

Chemistry Knowledge Test – Semester I, Part 2

Adam Hekner

Name:.....

1. Match the type of chemical bond (A–C) to the correct molecular formula. (2 points)

A. Nonpolar covalent bond

B. Polar covalent bond

C. Ionic bond

Cl₂ ____ HCl ____ Na₂O ____

2. Complete the diagram showing ion formation during ionic bonding. Write the molecular formula of the substance whose crystal is built from these ions. (2 points)

____ + ____ e[–] → F[–]

Ca → Ca²⁺ + ____ e[–]

Formula of the substance: _____

3. Select the set that contains only molecular formulas of compounds with coordinate bonds. (1 point)

A. H₂S, NO₂, HBr

B. CO₂, NO₂, SO₃

C. HNO₃, H₃O⁺,
NH₄⁺

D. NH₃, CO₂, SO₂

4. Underline all properties of sodium hydroxide. (2 points)

liquid • solid substance • hygroscopic • poorly soluble in water • highly soluble in water •
caustic • dissolving in water is an exothermic process • dissolving in water is an
endothermic process

5. Underline the correct observations from the chemical experiment. (2 points)

The contents of test tubes 2 and 3 turned A / B / C / D, while the contents of test tube 4
turned A / B / C / D.

In test tubes 1, 5, and 6, the indicator color did not change.

A. yellow B. raspberry C. red D. green

6. One of the compounds of oxygen and hydrogen has strong oxidizing properties. Justify the possibility of using its solution for disinfecting wounds. (1 point)

Grading scale:

- 2.6 pts – passing
- 3.6 pts – satisfactory
- 6.0 pts – good
- 7.6 pts – very good
- 9.5 pts – excellent