FINAL EXAM - PRACTICE TEST | NEW BRUNSWICK CHEMISTRY 111-112 · 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 **A compound is a substance made of two or more elements**

- A chemically bonded
- B physically mixed
- C melted together
- D dissolved together

Understand It with Pulse | Flag a mistake

2 **An ionic bond forms between a metal and a nonmetal by**

- A transfer of electrons
- B sharing electrons equally
- C sharing electrons unequally only
- D melting

Understand It with Pulse | Flag a mistake

3 **The molar mass of NaCl is 58.5 grams per mole. A sample of 117 grams contains, in moles**

ANSWER _____

Understand It with Pulse | Flag a mistake

4 **A solution of concentration 2 moles per litre and volume 100 millilitres is diluted to 200 millilitres. Its new concentration, in moles per litre, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

5 **In a reaction, 3 moles of A react with 1 moles of B to make product. Starting with 6 moles of A, the moles of B needed are**

ANSWER _____

Understand It with Pulse | Flag a mistake

6 **An anion is formed when an atom**

A loses electrons

B gains electrons

C loses protons

D gains protons

Understand It with Pulse | Flag a mistake

7 **Hydrogen bonding is a strong intermolecular force between molecules containing hydrogen bonded to**

A oxygen, nitrogen, or fluorine

B carbon only

C any metal

D any noble gas

Understand It with Pulse | Flag a mistake

8 **The molar mass of CO_2 is 44 grams per mole. A sample of 2 moles has a mass, in grams, of**

ANSWER _____

Understand It with Pulse | Flag a mistake

9 **An unsaturated solution can still dissolve**

A no more solute

B only solvent

C only gas

D more solute

Understand It with Pulse | Flag a mistake

10 **A gas occupies 300 millilitres at 300 kelvin. At constant pressure its temperature is changed to 600 kelvin. Its new volume, in millilitres, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

11 **An atom of Ca has atomic number 20 and mass number 40. Its number of neutrons is**

ANSWER

Understand It with Pulse | Flag a mistake

12 **A molecule with 4 bonding pairs and no lone pairs on the central atom is**

A tetrahedral

B linear

C bent

D pyramidal

Understand It with Pulse | Flag a mistake

13 **The molar mass of a substance is its mass per**

A gram only

B mole

C litre

D atom

Understand It with Pulse | Flag a mistake

14 **A solution contains 5 grams of solute in 50 grams of solution. Its percent by mass is**

ANSWER _____

Understand It with Pulse | Flag a mistake

15 **At standard temperature and pressure one mole of gas occupies 22.4 litres. A sample occupying 67.2 litres at standard temperature and pressure contains, in moles**

ANSWER _____

Understand It with Pulse | Flag a mistake

16 **An atom of He has atomic number 2. Its number of protons is**

ANSWER _____

Understand It with Pulse | Flag a mistake

17 **Methane is nonpolar because its bonds are arranged**

A symmetrically around carbon

B in a line only

C with lone pairs

D unevenly

Understand It with Pulse | Flag a mistake

18 **In the equation $2H_2$ plus O_2 gives $2H_2O$, the mole ratio of H_2 to O_2 is**

- A 1 to 2
- B 2 to 1
- C 1 to 1
- D 2 to 2

Understand It with Pulse | Flag a mistake

19 **A solution contains 4 moles of solute in 2 litres. Its concentration, in moles per litre, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

20 **Percent yield compares actual yield to**

A limiting reagent mass

B excess reagent mass

C theoretical yield

D reactant mass only

Understand It with Pulse | Flag a mistake

21 **An atom of Na has atomic number 11 and mass number 23. Its number of neutrons is**

ANSWER _____

Understand It with Pulse | Flag a mistake

22 **A bond between atoms with electronegativity values 3.2 and 2.4 has a difference of**

ANSWER _____

Understand It with Pulse | Flag a mistake

23 **The molar mass of $CaCO_3$ is 100 grams per mole. A sample of 200 grams contains, in moles**

ANSWER _____

Understand It with Pulse | Flag a mistake

24 **A solution of concentration 2 moles per litre and volume 200 millilitres is diluted to 800 millilitres. Its new concentration, in moles per litre, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

25 **Stoichiometry uses mole ratios from the**

A unbalanced equation

B periodic table only

C balanced equation

D molar masses only

Understand It with Pulse | Flag a mistake

26 **Elements in the same group of the periodic table have similar**

- A masses only
- B colours only
- C densities only
- D chemical properties

Understand It with Pulse | Flag a mistake

27 **A bond between atoms with electronegativity values 3.9 and 2.1 has a difference of**

ANSWER _____

Understand It with Pulse | Flag a mistake

28 **The equation 2Na plus Cl_2 gives 2NaCl is balanced. The coefficient in front of NaCl is**

ANSWER _____

Understand It with Pulse | Flag a mistake

29 **A solution contains 25 grams of solute in 250 grams of solution. Its percent by mass is**

ANSWER

Understand It with Pulse | Flag a mistake

30 **A gas at 200 kilopascals occupies 3 litres. At constant temperature its volume is changed to 6 litres. Its new pressure, in kilopascals, is**

ANSWER

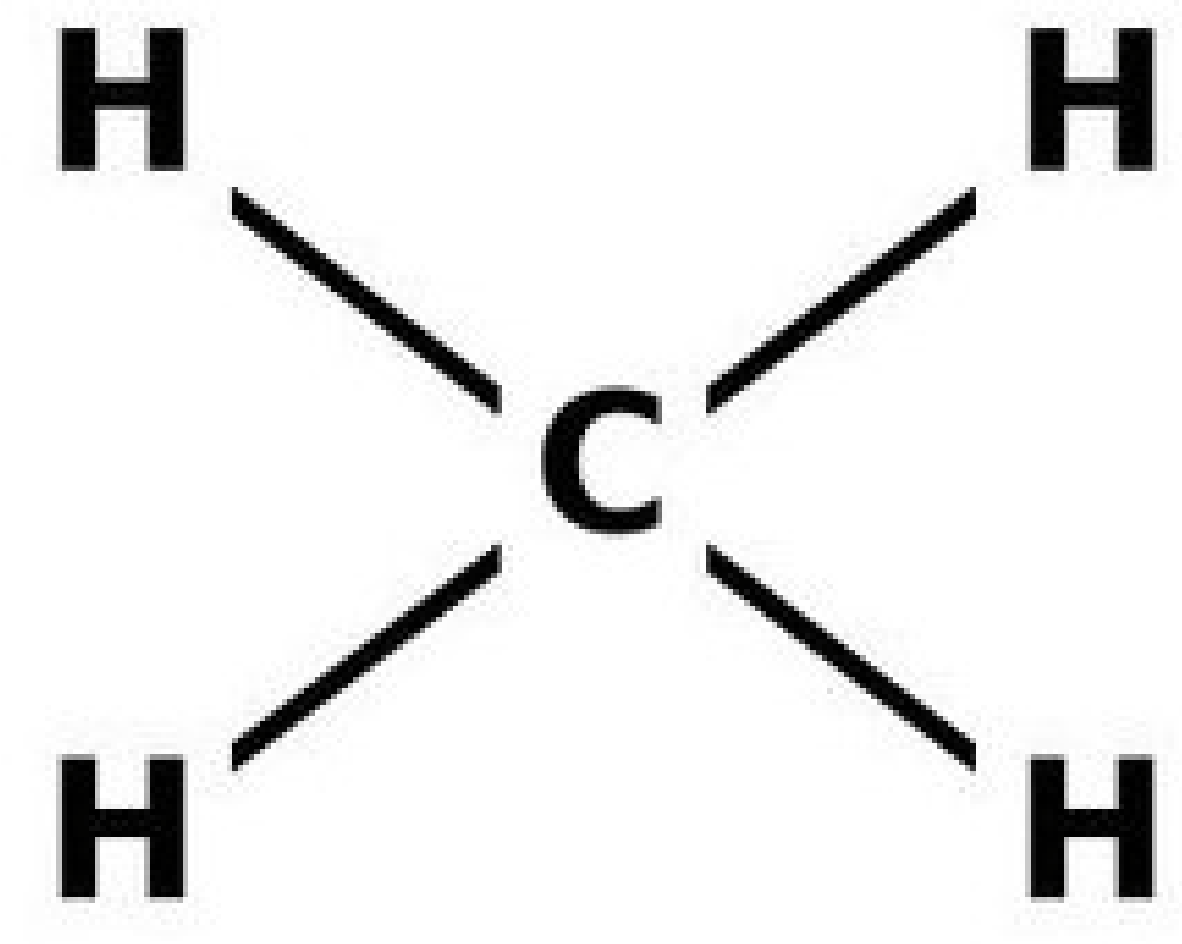
Understand It with Pulse | Flag a mistake

31 **An ion has 17 protons and 18 electrons. Its charge is -1. The magnitude of its charge is**

ANSWER

Understand It with Pulse | Flag a mistake

32 **The Lewis diagram shows methane, with carbon bonded to four hydrogen atoms. The shape of the methane molecule is**



A linear

B bent

C trigonal planar

D tetrahedral

Understand It with Pulse | Flag a mistake

33 **The molar mass of CO_2 is 44 grams per mole. A sample of 132 grams contains, in moles**

ANSWER _____

Understand It with Pulse | Flag a mistake

34 **A solution contains 50 grams of solute in 500 grams of solution. Its percent by mass is**

ANSWER _____

Understand It with Pulse | Flag a mistake

35 **A gas at pressure 90 kilopascals occupies 6 litres. At constant temperature its pressure is changed to 180 kilopascals. Its new volume, in litres, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

36 **An atom has 9 protons and 10 neutrons. Its mass number is**

ANSWER _____

Understand It with Pulse | Flag a mistake

37 **Water has a high boiling point for its size because of**

A ionic bonding

B hydrogen bonding

C metallic bonding

D no intermolecular forces

Understand It with Pulse | Flag a mistake

38 **The molar mass of carbon dioxide, CO_2, is about**

A 44 grams per mole

B 28 grams per mole

C 32 grams per mole

D 18 grams per mole

Understand It with Pulse | Flag a mistake

39 **A solution contains 8 moles of solute in 4 litres. Its concentration, in moles per litre, is**

ANSWER

Understand It with Pulse | Flag a mistake

40 **To find the limiting reagent, compare the**

A masses only

B volumes only

C moles available to moles required

D colours

Understand It with Pulse | Flag a mistake

41 **Noble gases are generally**

A highly reactive

B unreactive

C metals

D liquids at room temperature

Understand It with Pulse | Flag a mistake

42 **A bond between atoms with electronegativity values 2.8 and 2.0 has a difference of**

ANSWER _____

Understand It with Pulse | Flag a mistake

43 **The equation N_2 plus $3H_2$ gives $2NH_3$ is balanced. The coefficient in front of H_2 is**

ANSWER _____

Understand It with Pulse | Flag a mistake

44 **Increasing temperature usually increases the solubility of a**

A gas in water

B solid in air

C solid in water

D liquid in air only

Understand It with Pulse | Flag a mistake

45 **A gas at 100 kilopascals occupies 8 litres. At constant temperature its volume is changed to 4 litres. Its new pressure, in kilopascals, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

46 **Halogens are in group**

A 1

B 2

C 18

D 17

Understand It with Pulse | Flag a mistake

47 **A bond between atoms with electronegativity values 2.4 and 2.0 has a difference of**

ANSWER _____

Understand It with Pulse | Flag a mistake

48 **The equation 2Mg plus O_2 gives 2MgO is balanced. The coefficient in front of MgO is**

ANSWER _____

Understand It with Pulse | Flag a mistake

49 **A solution contains 12 moles of solute in 4 litres. Its concentration, in moles per litre, is**

ANSWER

Understand It with Pulse | Flag a mistake

50 **A gas at pressure 120 kilopascals occupies 10 litres. At constant temperature its pressure is changed to 240 kilopascals. Its new volume, in litres, is**

ANSWER

Understand It with Pulse | Flag a mistake

ANSWER KEY

1.	A	**18.**	B	**35.**	3
2.	A	**19.**	2	**36.**	19
3.	2	**20.**	C	**37.**	B
4.	1	**21.**	12	**38.**	A
5.	2	**22.**	0.8	**39.**	2
6.	B	**23.**	2	**40.**	C
7.	A	**24.**	0.5	**41.**	B
8.	88	**25.**	C	**42.**	0.8
9.	D	**26.**	D	**43.**	3
10.	600	**27.**	1.8	**44.**	C
11.	20	**28.**	2	**45.**	200
12.	A	**29.**	10	**46.**	D
13.	B	**30.**	100	**47.**	0.4
14.	10	**31.**	1	**48.**	2
15.	3	**32.**	D	**49.**	3
16.	2	**33.**	3	**50.**	5
17.	A	**34.**	10		

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