

Mechanical Engineering Basics

Mechanical Engineering · Practice Test · 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

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

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