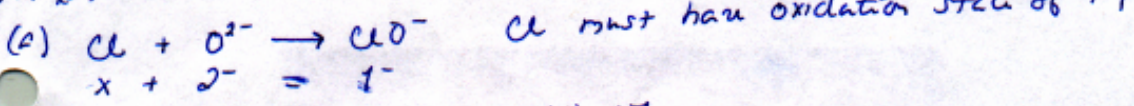


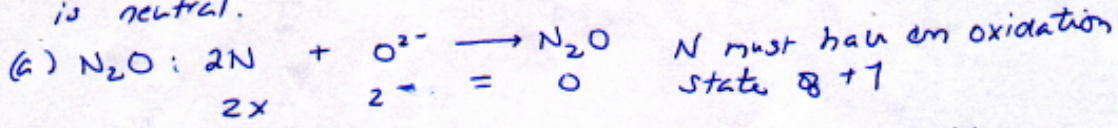
Chapter 3.

3.1 (a) all must have an overall negative one (-1) charge, & Oxygen has Ox. state of -2



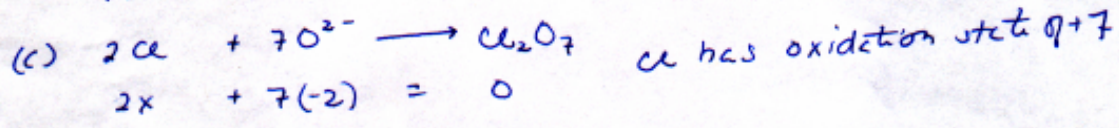
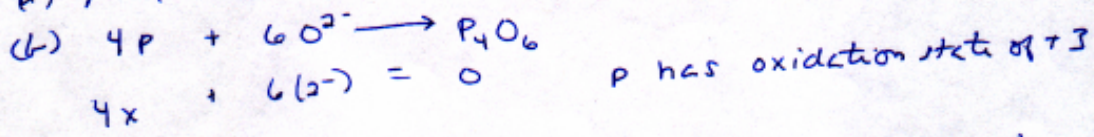
(b) as above, +3 (c) +5 (d) +7

3.3 rules: Oxygen has an oxidation of -2 & overall oxidation change is neutral.



(b) as above, +2 (c) +4 (d) +6 (e) +3 (f) +4 (g) +5

3.4 (a) phosphorous in elemental form so oxidation state = 0

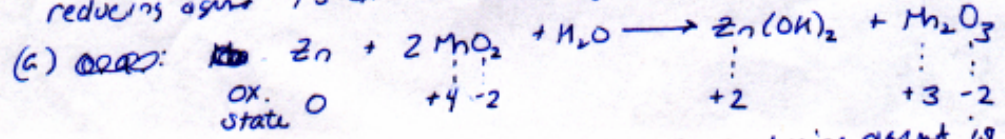


(d) H: +1 N: +3 O: -2

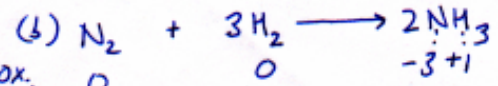
(e) H: +1 N: +5 O: -2

- 3.11 (a) Fe^{3+} acid (b) NH_3 base (c) H_3O^+ acid (d) Al^{3+} acid (e) CH_3COO^- base
 CN^- base BF_3 acid -OH base -OH base CH_3COOH acid
 Lewis only Lewis only acid All Lewis only acid Lewis oncl B-L

3.13 oxidizing agent is reduced (gain of e^-)
 reducing agent is oxidized (loss of e^-)



oxidizing agent is ~~MnO₂~~ MnO_2 and reducing agent is Zn



oxidizing agent is N_2 & reducing agent is H_2