Chemguide - answers

ACID ANHYDRIDES: REACTIONS WITH AMMONIA AND PRIMARY AMINES

1. a) ammonia, NH₃

(ii)
$$CH_3COOH + NH_3$$
 \longrightarrow $CH_3COO^{-1}NH_4$

(iii)
$$(CH_3CO)_2O + 2NH_3$$
 \longrightarrow $CH_3CONH_2 + CH_3COO^{-+}NH_4$

b) methylamine, CH₃NH₂

c) phenylamine, C₆H₅NH₂

(i)
$$(CH_3CO)_2O + C_6H_5NH_2$$
 \longrightarrow $CH_3CONHC_6H_5 + CH_3COOH$

Congratulations if you got most of these right, and my admiration for your patience! Even if you understand exactly what you are doing, there are endless ways of making mistakes – quite a few of which I made in my first attempt to type them out. I think it is now right!