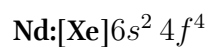
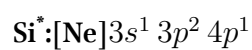
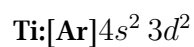
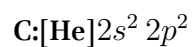
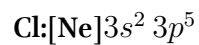


Quiz 8.3 – Atomic Spectroscopy

Name: _____

Electronic Term Symbols

Give the symbol for the lowest energy term for each of the following electronic configurations (You may neglect spin-orbit coupling and J -levels):

**Spin-Orbit Coupling**

For each term, give the J states according Russell-Saunders coupling

○ 3P

○ 2S

○ 1D

○ 3F

Selection Rules

Tell whether each transition (or class of transitions) is allowed. If not, give the selection rule which it violates

○ $1s^1 \rightarrow 2s^1$

○ $1s^2 2s^2 2p^2 \rightarrow 1s^1 2s^2 2p^3$

○ $^3P_2 \rightarrow ^3S_1$

○ $^1D_2 \rightarrow ^3P_2$

○ $^3D_1 \rightarrow ^3S_1$

○ $^1P_0 \rightarrow ^1D_0$

Slaveships

By Lucille Clifton

loaded like spoons
into the belly of Jesus
where we lay for weeks for months
in the sweat and stink
of our own breathing
Jesus
why do you not protect us
chained to the heart of the Angel
where the prayers we never tell
and hot and red
as our bloody ankles
Jesus
Angel
can these be men
who vomit us out from ships
called Jesus Angel Grace of God
onto a heathen country
Jesus
Angel
ever again
can this tongue speak
can these bones walk
Grace Of God
can this sin live