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| Fall 2014 Final Exam Practice Prob. CHUNK #2 – Topics 10-18 | | |
| Topic | Q # | Question |
| **10** | 1 | What element is represented by the e- configuration of: 1s22s22p63s23p64s23d104p2 ? |
| 2 | What element is represented by the electron configuration of: 1s22s22p63s23p64s1 |
| 3 | Write the electron configuration for silver |
| **11** | 4 | Sketch what the orbital diagram should look like for sulfur. (sketch it like the one on your p. 123 practice test) |
| 5 | Sketch what the orbital diagram should look like for Mn |
| 6 | Write a short paragraph explaining how to fill an orbital diagram. |
| **12** | 7 | Draw a picture of what happens during atomic absorption. Write 3 sentences describing what happens. |
| 8 | Draw a picture of what happens during atomic emission. Write 3 sentences describing what happens. |
| 9 | What is the definition of ground state? Of excited state? |
| **13** | 11 | List the three main types of radiation, what their symbols are (including the little numbers on top and bottom of the symbol), and what stops them. |
| 12 | Which type of radiation is pure energy? Which type is a high energy electron? Which type is a helium nucleus? |
| 13 | What is the charge on the three main types of radiation & what type of charge would they be attracted to? |
| **14** | 14 | Finish the following nuclear equation: 9943Tc → \_\_\_\_\_ + 0-1e |
| 15 | Finish the following nuclear equation: 23892U 🡪 23490Th + \_\_\_\_ |
| 16 | Write the nuclear equation for Samaium undergoing beta emission |
| **15** | 17 | The half-life of Iron-59 is 44.5 days. How much of a 1.750 mg sample will remain after 243.5 days? |
| 18 | If the half life of a radioactive substance is 5 weeks, what percentage is left after 100 days? |
| 19 | The half life of a substance is 12 days. How much did you start with if you have 9.3 grams left after 4 weeks? |
| **16** | 21 | Draw a sketch of a periodic table and draw an arrow pointing from lowest ionization energy towards the highest. |
| 22 | Rank the atoms from lowest to highest ionization energy:  Na, F, Fr, Ca, Fe, S |
| 23 | Draw a sketch of a periodic table and draw an arrow pointing from lowest electronegativity towards the highest. |
| 24 | Rank the following atoms from lowest to highest electronegativity: Na, F, Fr, Ca, Fe, S |
| 25 | Draw a sketch of a periodic table and draw an arrow pointing from smallest to largest atomic radius. |
| 26 | Rank the following atoms from smallest to largest atomic radius: Na, F, Fr, Ca, Fe, S |
| **17** | 27 | What charge do alkali metals, alkaline earth metals, halogens, and noble gases like to have? (example, alkali metals like to have +1 charge) |
| 28 | How many valence electrons does each of the following have: Na, Cs, Be, F, O, S, C, B |
| 29 | Label a sketch of a periodic table with the names of each group. |
| 30 | List two of each type of atom: metals, nonmetals, metalloid, and transition metals |
| **18** | 31 | Write out the formulas for the following ions: Carbonate, Phosphate, Iron (III), Nitrate |
| 32 | Write the formula for the following compounds. Don’t forget to cross over! Gallium Oxide, Calcium Chloride |
| 33 | MEMORIZE YOUR COMMON IONS! |