Question number	Answer	Mark
10	**The only correct answer is A** ($HCOOH$, $HCOO^-$, $CH_3COOH_2^+$, CH_3COOH) ***B*** *is incorrect because methanoic acid is the stronger acid and will protonate ethanoic acid* ***C*** *is incorrect because the acids and bases have been paired incorrectly* ***D*** *is incorrect because methanoic acid is the stronger acid and the acids and bases have been paired incorrectly*	**(1)**

Question Number	Answer	Mark
6	**The only correct answer is D** (5.4) ***A*** *is not correct because this is the pH of 1 mol* dm^{-3} CH_3COOH ***B*** *is not correct because this is the pH when the ratio is inverted* ***C*** *is not correct because this is the pH when the concentrations of* CH_3COOH *and* CH_3COONa *are equal*	**1**

Question Number	Answer	Mark
15	**The only correct answer is C** (H_2CO_3, CO_3^{2-}) ***A*** *is incorrect because these species are interconverted by protonation/deprotonation* ***B*** *is incorrect because these species are interconverted by protonation/deprotonation* ***D*** *is incorrect because these species are interconverted by protonation/deprotonation*	**(1)**

Question Number	Answer	Mark
6	**The only correct answer is D** (methyl orange) ***A*** *is incorrect because the colour change at the end-point is too gradual* ***B*** *is incorrect because the pH range of the indicator is outside the change in pH at equivalence* ***C*** *is incorrect because the pH range of the indicator is outside the change in pH at equivalence*	**(1)**

Question Number	Answer	Mark
9	**The only correct answer is C** ($H_2PO_4^-$) ***A*** *is incorrect because* H_3PO_4 *is the conjugate acid of* $H_2PO_4^-$ ***B*** *is incorrect because* H_3O^+ *is the conjugate acid of* H_2O ***D*** *is incorrect because* PO_4^{3-} *is the conjugate base of* HPO_4^{2-}	**(1)**

Question Number	Answer	Mark
5	**The only correct answer is C** (CH_3COOH, $CH_3CO_2^-$) ***A*** *is incorrect because* HSO_3^- *is a base in the forward reaction and* SO_3^{2-} *is not formed* ***B*** *is incorrect because* HSO_3^- *is a base in the forward reaction* ***D*** *is incorrect because* $CH_3COOH_2^+$ *is not formed*	**(1)**