### Top 100 questions of Physics for Competitive exams.

#### •13. What is the force that keeps planets in orbit around the Sun?•

a) Electromagnetic force

b) Gravitational force

c) Nuclear force

d) Centrifugal force

•Answer•: b) Gravitational force

•Explanation•: The gravitational attraction between the Sun and planets keeps planets in stable orbits around the Sun.

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•14. What does a concave lens do to parallel light rays?•

a) Converges them

b) Diverges them

c) Absorbs them

d) Reflects them

•Answer•: b) Diverges them

•Explanation•: A concave lens causes parallel light rays to spread out (diverge), making objects appear smaller.

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•15. Which of the following is NOT a form of electromagnetic radiation?•

a) Sound waves

b) X-rays

c) Radio waves

d) Microwaves

•Answer•: a) Sound waves

•Explanation•: Sound waves are mechanical waves that require a medium to propagate, unlike electromagnetic waves, which do not.

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•16. What is the term for the opposition to the flow of electric current in a conductor?•

- a) Capacitance
- b) Inductance

c) Resistance

d) Conductance

•Answer•: c) Resistance

•Explanation•: Resistance is the opposition to the flow of electric current, resulting in energy loss as heat.

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•17. What is the relationship between current and voltage in Ohm's Law?•

a) | = V/R b) | = V×R c) | = R/V d) | = 1/R •Answer•: a) | = V/R

•Explanation•: Ohm's law states that current (I) is directly proportional to voltage (V) and inversely proportional to resistance (R).

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•18. What happens to an object's weight when taken to the Moon?•

a) It increases

b) It remains the same

c) It decreases

d) It becomes zero

•Answer•: c) It decreases

•Explanation•: Weight depends on gravity, and since the Moon has weaker gravity than Earth, an object's weight will decrease on the Moon.

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#### •19. What is the primary source of energy for geothermal power?•

a) Solar radiation

b) Earth's internal heat

c) Wind

d) Ocean currents

•Answer•: b) Earth's internal heat

•Explanation•: Geothermal energy is derived from the heat produced inside the Earth, mainly due to the decay of radioactive elements.

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#### •20. Why does a red apple appear red?•

a) It absorbs red light

b) It reflects red light

c) It refracts red light

d) It emits red light

#### •Answer•: b) It reflects red light

•Explanation•: A red apple appears red because it reflects red wavelengths of light while absorbing other colors.

# •21. What is the primary mechanism of heat transfer in solids?•

- a) Conduction
- b) Convection
- c) Radiation
- d) Absorption

### •Answer•: a) Conduction

•Explanation•: In solids, heat is primarily transferred through conduction, where thermal energy is passed from one molecule to another.

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•22. What is the escape velocity from Earth's surface?•

- a) 7.9 km/s
- b) 9.8 km/s
- c) 11.2 km/s
- d) 12.6 km/s

### •Answer•: c) 11.2 km/s

•Explanation•: The escape velocity from Earth, the speed needed to overcome Earth's gravitational pull, is approximately 11.2 km/s.

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# •23. What type of mirror is used in car side mirrors?•

a) Plane mirror

- b) Concave mirror
- c) Convex mirror
- d) Parabolic mirror

# •Answer•: c) Convex mirror

•Explanation•: Convex mirrors are used in car side mirrors because they provide a wider field of view, though objects appear smaller.

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# •24. Why are metals good conductors of heat?•

- a) They have free-moving electrons
- b) They have high specific heat
- c) They reflect infrared radiation
- d) They have low density

# •Answer•: a) They have free-moving electrons

•Explanation•: Metals are good heat conductors because their free electrons can transfer thermal energy quickly through the material.

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# •25. What is the primary cause of lightning during a thunderstorm?•

a) Strong winds

b) Interaction of charged particles

c) High humidity

d) Rapid cooling of air

Answer<: b) Interaction of charged particles</li>

•Explanation•: Lightning is caused by the discharge of static electricity between charged regions of a storm cloud or between the cloud and the ground.

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•26. What property of a sound wave affects its loudness?•

a) Frequency

b) Amplitude

c) Wavelength

d) Speed

•Answer•: b) Amplitude

•Explanation•: The loudness of a sound is related to the amplitude of the wave, with larger amplitudes producing louder sounds.

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•27. What kind of force acts on an object moving in a circular path?•

a) Gravitational force

b) Centripetal force

c) Frictional force

d) Magnetic force

•Answer•: b) Centripetal force

•Explanation•: Centripetal force is the inward force that acts on an object moving in a circular path, keeping it from moving outward.

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•28. What is the greenhouse gas that contributes most to global warming?•

- a) Oxygen
- b) Nitrogen
- c) Carbon dioxide

d) Helium

### •Answer•: c) Carbon dioxide

•Explanation•: Carbon dioxide is the primary greenhouse gas emitted by human activities, contributing significantly to global warming.

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### •29. Which of the following is a property of X-rays?•

- a) They are longitudinal waves
- b) They travel faster than light
- c) They are electromagnetic waves
- d) They can be reflected by mirrors

#### •Answer•: c) They are electromagnetic waves

•Explanation•: X-rays are high-energy electromagnetic waves with the ability to penetrate most materials and are widely used in medical imaging.

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•30. What happens to a gas when it is compressed at constant temperature?•

- a) Pressure decreases
- b) Pressure increases
- c) Volume increases
- d) Volume remains the same
- •Answer•: b) Pressure increases

•Explanation•: According to Boyle's law, when a gas is compressed at constant temperature, its pressure increases as its volume decreases.

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### •31. What type of energy does a compressed spring possess?•

- a) Kinetic energy
- b) Gravitational potential energy
- c) Elastic potential energy
- d) Chemical energy

#### •Answer•: c) Elastic potential energy

•Explanation•: A compressed spring stores elastic potential energy, which is released when the spring returns to its original shape.

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### •32. What is the main reason light refracts when passing between two media?•

- a) Change in light frequency
- b) Change in light speed
- c) Change in light color
- d) Change in light energy

### •Answer•: b) Change in light speed

•Explanation•: Refraction occurs due to the change in the speed of light as it moves from one medium to another, causing it to bend.

### •33. What happens to a sound's pitch as its frequency increases?•

a) Pitch decreases

b) Pitch increases

c) Pitch remains the same

d) Pitch becomes zero

#### •Answer•: b) Pitch increases

•Explanation•: The pitch of a sound is directly related to its frequency, so as the frequency increases, the pitch becomes higher.

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### •34. What is a vacuum in physics?•

a) A space with zero temperature

- b) A space devoid of matter
- c) A space filled with air

d) A space with magnetic fields

### •Answer•: b) A space devoid of matter

•Explanation•: In physics, a vacuum is a region of space that contains no matter, including no atoms or molecules.

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# •35. Why do astronauts need spacesuits in space?•

a) Protect from radiation

b) Provide oxygen and regulate pressure

c) Increase body weight

d) Reflect solar energy

•Answer•: b) Provide oxygen and regulate pressure

•Explanation•: Spacesuits provide life support by supplying oxygen and regulating pressure in the vacuum of space where there is no breathable air.

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### •36. What is the effect of air resistance on a falling object?•

a) It increases the object's speed

- b) It reduces the object's speed
- c) It has no effect on speed
- d) It increases the object's mass

### •Answer•: b) It reduces the object's speed

•Explanation•: Air resistance opposes the motion of a falling object, reducing its speed and eventually leading to terminal velocity.

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### •37. What is the function of a capacitor in a circuit?•

- a) Store electrical energy
- b) Increase current
- c) Convert energy
- d) Measure voltage

#### •Answer•: a) Store electrical energy

•Explanation•: A capacitor stores electrical energy in an electric field, releasing it when needed in the circuit.

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### •38. What causes the sky to appear blue?•

- a) Absorption of red light
- b) Scattering of blue light by air molecules
- c) Reflection of ocean water

d) Absorption of blue light

### •Answer•: b) Scattering of blue light by air molecules

•Explanation•: The sky appears blue because shorter blue wavelengths of sunlight are scattered more effectively by air molecules than longer red wavelengths.

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# •39. What happens to the wavelength of a wave as its speed increases?•

- a) Wavelength increases
- b) Wavelength decreases
- c) Wavelength remains constant

d) Wavelength becomes zero

### •Answer•: a) Wavelength increases

•Explanation•: The wavelength of a wave is directly proportional to its speed if the frequency remains constant. As speed increases, the wavelength increases.

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•40. What phenomenon causes objects to appear bent when viewed under water?•

- a) Diffraction
- b) Refraction
- c) Reflection
- d) Dispersion

### •Answer•: b) Refraction

•Explanation•: Refraction occurs when light changes direction as it passes from air into water, causing objects to appear bent.