to test a design. What is a prototype?**

- **A** A drawing made by freehand sketching
- **B** A flat model used to test shape and size, which can happen in some cases
- **C** A list of what a product must do
- **D** A working model made to test before the final product is made

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41 **How do solar panels make electricity?**

A Moonlight is turned into heat by the panels

B Sunlight is stored as coal inside the panels, in some situations

C Sunlight is turned into electricity by the panels

D Sunlight heats water that turns a turbine

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42 **A driver gear turns at 120 rpm. The driven gear has 3 times as many teeth. How fast does the driven gear turn?**

A 40 rpm

B 400 rpm

C 20 rpm

D 80 rpm

Understand It with Pulse | Flag a mistake

43 What is continuous production?

- A A set number of identical products
- B Very large numbers of identical products
- C A single product made for one customer
- D A product made non-stop day and night

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44 How does a Dyson bagless vacuum cleaner work?

- A A bag traps dust and is thrown away
- B A fan blows dust out of the room
- C A filter washes dust away with water
- D A cyclone spins dust out of the air

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45

Why is energy stored?

A So it can be thrown away when it is not used, in some situations

B So it can be used at a time when it is needed

C So it can be used before it is ever made

D So it can be changed into a fossil fuel

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46

What is the input to a system?

A The work done by the system at the end, in some situations

B The waste thrown away by the system

C The decision made inside the system

D Information or energy fed into the system

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47

What does varnish do to timber?

A It soaks into the timber and leaves no coat at all, in some situations

B It gives a clear coat that protects the timber and shows the grain

C It coats steel with zinc to stop rust

D It gives a coloured coat that hides the grain

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48

Why involve users early in a design?

A To make the product cost more to make

B To stop the designer from having ideas, in some situations

C To copy an existing product exactly

D To avoid making a product nobody wants or can use

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49 **What share of the GCSE is the written paper worth?**

- A 500%
- B 50%
- C 60%
- D 40%

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50 **Why is a display used as an output?**

- A It shows numbers or words for the user to read
- B It gives movement to turn a wheel
- C It gives a sound warning the user can hear, in some situations
- D It gives a light signal the user can see

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ANSWER KEY

1. C
2. A
3. D
4. D
5. C
6. B
7. B
8. B
9. A
10. C
11. A
12. D
13. C
14. B
15. B
16. B
17. C
18. A
19. B
20. A
21. A
22. C
23. D
24. D
25. A
26. D
27. A
28. C
29. B
30. C
31. D
32. A
33. C
34. B
35. C
36. C
37. B
38. D
39. A
40. D
41. C
42. A
43. D
44. D
45. B
46. D
47. B
48. D
49. B
50. A

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