Mechanical Engineering Basics

Mechanical Engineering · Answer Key · 18 Questions

1. Which simple machine consists of a rigid bar pivoted at a fixed point called a fulcrum?

A) Pulley
B) Lever
C) Wedge
D) Screw

2. What is the primary function of a gear in a mechanical system?

A) To store electricity
B) To change the speed or torque of rotation
C) To generate heat
D) To measure air pressure

3. Which form of energy is stored in a compressed spring?

A) Potential energy
B) Kinetic energy
C) Chemical energy
D) Magnetic energy

4. What device is used to convert chemical energy from fuel into mechanical motion in a car?

A) Turbine
B) Internal combustion engine
C) Generator
D) Hydraulic pump

5. What is the term for a force that opposes the motion of two surfaces sliding past each other?

A) Gravity
B) Acceleration
C) Friction
D) Inertia

6. Which type of energy is possessed by an object due to its motion?

A) Potential
B) Kinetic
C) Thermal
D) Nuclear

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7. What simple machine is an inclined plane wrapped around a cylinder?

A) Wheel and axle
B) Wedge
C) Screw
D) Lever

8. In engineering, what is the main purpose of a lubricant?

A) To increase friction
B) To reduce wear and heat between moving parts
C) To cool the engine instantly
D) To provide fuel for the motor

9. Which state of matter is typically used in hydraulic systems to transmit force?

A) Solid
B) Liquid
C) Gas
D) Plasma

10. What is a wheel with a groove for a rope or cable called?

A) Pulley
B) Cam
C) Axle
D) Bearing

11. Which of these materials is most commonly used in engineering for its high strength-to-weight ratio?

A) Wood
B) Plastic
C) Aluminum
D) Glass

12. What do we call a material's ability to return to its original shape after being stretched or compressed?

A) Hardness
B) Elasticity
C) Density
D) Viscosity

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13. What mechanical component is used to connect two shafts together at their ends for the purpose of transmitting power?

A) Coupling
B) Pivot
C) Spring
D) Latch

14. What does a thermometer measure in a mechanical system?

A) Pressure
B) Density
C) Temperature
D) Velocity

15. Which simple machine is used to split or cut objects apart?

A) Wheel and axle
B) Wedge
C) Screw
D) Pulley

16. What is the measurement of the total amount of matter in an object?

A) Weight
B) Mass
C) Volume
D) Area

17. Which law of physics explains that for every action, there is an equal and opposite reaction?

A) Newton's First Law
B) Newton's Second Law
C) Newton's Third Law
D) Archimedes' Principle

18. What part of a machine supports a rotating shaft and reduces friction?

A) Bearing
B) Gasket
C) Bolt
D) Frame

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