ENGLAND GCSE DESIGN AND TECHNOLOGY AQA · UNIT 2 · 10 QUESTIONS

Systems and Mechanical Devices — 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 wooden chair has a seat that springs back after someone stands up. Which property is this?**

- A Plasticity
- B Malleability
- C Ductility
- D Elasticity

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2 **A workbench is used to test a circuit with a buzzer. Why is a buzzer used as an output?**

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

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3 **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

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4 What is linear movement?

- A Movement in a straight line
- B Movement back and forth in an arc
- C Movement turning in a circle
- D Movement back and forth in a straight line

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5 What is meant by ductility?

- A A material can be drawn out into a thin wire
- B A material stays in its new shape after being stretched
- C A material can be hammered into a new shape without breaking
- D A material returns to its first shape after being stretched

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6 **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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7 **Where are cams used?**

A In engines to open and close valves

B In brakes to change movement by 90 degrees

C In sewing machines to work the treadle

D In lamps to keep the arms parallel

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8 **Why is the mechanical advantage of a class 3 lever always less than 1?**

- **A** The load is always at the fulcrum, so it cannot move
- **B** The effort is always larger than the load, but the load moves further and faster
- **C** The fulcrum is always at the effort, so nothing moves
- **D** The effort is always smaller than the load, but the load moves slowly, in some situations

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9 **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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10 **A load of 100 N is lifted with an effort of 50 N. What is the mechanical advantage?**

A 2

B 3

C 1

D 20

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ANSWER KEY

1. D
2. D
3. A
4. A
5. A
6. D
7. A
8. B
9. A
10. A

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