RERAL CHEMISTRY I/ جميع الشعب

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جبيع الشعب / GENERAL CHEMISTRY

Chem. 101 Exams

Chem. 101 Final Exam

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ion

The concentration of calcium in seawater sample was found to be 19000 mg/L. What is the percent concentration by mass of calcium in the sample assuming a density for seawater of 1.06 g/mL?

Select one:

- 0.230 %
- 0.905 %
- 0.0328 %
- 0 1.64 %
- 0 1.79 %



Not yet answered

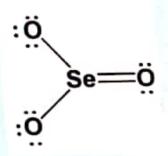
Marked out of 2.0

P Flag question How can Te acquire a noble gas electron configuration?

Select one:

- By losing one electron
- By losing two electrons
- By gaining one electron
- By gaining two electrons
- O By losing three electrons

What formal charges are there on the following Lewis structure of SeO₃?





Select one:

out of

- O Se has +1, each O atom has 0
- O Se has +1, two O atoms has -1 and one O atom has 0
- O Se has +2, two O atoms has -1 and one O atom has 0
- O Se has +2, one O atom has -2
- O Se has 0, one 0 atom has +1

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Question 4

Not yet answered

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P Flag question Calculate the change in internal energy (kJ/mol) when 4 moles of NH₃(g) are converted to 4 moles of NO(g) at 5 atm, and 425°C.

$$4NH_3(g) + 5O_2(g) --> 4NO(g) + 6H_2O(g)$$

$$\Delta H = -906 \, kJ/mol$$

R= 0.0821 Latm/mol.K or 8.314 J/K-mol

Select one:

0 - 909.31

0 - 910.14

 \bigcirc - 910.97

0 - 911.80

 \bigcirc - 908.48

550 - 616-coso

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Question 5

Not yet answered

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P Flag question How many electrons are there in the valence shell of Be in BeCl₂?

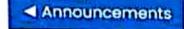
Select one:

- 0 6
- 0 10
- 0 4
- O 12
- 0 14



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Question 6

Not yet answered

Marked out of 2.0

P Flag question The average speed of nitrogen gas (N_2 , 28 g/mol) that effuses at 30.0 °C is 480 m/s. The average speed at which butene gas (C_4H_8 , 56 g/mol) effuses at the same temperature is:

Select one:

- 0 481 m/s
- 0 339 m/s
- 0 354 m/s
- 495 m/s
- 396 m/s



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Question 7

Not yet answered

Marked out of 2.0

P Flag question Which one of the following solids have the largest melting point?

Select one:

- O Rbi
- O NaBr
- O SrO
- O CsCl
- O KCI

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Question 8

Not yet answered

Marked out of 2.0

P Flag question Which of the following atoms or ions are isoelectronic?

Select one:

- O K* and CI
- Ca²⁺ and Mg²⁺
- \bigcirc N³⁻ and F
- O Li* and Be2+
- O Be2+ and B







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Question 9

Not yet answered

Marked out of 2.0

P Flag question Which of the following pair of elements would most likely form an ionic compound?

Select one:

- Ga and Mg
- O Br and O
- O Cland !
- O C and S
- O Br and Rb



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Flag question Lithium (Li) reacts with water according to the following unbalanced equation:

$$Li(s) + H2O(1) \rightarrow LiOH(aq) + H2(g)$$

How many grams of Li are needed to produce 59.8g of H₂? (molar mass: H = 1.01, Li = 6.94 g/mol)

Select one:

- 0 411
- O 273
- 0 136
- 0 342
- 0 205

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Question 11

Not yet answered

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P Flag question How many milliliters of 0.165 M aluminum chloride (AICI₃) are required to react completely with 35.0 mL of 0.210 M silver nitrate (AgNO₃)? The net ionic equation is:

$$Ag^{+}(aq) + Cl^{-}(aq) ---> AgCl(s)$$

Select one:

- O 31.8 mL
- O 19.1 mL
- O 23.3 mL
- O 14.8 mL
- O 27.6 ml.



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Flag estion In which of the following bonds would Br have a partial positive charge?

Select one:

- O Br-Se
- O Br-Ge
- O Br-As
- O Br-Cl
- O Br-I

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Select one:

- [Kr]5s²4d⁷
- [Rn]5f³7s²6d¹
- [Xe]4f¹⁴6s²5d⁵
- [Rn]5f¹⁴
- \bigcirc [Ar]3d¹⁰4s²4p²



Which one of the following electron configurations is considered a pseudo-Nobel gas configuration?

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Not yet answered

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F Flag question What is the potential energy value (in kJ/mol) obtained via combining Cs⁺ ions and F ions to form ionic bonds?

 $k = 8.99 \times 10^9 \text{ J.m/C}^2$ $e = 1.6 \times 10^{-19} \text{ C}$

Avogadro No. = 6.022 x 10²³

The distance between ions = 0.350 nm

Select one:

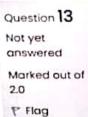
- 0 462
- 0 554
- O 513
- O 396
- O 693

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P Flag question Based on VSEPR, what is the expected geometry around the circled atom in the following compound?

Select one:

- O Trigonal planar
- O Bent
- O Linear
- Tetrahedral
- O Trigonal pyramidal



question



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Finish attempt

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Question 12

Not yet answered

Marked out of 20

F Flag question What is the maximum number of electrons that can be placed in a shell with n = 2?

- 0 10
- 0 2
- 0 6

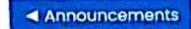


- 0 14



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Jump to ...

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g tion Which one of the following elements is expected to have the highest electronegativety?

Select one:

- O Element (q): I.E = 4.0 x 10³ kJ/mol and E.A = 2.0 x 10³ kJ/mol
- O Element (t): I.E = $4.0 \times 10^3 \text{ kJ/mol}$ and E.A = $2.5 \times 10^3 \text{ kJ/mol}$
- Element (z): I.E = 1.0 x 10³ kJ/mol and E.A = 3.0 x 10³ kJ/mol
- O Element (y): $I.E = 5.0 \times 10^3 \text{ kJ/mol}$ and $E.A = 1.0 \times 10^3 \text{ kJ/mol}$
- O Element (x): $I.E = 2.5 \times 10^3 \text{ kJ/mol}$ and $E.A = 2.5 \times 10^3 \text{ kJ/mol}$

Next page

Which of the following atoms is the most difficult to ionize?

Select one:

Ne

He

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 \bigcirc F

 \circ c

00

Not yet answered

Marked out of 2.0

P Flag question Which one of the following statements is incorrect regarding electron affinity?

Select one:

- O In a given period, the electron affinity rises from the group 1A element to the group 7A element but with sharp drops in the group 2A and group 5A elements.
- Electron affinity is defined as the energy required to remove an electron from the atom's negative ion (in its ground state)
- Nobel gases have zero or small negative electron affinity values.
- The element with highest electron affinity in the periodic table is chlorine.
- Group 6A and group 7A elements have the smallest electron affinities of any of the other main-group elements



Not yet answered

Marked out of 2.0

P Flag question Which one of the following sets of quantum numbers is not possible?

Select one:

- O n= 2, l= 1, ml=1
- \bigcirc n=1, l=1, ml=-1
- n= 3, l= 2, ml= -2
- n= 2, l= 1, ml= -1
- n=1, l=0, ml=0

Question 22 Not yet

answered

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P Flag question How many grams of NiSO₄.7H₂O (280.86 g/mol) would be required to prepare 1000 mL of a solution that is 0.300 M in NiSO₄(aq) (154.76 g/mol)?

Select one:

- O 42.1 g
- O 50.6 g
- O 59.0 g
- O 67.4 g
- O 84.3 g

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Not yet answered

Marked out of 2.0

P Flag question Which of the following ionic compounds does not exist?

Select one:

- O SrO
- $\bigcirc \ Bal_2$
- O RbBr
- O Csl
- O CsO





Not yet answered

Marked out of 2.0

P Flag question Which of the following O-bonds is most polar?

Select one:

- O-B
- O 0-C
- 0 0-0
- O O-F
- O O-N



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Not yet answered

Marked out of 2.0

P Flag question Which of the following atoms is smallest in size?

Select one:

- OF
- \circ B
- 0 C
- O Be
- 00



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Which of the following atoms is the most difficult to ionize?

Select one:

Ne
He
F

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Not yet answered

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- \bigcirc Ca²⁺ and Mg²⁺
- O N³⁻ and F O O
- O Li⁺ and Be²⁺
- O Be²⁺ and B

Not yet answered

Marked out of 2.0

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Avogadro No. = 6.022×10^{23}

The distance between ions = 0.350 nm

Select one:

- 0 462
- 0 554
- 0 513
- 0 396
- 0 693

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Not yet answered

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- O Element (y): I.E = $5.0 \times 10^3 \text{ kJ/mol}$ and E.A = $1.0 \times 10^3 \text{ kJ/mol}$
- O Element (x): I.E = 2.5 x 103 kJ/mol and E.A = 2.5 x 103 kJ/mol

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Question 20 Not yet

answered

Marked out of 2.0

F Flag question Which one of the following statements is incorrect regarding electron affinity?

Select one:

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- O Group 6A and group 7A elements have the smallest electron affinities of any of the other main-group elements

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Not yet answered

Marked out of 2.0

P Flag question The bond angles in SbI₅ are expected to be:

Select one:

- O 180°
- O 90°, 120°, and 180°
- O 90 ° and 109.5 °
- O 90°
- O 120°

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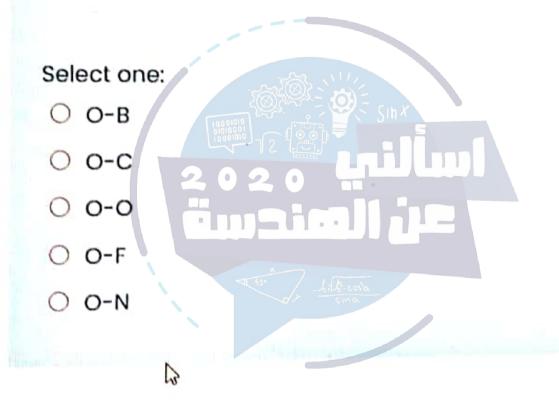
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Answer saved

Marked out of 2.0

F Flag question Which of the following O-bonds is most polar?



Not yet answered

Marked out of 2.0

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- 0 693

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