ENGLAND GCSE DESIGN AND TECHNOLOGY AQA · UNIT 3 · 25 QUESTIONS

Specialist Technical Principles — 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 **A hammer is made by casting its head. What is casting?**

- A Liquid material poured into a mould and left to set
- B Material pushed through a shaped hole
- C Material cut into shape with a router
- D Material spun on a lathe and shaped with a tool, in some situations

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2 **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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3 **A desk lamp has a steel base that is galvanised. What is galvanising?**

- A Baking dry powder onto metal
- B Coating aluminium to add colour and resist wear
- C Painting a coloured coat onto timber
- D Coating steel with zinc to stop it rusting

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4 **A bicycle frame is powder coated. What is powder coating?**

- A A zinc coat on steel to stop rust
- B A clear coat painted onto timber to show the grain
- C Dry powder baked onto metal to give a tough finish
- D Oil rubbed into timber to bring out the grain

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5 **A backpack strap is pulled tight when it is worn. What force is acting on the strap?**

- A Tension
- B Torsion
- C Shear
- D Compression

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6 **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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7 **A force of 200 N acts on an area of 20 mm squared. What is the stress in N per mm squared?**

- A 9
- B 10
- C 100
- D 11

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8

What is bar 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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9

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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10 **What is the life cycle of a product?**

A All the money spent on making the product, in some situations

B All the stages from raw material to disposal

C All the parts the product is made from

D All the people who buy the product

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11 **What is mass production?**

A A product made non-stop day and night

B Very large numbers of identical products

C A single product made for one customer, in some situations

D A set number of identical products

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12 **Where does timber come from?**

- A Sheep
- B Trees
- C Crude oil
- D Ore dug from the ground

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13 **A block has a mass of 250 g and a volume of 50 cm cubed. What is its density in g per cm cubed?**

- A 5
- B 6
- C 50
- D 4

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14 **What is a gusset?**

A. A thin layer glued to the top of a board

B. A fold pressed into a sheet to stiffen it

C. A raised strip on the surface of a product, in some situations

D. A triangular bracket that strengthens a joint

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15 **Why does cost matter when choosing a material?**

A. The product must be easy to find in shops, in some situations

B. The product must look good to the buyer

C. The product must be made within its budget

D. The product must be strong enough to use

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16 **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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17 **A screwdriver turns a screw. What force is acting on the screwdriver shaft?**

- A Compression
- B Shear
- C Tension
- D Torsion

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18 **What does recycle mean in the six Rs?**

A Use less material and less energy

B Break a product down to make new material

C Use a product again for the same job

D Fix a product instead of throwing it away

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19 **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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20 **What is turning?**

A Wood or metal spun on a lathe and shaped with a tool

B Material cut into shape with a router

C Material pushed through a shaped hole

D Liquid material poured into a mould and left to set, in some situations

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21 **What is meant by a carbon footprint?**

A The amount of carbon dioxide caused by a product over its life

B The number of parts in a product

C The weight of a product when it is finished

D The amount of carbon dioxide stored inside a product, in some situations

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22 **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

Understand It with Pulse | Flag a mistake

23 **Where do metals come from?**

A Crude oil

B Trees

C Cotton plants, in some situations

D Ore dug from the ground

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24 **A block has a mass of 90 g and a volume of 30 cm cubed. What is its density in g per cm cubed?**

- A 3
- B 4
- C 2
- D 30

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25 **How does folding strengthen a material?**

- A Folds make the material heavier and harder to lift, in some situations
- B Folds make the material softer and easier to bend
- C Folds make the material stiffer without adding much weight
- D Folds make the material melt when it is heated

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ANSWER KEY

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

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