

## Answers to examination-style questions

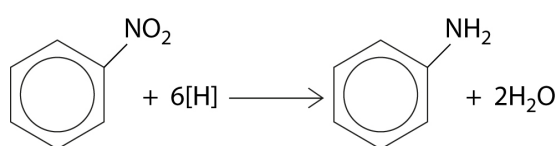
Answers	Marks	Examiner's tips
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7 a) see tables below. 6

a i)	You could have any of the following reagents	Na <sub>2</sub> CO <sub>3</sub> / NaHCO <sub>3</sub>	UI litmus	PCl <sub>5</sub> PCl <sub>3</sub> SOCl <sub>2</sub>	Suitable metal	K <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub> /H <sup>+</sup>	KMnO <sub>4</sub> /H <sup>+</sup>
	<b>P</b>	no reaction	no reaction	no reaction	no reaction	turns green	colourless or brown
	<b>Q</b>	effervescence or CO <sub>2</sub> or dissolves	red	fumes	effervescence or H <sub>2</sub> or dissolves	no reaction stays orange	no reaction stays purple

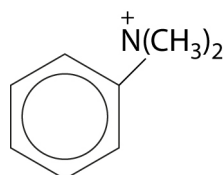
ii)	You could have any of the following reagents	H <sub>2</sub> O	AgNO <sub>3</sub>	Na <sub>2</sub> CO <sub>3</sub> / NaHCO <sub>3</sub> both should be aqueous	Named alcohol	Named amine or ammonia	UI litmus
	<b>R</b>	misty fumes	white ppt	effervescence	smell or fumes	fumes	red
	<b>S</b>	no reaction	no ppt	no reaction	no reaction	no reaction	no reaction

b) i) One of any of the following reducing agents 1  
 Sn or Fe/HCl  
 Sn or Fe/H<sub>2</sub>SO<sub>4</sub>  
 H<sub>2</sub>/Ni



2 You can have 3H<sub>2</sub> instead of 6[H].  
 The organic species gives one mark and  
 the balanced equation gives one mark.

nucleophilic substitution 2



You do not need to show Br<sup>-</sup>.