Physics MCQ Test

1. What is the unit of force?  
 A) Joule  
 B) Newton  
 C) Pascal  
 D) Watt

2. What is the speed of light in a vacuum?  
 A) 3 × 10⁸ m/s  
 B) 3 × 10⁶ m/s  
 C) 3 × 10⁴ m/s  
 D) 3 × 10² m/s

3. Which of the following is a scalar quantity?  
 A) Velocity  
 B) Force  
 C) Acceleration  
 D) Energy

4. Who proposed the theory of relativity?  
 A) Isaac Newton  
 B) Galileo Galilei  
 C) Albert Einstein  
 D) Nikola Tesla

5. What is the acceleration due to gravity on Earth?  
 A) 9.8 m/s²  
 B) 8.9 m/s²  
 C) 10.2 m/s²  
 D) 7.8 m/s²

6. Which law states that the force between two charges is inversely proportional to the square of the distance between them?  
 A) Coulomb's Law  
 B) Ohm's Law  
 C) Faraday's Law  
 D) Ampere's Law

7. What is the SI unit of power?  
 A) Joule  
 B) Watt  
 C) Pascal  
 D) Volt

8. Which of the following particles has no electric charge?  
 A) Proton  
 B) Electron  
 C) Neutron  
 D) Positron

9. What is the first law of thermodynamics?  
 A) Energy can neither be created nor destroyed  
 B) Entropy always increases  
 C) For every action, there is an equal and opposite reaction  
 D) The force is equal to mass times acceleration

10. What is the formula for calculating work done?  
 A) Force × Time  
 B) Force × Distance  
 C) Mass × Velocity  
 D) Mass × Acceleration

11. Which phenomenon explains why the sky is blue?  
 A) Reflection  
 B) Refraction  
 C) Scattering  
 D) Diffraction

12. What is the frequency of a wave if its wavelength is 2 meters and its speed is 10 m/s?  
 A) 2 Hz  
 B) 5 Hz  
 C) 10 Hz  
 D) 20 Hz

13. Which of the following is a vector quantity?  
 A) Mass  
 B) Speed  
 C) Distance  
 D) Displacement

14. What is the term for the bending of light as it passes from one medium to another?  
 A) Reflection  
 B) Refraction  
 C) Diffraction  
 D) Dispersion

15. Which of the following is an example of a non-renewable energy source?  
 A) Solar energy  
 B) Wind energy  
 C) Coal  
 D) Hydroelectric energy

16. Who discovered the electron?  
 A) J.J. Thomson  
 B) Ernest Rutherford  
 C) Niels Bohr  
 D) James Chadwick

17. What is the unit of electric current?  
 A) Volt  
 B) Watt  
 C) Ampere  
 D) Coulomb

18. What is the potential difference between two points in a circuit called?  
 A) Current  
 B) Voltage  
 C) Resistance  
 D) Power

19. Which law of motion states that an object will remain at rest or in uniform motion unless acted upon by a force?  
 A) Newton's First Law  
 B) Newton's Second Law  
 C) Newton's Third Law  
 D) None of the above

20. What is the device used to measure electric current?  
 A) Voltmeter  
 B) Ammeter  
 C) Ohmmeter  
 D) Galvanometer

21. What type of wave is sound?  
 A) Transverse wave  
 B) Longitudinal wave  
 C) Electromagnetic wave  
 D) Surface wave

22. What is the term for the maximum displacement of a wave from its rest position?  
 A) Frequency  
 B) Wavelength  
 C) Amplitude  
 D) Period

23. Which planet has the strongest gravitational field?  
 A) Earth  
 B) Mars  
 C) Jupiter  
 D) Venus

24. Which element is the most abundant in the universe?  
 A) Oxygen  
 B) Hydrogen  
 C) Carbon  
 D) Nitrogen

25. What is the resistance of a conductor with a voltage of 10 volts and a current of 2 amperes?  
 A) 5 ohms  
 B) 10 ohms  
 C) 20 ohms  
 D) 2 ohms

26. Who formulated the laws of planetary motion?  
 A) Isaac Newton  
 B) Johannes Kepler  
 C) Galileo Galilei  
 D) Albert Einstein

27. What is the term for the amount of matter in an object?  
 A) Volume  
 B) Mass  
 C) Density  
 D) Weight

28. What is the phenomenon where light spreads as it passes through a small aperture?  
 A) Reflection  
 B) Refraction  
 C) Diffraction  
 D) Dispersion

29. What is the speed of sound in air at room temperature?  
 A) 340 m/s  
 B) 300 m/s  
 C) 400 m/s  
 D) 500 m/s

30. What is the symbol for the gravitational constant?  
 A) g  
 B) G  
 C) h  
 D) k

31. Which of the following is an electromagnetic wave?  
 A) Sound wave  
 B) Water wave  
 C) Light wave  
 D) Seismic wave

32. What is the name of the force that acts on an object moving in a circular path, directed towards the center of the circle?  
 A) Centripetal force  
 B) Centrifugal force  
 C) Gravitational force  
 D) Frictional force

33. Which of the following devices converts mechanical energy into electrical energy?  
 A) Transformer  
 B) Generator  
 C) Motor  
 D) Battery

34. What is the primary source of energy for the Earth?  
 A) The Moon  
 B) The Sun  
 C) Fossil fuels  
 D) Geothermal energy

35. Which gas is most responsible for the greenhouse effect?  
 A) Oxygen  
 B) Nitrogen  
 C) Carbon dioxide  
 D) Helium

36. What is the charge of a proton?  
 A) Positive  
 B) Negative  
 C) Neutral  
 D) Variable

37. Which of the following is a renewable energy source?  
 A) Coal  
 B) Oil  
 C) Natural gas  
 D) Solar energy

38. What is the formula for kinetic energy?  
 A) mv²/2  
 B) mgh  
 C) mc²  
 D) Fd

39. Who discovered the law of universal gravitation?  
 A) Isaac Newton  
 B) Albert Einstein  
 C) Galileo Galilei  
 D) James Clerk Maxwell

40. What is the term for the opposition to the flow of electric current in a conductor?  
 A) Conductance  
 B) Resistance  
 C) Capacitance  
 D) Inductance