Question			Answer	Marks	Guidance
1	(a)		prevents (nerve) impulses passing across synapses (1) the muscles cannot contract / motor neurones are not stimulated (1)	2	**allow** electrical signal **Ignore** no messages / no information **allow** cannot control muscles
	(b)		uses a drug and a placebo (1) neither the people **nor** the doctors should know which treatment is used (1)	2	 **allow** neither the patients nor the doctors know who gets the drug and who gets the placebo (2)
			Total	**4**	

Question			Answer	Marks	Guidance
2	(a)		**[Level 3]** Answer gives a correct explanation of how Deflex may reduce transmission across synapses in terms of its effect on (neuro)transmitters or receptors. Quality of written communication does not impede communication of the science at this level. (5 – 6 marks) **[Level 2]** Answer indicates reduction of transmission across synapses OR reduced activity of (neuro)transmitters. Mechanism unclear. Quality of written communication partly impedes communication of the science at this level. (3 – 4 marks) **[Level 1]** Suggests that Deflex is a depressant or reduces transmission of impulses. Quality of written communication impedes communication of the science at this level. (1 – 2 marks) **[Level 0]** Insufficient or irrelevant science. Answer not worthy of credit. (0 marks)	6	**This question is targeted at grades up to A*** **Indicative scientific points at level 3 may include:** • Deflex binds with receptors in synapses • transmitter can no longer bind to receptors • binds with the neurotransmitter once released • breaks down the released neurotransmitter **Indicative scientific points at level 2 may include:** • Deflex works on synapses • Deflex reduces amount of transmitter substance **Indicative scientific points at level 1 may include:** • Deflex is a depressant • no impulse sent along second neurone **ignore** Deflex is a sedative / sleeping tablet **ignore** Deflex affects / slows the nervous system
	(b)		coffee contains a **stimulant** / caffeine is a stimulant / increases activity of the nervous system (1) so may have the opposite effect / keep you awake / alert (1)	2	**allow** examples e.g increase brain activity / increase transmission across synapses **allow** speed up nerve impulses **ignore** makes it difficult to sleep **allow** caffeine / coffee inhibits Deflex (1) because it combines with it / stops it being absorbed (1)
			Total	**8**	