CHEMISTRY GENERAL EQUATIONS FOR SCHOOL CERTIFICATE

1. acid + reactive metal above hydrogen in reactivity series ⟶ salt of the acid + hydrogen

2. acid + base or alkali ⟶ salt + water
3. $H^+(aq) + OH^-(aq) \longrightarrow H_2O(l)$

4. acid + carbonate ⟶ salt of the acid + water + carbon dioxide
5. $2\ H^+(aq) + CO_3^{2-}(s) \longrightarrow H_2O\ (l) + CO_2(g)$

6. base + ammonium salt $\xrightarrow{\Delta}$ salt + water + ammonia
7. $OH^-(aq) + NH_4^+(aq) \xrightarrow{\Delta} H_2O(l) + NH_3(g)$

8. group I metal + water ⟶ metal hydroxide + hydrogen

9. Reactive metal + salt of less reactive metal(aq) ⟶ salt of reactive metal(aq) + less reactive metal

10. Reactive metal + oxide of less reactive metal $\xrightarrow{\Delta}$ reactive metal oxide + less reactive metal

11. Unstable metallic carbonate $\xrightarrow{\Delta}$ metallic oxide + carbon dioxide

12. Alkanes + oxygen ⟶ carbon dioxide + water vapour

13. Alkenes + oxygen ⟶ carbon dioxide + water vapour

14. Alkenes + hydrogen $\xrightarrow{Ni,\ \Delta,\ pressure}$ alkanes

15. Alkenes + steam $\xrightarrow{H_3PO_4,\ \Delta,\ pressure}$ alcohols

16. Alcohols + oxygen ⟶ carbon dioxide + water vapour

17. alcohol $\xrightarrow{oxidising\ agent}$ carboxylic acid

18. carboxylic acid + alcohol $\underset{}{\overset{conc.\ H_2SO_4,\ warm}{\rightleftharpoons}}$ ester + water