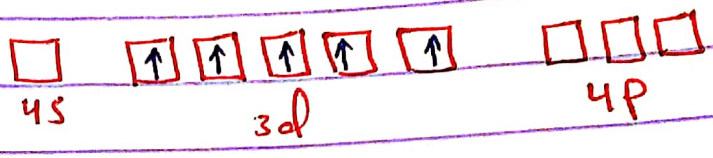
CHEM 141 - CH 7+8 - ASSIGNMENT

Rayyan Masmi . (1191184).

1) C.
2) D.
3) E.
4) B.
5) E.
6) C.
7) B.
8) B.
9) D.
10) C.
11) D.
12) E.
13) C.
14) C.
15) B.
16) D.

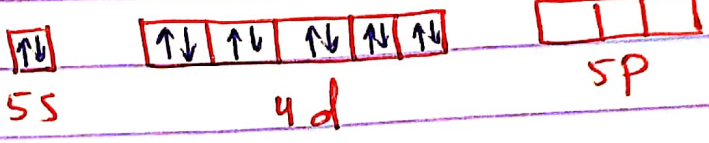
17) a) Fe_{26}^{+3}

$[Ar]\ 3d^5$



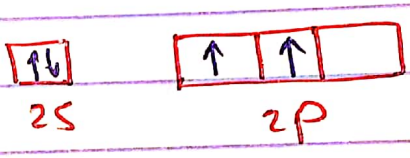
b) Sn_{50}^{+2}

$[Kr]\ 4d^{10}\ 5s^2$



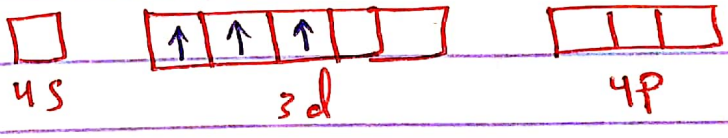
c) B_5^{-1}

$[He]\ 2s^2\ 2p^2$



d) Cr_{24}^{+3}

$[Ar]\ 3d^3$



18) a) (E).

b) (C).

c) (B).

d) (D).

19) $n = 3$

L	0	1	2
mL	0	-1, 0, 1	-2, -1, 0, 1, 2
ms	$+\frac{1}{2}$ or $-\frac{1}{2}$	$+\frac{1}{2}$ or $-\frac{1}{2}$	$+\frac{1}{2}$ or $-\frac{1}{2}$

max electron $= 2n^2 = 2(3)^2 = 18\ e^-$

20)

	n	L	mL	ms
N	2	1	+1	$+\frac{1}{2}$
S	3	1	-1	$-\frac{1}{2}$
Cu	4	0	0	$+\frac{1}{2}$

N_7 $1s^2 2s^2 2p^3$ $\uparrow\ \uparrow\ \uparrow$ ($2p_x\ 2p_y\ 2p_z$)

S_{16} $1s^2 2s^2 2p^6 3s^2 3p^4$ $\uparrow\downarrow\ \uparrow\ \uparrow$ ($3p_x\ 3p_y\ 3p_z$)

Cu_{29} $1s^2 2s^2 2p^6 3s^2 3p^6 4s^1 3d^{10}$

$\downarrow\uparrow\ \downarrow\uparrow\ \downarrow\uparrow\ \downarrow\uparrow\ \downarrow\uparrow$ $\uparrow$ ($4s$)