Ch 4 review questions p. 118-119 in red book

13. For each of the following values of *n*, indicate the numbers and types of sublevels possible for the main energy level.

a) *n* = 1

b) *n* = 2

c) *n* = 3

d) *n* = 4

e) *n* = 7 (number only)

17. How many electrons could be contained in the following main energy levels with *n* equal to:

a) 1

b) 3

c) 4

d) 6

e) 7

18. a) In your own words state the Aufbau principal.

b) Explain the meaning of this principal in terms of an atom with many electrons.

19. a) In your own words, stat Hund’s rule.

b) what is the basis for this rule?

21. a) What is meant by the highest occupied energy level in an atom?

b) What are inner shell electrons?

22. Determine the highest occupied energy level in the following elements.

a) He

b) Be

c) Al

d) Ca

e) Sn

23. Write the orbital notation for the following elements

a) P

b) B

24. Write the electron configuration notation for an unidentified element that contains the following number of electrons.

a) 3

b) 6

c) 8

d) 13

27. Write the Noble Gas notation for the electron configuration of each of the elements that follow:

a) Cl

b) Ca

c) Se

28. a) What information is given by the noble-gas notation [Ne] 3s2?

b) What element does it represent

29. Write both the complete electron configuration notation and the noble-gas notation for each of the following elements

a) Na

b) Sr

c) P

30. Identify each of the following atoms on the basis of its electron configuration:

a) 1s22s22p1

b) 1s22s22p5

c) [Ne] 3s2

d) [Ne] 3s23p2

e) [Ne] 3s23p5

f) [Ar] 4s1

g) [Ar] 3d64s2