College of Science Department of chemistry	1st Stage chemistry Physics for chemistry	2023

1. What is the unit of electric charge?

A. Joule

B. Coulomb

C. Volt

D. Ampere

2. Which law states that the total energy of an isolated system remains constant?

A. Boyle's Law

B. First Law of Thermodynamics

C. Ohm's Law

D. Charles's Law

3. What is the formula for calculating the energy of a photon?

A. E=mc^2

B. E=hν

C. E=(1/2)mv^2

D. E=ρgh

4. What is the ideal gas law equation?

A. PV=nRT

B. E=mc^2

C. F=ma

D. V=IR

5. Which phenomenon explains the dispersion of light into its constituent colors?

A. Refraction

B. Diffraction

C. Dispersion

D. Polarization

6. What is the principle behind a spectrometer?

A. Reflection of light

B. Refraction and dispersion of light

C. Absorption of sound

D. Magnetic resonance

7. Which equation represents the relationship between pressure, volume, and temperature for a fixed amount of gas?

A. $P=kV$

B. $V \propto T$

C. $PVT=\text{constant}$

D. $F=-kx$

8. What is the SI unit of electric potential?

A. Ampere

B. Volt

C. Watt

D. Coulomb

9. What property of a substance affects its resistance to electric current?

A. Density

B. Temperature

C. Conductivity

D. Pressure

10. Which law describes the force between two charged particles?

A. Newton's Third Law

B. Coulomb's Law

C. Hooke's Law

D. Faraday's Law

11. Which instrument is used to measure electric current?

A. Voltmeter

B. Ammeter

C. Ohmmeter

D. Barometer

12. What is the term for the amount of heat required to raise the temperature of 1 gram of a substance by 1 degree Celsius?

A. Heat capacity

B. Specific heat capacity

C. Latent heat

D. Enthalpy

13. What is the formula for calculating pressure?

A. P=FA

B. P=mV

C. P=VI

D. P=Wt

14. Which law explains the relationship between the frequency of a wave and its wavelength?

A. Boyle’s Law

B. Planck’s Law

C. Hooke’s Law

D. Wave Equation

15. Which property is determined by the slope of a pressure vs. temperature graph for an ideal gas?

A. Specific heat

B. Heat capacity

C. Thermal conductivity

D. Ideal gas constant

16. What is the purpose of using a calorimeter in a laboratory?

A. To measure light intensity

B. To measure heat changes in chemical reactions

C. To measure sound frequency

D. To measure pressure changes

17. Which property of a gas increases as its temperature increases, assuming volume is constant?

A. Volume

B. Pressure

C. Density

D. Viscosity

18. What is the function of a catalyst in a chemical reaction?

A. Increases the activation energy

B. Slows down the reaction

C. Increases the reaction rate

D. Changes the chemical equilibrium

19. Which principle explains the buoyant force on an object submerged in fluid?

A. Pascal's Principle

B. Archimedes' Principle

C. Bernoulli's Principle

D. Heisenberg's Principle

20. What does a thermocouple measure?

A. Electric resistance

B. Temperature

C. Pressure

D. Light intensity

21. What does the Beer-Lambert law relate to?

A. Absorbance of light to concentration of the solution

B. Temperature to pressure of a gas

C. Volume to temperature of a gas

D. Energy to frequency of a wave

22. What is the term for the point at which a solid turns into a liquid?

A. Boiling point

B. Melting point

C. Sublimation point

D. Freezing point

23. Which device is used to detect ionizing radiation?

A. Voltmeter

B. Geiger counter

C. Thermometer

D. Hygrometer

24. What does the term ‘exothermic’ describe in a chemical reaction?

A. Absorption of heat

B. Release of heat

C. Increase in entropy

D. Decrease in volume

25. What is the unit of frequency in the SI system?

A. Hertz

B. Decibel

C. Joule

D. Watt

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Good Luck