Midterm: Info

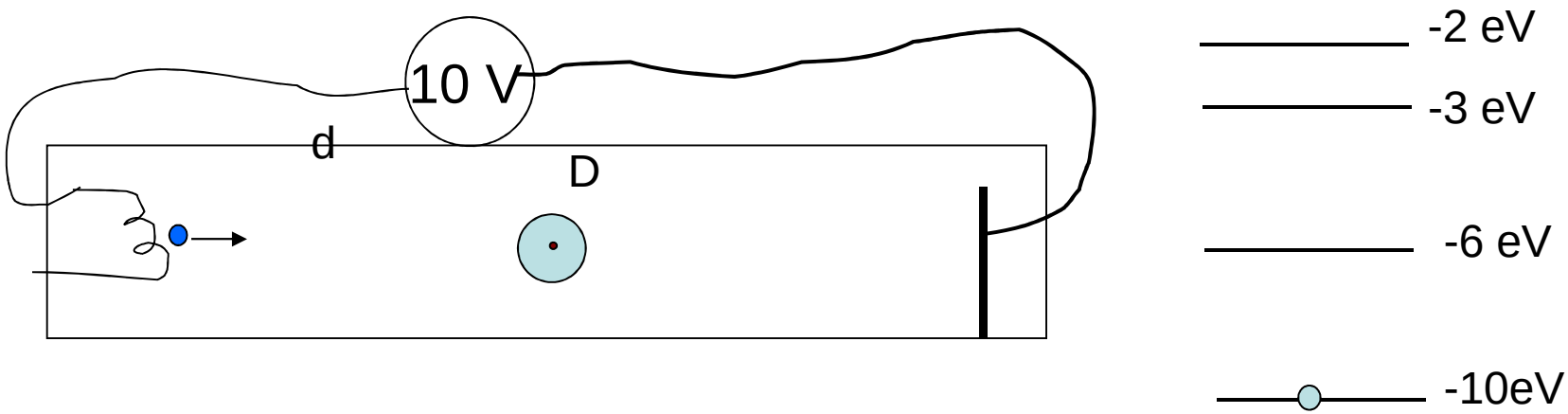
- Thurs, Feb 11, 7:30 – 9:00 PM, HERE !

- Format of exam:
  - Multiple choice (~ 60% of pts)
  - Long answer questions (~ 40% of pts)
  - Formula sheet included (will publish before)

- Bring:
  - Pencil
  - Calculator
  - 3 x 5 note card, both sides, handwritten notes

- Topics: Everything incl. today’s lecture

In a discharge lamp, one electron collides with an atom.



If the atom fixed at this point in tube,
list all the possible energy photons (colors) that you might see?

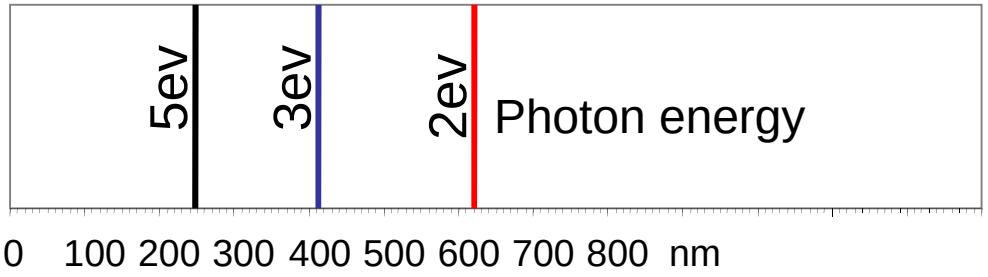
(A) 1eV, 2eV, 3eV, 4eV, 7eV, 8eV

(B) 4eV, 7eV, 8eV

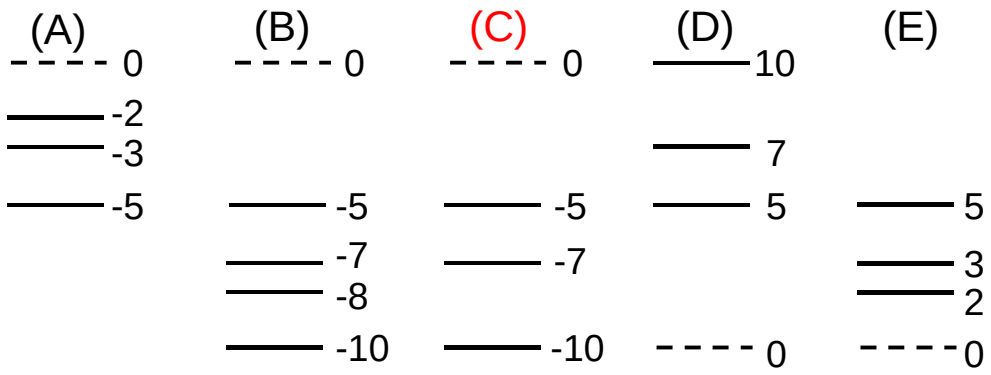
(C) 1eV, 3eV, 4eV

(D) 4eV

(E) Impossible to tell.



Which energy level scheme (in eV) is consistent with the spectrum for element “X” above?



An atom with the energy levels shown is initially in the ground (n=1) state. A free electron with an energy of 16 eV hits the atom. What possible states could the atom be in directly after the collision?

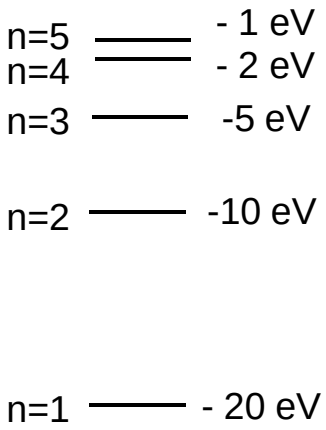
(A) n = 1 only

(B) n = 1, n = 2, or n = 3

(C) n = 3 only

(D) n = 2 or n = 3

(E) any of the states



An atom with the energy levels shown is initially in the ground (n=1) state. A photon with an energy of 16 eV hits the atom. What possible states could the atom be in directly after the collision?

(A) n = 1 only

(B) n = 1, n = 2, or n = 3

(C) n = 3 only

(D) n = 2 or n = 3

(E) any of the states