ARKANSAS CHEMISTRY · FINAL EXAM · 50 QUESTIONS

Final Exam — Practice Test

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

1 **An element cannot be broken down into simpler substances by**

- A Filtration
- B Distillation
- C Ordinary chemical means
- D Melting

Understand It with Pulse | Flag a mistake

2 **A covalent bond forms when atoms share pairs of**

- A Protons
- B Electrons
- C Neutrons
- D Nuclei

Understand It with Pulse | Flag a mistake

3 **Molar mass is the mass of one mole of a substance, expressed in**

- A Moles per gram
- B Grams per mole
- C Litres per mole
- D Grams only

Understand It with Pulse | Flag a mistake

4 **Boyle law states that at constant temperature, pressure and volume of a gas are**

- A Directly proportional
- B Inversely proportional
- C Unrelated
- D Equal always

Understand It with Pulse | Flag a mistake

5 **Salt water is best classified as a**

A Homogeneous mixture

B Pure compound

C Pure element

D Heterogeneous mixture

Understand It with Pulse | Flag a mistake

6 **An ionic compound in solid form usually does not conduct electricity, but when melted or dissolved it**

A Conducts electricity

B Becomes covalent

C Loses its ions

D Becomes a gas

Understand It with Pulse | Flag a mistake

7 **A solution concentration in moles per litre is called**

A Molality only

B Molarity

C Percent only

D Density

Understand It with Pulse | Flag a mistake

8 **Absolute temperature must be in kelvin for gas law calculations because kelvin starts at**

A Freezing point of water

B Absolute zero

C Boiling point of water

D Room temperature

Understand It with Pulse | Flag a mistake

9 **Distillation separates liquids by differences in**

A Colour

B Density only

C Mass only

D Boiling point

Understand It with Pulse | Flag a mistake

10 **Metals conduct electricity because their electrons are**

A Fixed to one atom

B Absent

C Bound in molecules

D Free to move through the metal

Understand It with Pulse | Flag a mistake

11 **In a chemical reaction, the limiting reactant is the reactant that**

- **A** Runs out first and limits product formed
- **B** Is present in excess
- **C** Is a catalyst
- **D** Never reacts

Understand It with Pulse | Flag a mistake

12 **At standard temperature and pressure, one mole of an ideal gas occupies about**

- **A** 22.4 litres
- **B** 1.0 litre
- **C** 10.0 litres
- **D** 100 litres

Understand It with Pulse | Flag a mistake

13 **An atom is the smallest unit of an element that retains its**

A Mass only

B Colour only

C Chemical properties

D Temperature

Understand It with Pulse | Flag a mistake

14 **Hydrogen bonding is a strong intermolecular force that occurs when hydrogen is bonded to nitrogen, oxygen, or**

A Carbon only

B Sodium

C Fluorine

D Chlorine only

Understand It with Pulse | Flag a mistake

15 **Percent yield is actual yield divided by theoretical yield multiplied by**

A 10

B 1000

C 1

D 100

Understand It with Pulse | Flag a mistake

16 **According to kinetic molecular theory, gas particle volume is negligible compared with the**

A Mass of the gas

B Temperature

C Pressure

D Volume of the container

Understand It with Pulse | Flag a mistake

17 **Filtration can separate sand from water because sand particles are**

A Dissolved in water

B Chemically bonded to water

C Too large to pass through filter paper

D Smaller than water molecules

Understand It with Pulse | Flag a mistake

18 **In a synthesis reaction, two or more reactants combine to form**

A Two products always

B One product

C No product

D A mixture only

Understand It with Pulse | Flag a mistake

19 **A compound with empirical formula CH_2 and molar mass about 42 grams per mole has molecular formula**

A CH_2

B C_2H_4

C C_4H_8

D C_3H_6

Understand It with Pulse | Flag a mistake

20 **An endothermic process absorbs heat from surroundings, for example**

A Freezing water

B Condensing steam

C Burning fuel

D Melting ice

Understand It with Pulse | Flag a mistake

21 **Carbon 12 and carbon 14 are isotopes because both have 6 protons, but carbon 14 has more**

A Neutrons

B Electrons

C Protons

D Molecules

Understand It with Pulse | Flag a mistake

22 **In a double displacement reaction, ions in two compounds exchange**

A Partners

B Electrons only

C Protons only

D Neutrons

Understand It with Pulse | Flag a mistake

23 **Solubility is the maximum amount of solute that dissolves in a given amount of solvent at a**

- **A** Given colour
- **B** Given pressure only
- **C** Given temperature
- **D** Given mass only

Understand It with Pulse | Flag a mistake

24 **Entropy measures disorder, and entropy increases when a solid**

- **A** Freezes to a solid
- **B** Condenses to a liquid
- **C** Melts to a liquid
- **D** Forms a crystal

Understand It with Pulse | Flag a mistake

25 **A sodium atom loses one electron to form an ion with charge**

A 1 plus

B 1 minus

C 2 plus

D 0

Understand It with Pulse | Flag a mistake

26 **The law of conservation of mass states that mass is neither created nor destroyed in a**

A Chemical reaction

B Physical change only

C Nuclear change only

D Mixture

Understand It with Pulse | Flag a mistake

27 **A supersaturated solution contains more dissolved solute than a saturated solution at that temperature, and is usually made by cooling a**

- A Cold unsaturated solution
- B Hot saturated solution carefully
- C Gas mixture
- D Precipitate

Understand It with Pulse | Flag a mistake

28 **Le Chatelier principle states a system at equilibrium shifts to**

- A Increase the stress
- B Counteract a stress applied to it
- C Stop reacting
- D Change its catalyst

Understand It with Pulse | Flag a mistake

29 **Elements in the same group of the periodic table tend to have similar**

A Atomic masses exactly

B Densities exactly

C Colours

D Chemical properties

Understand It with Pulse | Flag a mistake

30 **Increasing temperature usually increases reaction rate because particles**

A Move more slowly

B Stop colliding

C Lose mass

D Collide more often and with more energy

Understand It with Pulse | Flag a mistake

31 **How many moles are in 36 grams of water, molar mass 18 grams per mole**

ANSWER _____

Understand It with Pulse | Flag a mistake

32 **Increasing temperature shifts an exothermic equilibrium toward**

A Reactants

B Products

C No change

D Catalyst

Understand It with Pulse | Flag a mistake

33 **The atomic number of an element equals the number of**

A Neutrons plus protons

B Electrons plus neutrons

C Protons in its atoms

D Neutrons only

Understand It with Pulse | Flag a mistake

34 **Methane has a tetrahedral shape because its central carbon has four bonding pairs and**

A Two lone pairs

B No lone pairs

C One lone pair

D Three lone pairs

Understand It with Pulse | Flag a mistake

35 **A solution has 0.5 moles in 2 litres, what is its molarity in moles per litre**

ANSWER _____

Understand It with Pulse | Flag a mistake

36 **A gas at 2 atmospheres and 4 litres is compressed to 2 litres at constant temperature, what is the new pressure in atmospheres**

ANSWER _____

Understand It with Pulse | Flag a mistake

37 **Density is mass divided by volume, and a sample with mass 40 grams and volume 10 cm³ has density**

A 4 grams per cm³

B 400 grams per cm³

C 0.25 grams per cm³

D 50 grams per cm³

Understand It with Pulse | Flag a mistake

38 **An exothermic reaction releases energy to surroundings, so the products have**

A Less energy than the reactants

B More energy than the reactants

C Equal energy always

D No energy

Understand It with Pulse | Flag a mistake

39 **How many particles are in 2 moles, in multiples of Avogadro number, give the number only**

ANSWER _____

Understand It with Pulse | Flag a mistake

40 **A mixture has partial pressures 2 atmospheres oxygen and 3 atmospheres nitrogen, what is the total pressure in atmospheres**

ANSWER _____

Understand It with Pulse | Flag a mistake

41 **An atom has 20 protons and 20 neutrons, what is its mass number**

ANSWER _____

Understand It with Pulse | Flag a mistake

42 **A solution with pH 11 is**

A Acidic

B Neutral

C Pure water only

D Basic

Understand It with Pulse | Flag a mistake

43 **An electrolyte solution conducts electricity because it contains**

- A Free electrons only
- B No particles
- C Free ions
- D Only molecules

Understand It with Pulse | Flag a mistake

44 **Hess law states total enthalpy change is independent of the**

- A Temperature
- B Pressure
- C Path taken
- D Catalyst

Understand It with Pulse | Flag a mistake

45 **When an excited electron falls to a lower energy level, it releases energy as**

A Heat only

B A proton

C Light

D A neutron

Understand It with Pulse | Flag a mistake

46 **Balance H_2 plus O_2 gives H_2O, what coefficient is needed in front of H_2O when the equation is balanced as 2 H_2 plus O_2 gives H_2O**

ANSWER _____

Understand It with Pulse | Flag a mistake

47 **Dilution equation $M_1 V_1$ equals $M_2 V_2$ can be used when moles of solute stay**

A Increasing

B Constant during dilution

C Decreasing

D Zero

Understand It with Pulse | Flag a mistake

48 **Boiling occurs when vapour pressure equals**

A Zero

B Atmospheric pressure

C Partial pressure

D Water pressure only

Understand It with Pulse | Flag a mistake

49 **A compound is a pure substance made of two or more elements chemically**

A Mixed without bonding

B Separated by filtration

C Combined in any ratio

D Combined in fixed proportions

Understand It with Pulse | Flag a mistake

50 **A colour change, gas production, precipitate formation, or temperature change can all indicate that a**

A Physical change only

B Chemical reaction has occurred

C Mixture has formed

D Solution has frozen

Understand It with Pulse | Flag a mistake

ANSWER KEY

1.	C	**18.**	B	**35.**	0.25
2.	B	**19.**	D	**36.**	4
3.	B	**20.**	D	**37.**	A
4.	B	**21.**	A	**38.**	A
5.	A	**22.**	A	**39.**	2
6.	A	**23.**	C	**40.**	5
7.	B	**24.**	C	**41.**	40
8.	B	**25.**	A	**42.**	D
9.	D	**26.**	A	**43.**	C
10.	D	**27.**	B	**44.**	C
11.	A	**28.**	B	**45.**	C
12.	A	**29.**	D	**46.**	2
13.	C	**30.**	D	**47.**	B
14.	C	**31.**	2	**48.**	B
15.	D	**32.**	A	**49.**	D
16.	D	**33.**	C	**50.**	B
17.	C	**34.**	B		

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